# Appendix B

## Water Availability Analysis

January 13, 2025

Mr. Samual Edwards
1833 DS LLC
10750 Seigler Springs Road
Kelseyville, CA 95451

**RE: WATER AVAILABILITY ANALYSIS**
**1833 DS LLC**
**10750 SEIGLER SPRINGS ROAD**
**KELSEYVILLE, CALIFORNIA 95451**
***EBA Job No. 24-3575***

Dear Mr. Edwards,

EBA Engineering (EBA) is pleased to present this Water Availability Analysis (WAA) for the 1833 DS LLC (1833 DS) cannabis operation located at 10750 Seigler Springs Road, in Kelseyville, Lake County, California, hereinafter referred to as the project site. Please refer to the provided Figure 1 – Location Map (Appendix A) for a depiction of the project site within the vicinity of Clear Lake and Lake County. The project site is located on a ridgetop along Seigler Springs Road, is approximately nine miles southeast of Kelseyville, and six miles west-southwest of Lower Lake. The site is accessed by Highway 29 between Lakeport and Lower Lake via Diener Drive or by Highway 175 between Middletown and Kelseyville via Seigler Spring Road from Loch Lomond.

The project site includes ten parcels with a total acreage of 602.48 acres (AC). The parcels include Lake County Assessor Parcel Numbers (APNs) 011-047-060; 011-069-480; 115-001-210 & 290; 115-004-010, 050, 070, & 080; 115-005-030, and 115-006-180. The primary address and the location of the main facility is 10750 Seigler Springs Road, Kelseyville, CA (APN 115-004-050). Please refer to Figure 2 – Overall Site Map (Appendix A) for a depiction of the parcels and the surrounding properties.

This WAA was prepared to assess groundwater availability based on increased groundwater demand for a proposed cannabis cultivation scenario, and to address assessment criteria as outlined in the County of Lake's Urgency Ordinance No. 3106 (*An Urgency Ordinance Requiring Land Use Applicants to Provide Enhanced Water Analysis During a Declared Drought Emergency*, County of Lake, 2021).

The purpose of this WAA is to determine whether there is sufficient groundwater supply to accommodate the proposed demand and to estimate the effects of aquifer pumping within the designated Cumulative Impact Area (CIA). This WAA was prepared to meet these objectives. Included is an overview of existing information, such as parcel data, geologic documents, Well Completion Reports (WCRs) identified in the hydrogeologic region, and efforts by previous consultants and water system contractors.

# 1.0 BACKGROUND INFORMATION

## *1.1 Project Description*

The project includes expanding the total permitted cannabis canopy area from 20.0 AC to 30.1 AC, increasing the number of full-time employees from 15 to 20, and a new 0.92-acre nursery for cultivating cannabis seedlings. Please note that the proposed actual cultivation area is 1.5 times greater than the proposed canopy area value per the Lake County Cannabis Ordinance to account for the space in between the plants. Please refer to the Acreage Determination Plat prepared by Conser Land Surveying, dated March 10, 2024 (Appendix B) for an illustration of the cultivation areas and additional information regarding the total acreages for each of the cultivation blocks. The cultivation blocks are also shown on Figure 2 (Appendix A).

Based on EBA's conversations with 1833 DS, the project includes the 0.92-AC nursery and 10.0 AC of light deprivation canopy for a period of 19 weeks starting during the week of March 5th and ending the week of July 9th. The outdoor cultivation will start with 20.1 AC during the weeks of June 25th through July 9th, and 30.1 AC thereafter. During the weeks of June 25th through July 9th there is overlap including 10 AC of light deprivation cultivation and 20.1 AC of outdoor cultivation to avoid exceeding the 30.1 AC limit. The outdoor crop is then harvested starting during the week of October 22nd. The harvest is proposed to be completed by the end of the week of October 29th.

## *1.2 Project Site Description*

Existing site features include the 20.0-acre cannabis farm, an approximately 32,000-square-foot warehouse, four residences, water treatment and distribution improvements, a 300,000-gallon water storage tank, two well houses, equipment, an irrigation manifold pad, and eight groundwater wells. Please note that the prior land use of the cannabis cultivation area was a vineyard and an orchard. As previously mentioned, the project site is comprised of ten parcels with a total area of 602.48 AC. Topography is characterized as hilly with elevations ranging from approximately 2,025 to 2,975 feet NAVD88.

The project-site parcels include the following zoning descriptions: rural land, rural residential land, and agricultural district land. Land use is predominantly woodland except for the cannabis farm area, residential areas, and dirt roads. A summary of parcel information and the distribution of project groundwater wells is provided on the following page in Table 1. The most recently purchased property by 1833 DS was APN 115-005-030, which was purchased in October 2023. This parcel has not yet been developed by 1833 DS but has added three additional groundwater wells to the 1833 DS well field (Wells 6, 7, and 8). These groundwater wells may be used for groundwater supply in the future, and as such, the CIA (described later in Section 3.0) was expanded to accommodate to include these potential sources of groundwater supply. Please be advised that aquifer hydraulics evaluations in connection with the pumping of Wells 6, 7, and 8 have been excluded from this analysis.

| TABLE 1<br>1833 DS PARCEL SUMMARY | | | | |
|---|---|---|---|---|
| ***Address*** | ***APN*** | ***Total Acres*** | ***No. of Wells*** | ***Well Description*** |
| 9864 Diener Drive | 115-001-210 | 20.13 | 0 | -- |
| 9954 Diener Drive | 115-001-290 | 6.26 | 0 | -- |
| 10145 Seigler Springs Road | 011-047-060 | 6.45 | 1 | Well 9 (Residential) |
| 10417 Seigler Springs Road | 115-004-010 | 133.40 | 0 | -- |
| 10833 Diener Drive | 115-004-080 | 64.06 | 1 | Well 5 (Residential) |
| 10750 Seigler Springs Road | 115-004-050 | 37.40 | 1 | Well 2 (Agricultural) |
| 10800 Deiner Court | 011-069-480 | 105.74 | 1 | Well 3 (Agricultural) |
| 11000 Diener Drive | 115-004-070 | 18.40 | 2 | Wells 1 & 4 (Agricultural & Residential) |
| 11000 Diener Drive | 115-006-180 | 17.26 | 0 | -- |
| 9954 Salmina Road | 115-005-030 | 193.38 | 3 | Wells 6, 7, & 8 (Residential & Public) |

## *1.3 Project Site Well Field Information*

Please refer to Table 2 below for a summary of the 1833 DS well field characteristics. Project site WCRs are provided in Appendix C.

| TABLE 2<br>1833 DS WELL FIELD SUMMARY | | | | | | |
|---|---|---|---|---|---|---|
| ***Well #*** | ***WCR #*** | ***Casing Diameter (inches)*** | ***Completion Depth (feet bgs)*** | ***Well Yield Estimate (gpm)*** | ***Static Water Level (feet bgs)*** | ***Pumping Water Level (feet bgs)*** |
| Well 1 | 713304 | 8.0 | 300 | 197* | 129* | 212* |
| Well 2 | WE-5410-AG | 14.0 | 305 | 275* | 151* | 161* |
| Well 3 | 486026 | 6.0 | 405 | 25* | 157* | 157* |
| Well 4 | 713384 | 4.5 | 200 | 150 | 125 | 200 |
| Well 5 | N/A | N/A | N/A | N/A | N/A | N/A |
| Well 6 | N/A | N/A | N/A | N/A | N/A | N/A |
| Well 7 | e0274148 | 6.0 | 494 | 60 | 302 | 478 |
| Well 8 | 756196 | 4.5 | 470 | 50 | 330 | 470 |
| Well 9 | 713358 | 4.5 | 410 | 80 | 260 | 410 |

*Data based on Pumping Tests by Jim's Pumps (Appendix D)
WCR: Well Completion Report
bgs: below ground surface
gpm: gallons per minute
N/A: Not Available

The information presented in Table 2 is based on data from the WCRs except for the well yield, static water level, and pumping water level data for Wells 1, 2, and 3 which are based on pumping tests included in Appendix D. The presented WCR number for Well 2 is given as the County of Lake permit number (WE-5410-AG) because the DWR has not yet assigned a WCR number for Well 2. Based on EBA's correspondence with DWR staff, the WCR number has not been assigned because the driller reportedly did not switch over to a required online system for WCR submissions. EBA is waiting for the WCR number to be provided by DWR as of the time of writing this WAA. Available pumping test data for the wells and groundwater reports by previous consultants are included as Appendix D.

## *1.4 Local Geology and Hydrogeology*

The project site is situated in the Coast Ranges geomorphic province which has northwest-trending ridges and valleys that run subparallel to the San Andreas Fault Zone. The project site is located approximately ten miles to the southeast of the Big Valley Groundwater Basin (Basin Number 5-015). The project site lies within the area of the United States Geological Survey's Kelseyville 15-minute by 15-minute quadrangle. EBA utilized the *Geologic Map and Structure of the Clear Lake Volcanics, Northern California - Map I1262* (USGS, B.C. Hearn. Jr., J.M. Donnelly-Nolan, and F.E. Goff, 1995) for geologic interpretation and review. Generally, the geology of the project site vicinity is made up principally of rocks associated with volcanic formations. The immediate vicinity of the project site has been mapped (Hearn et al., 1995) to consist of Andesite of Split Top Ridge (ast), Rhyodacite of Diener Drive (dd), Older dacite of Mount Hannah (doh), Andesite of Salmina Flat (asf), and Rhyodacite of Seigler Mountain (ds) underlain in some areas by Pyroclastic deposits (rbp) and further underlain by the bedrock units of Jurassic Serpentinite (Jsp) and Great Valley Sequence (KJgv). The Great Valley deposits are described as being composed of predominantly shale, siltstone, graywacke, conglomerate, greenstone, and chert, while the serpentinite is thought to have intruded in areas of faulting. Quaternary-aged alluvium (al) is mapped to the southwest of the project site within the CIA in the Salmina Flat area. A geologic map and corresponding cross section for the area are presented as Figure 4 (Appendix A). As shown on Figure 4, the surface geology in the location of the irrigation wells has been mapped as ast.

The project site lies within the Konocti Bay Fault System which is a series of northwest and southeast trending faults. These faults may either provide hydrogeologic boundary conditions or provide areas with rocks that can be more highly fractured. The interconnection of these fractures, joints, and weathered surfaces within the rhyodacite provide the primary aquifer at the project site. The underlying aquifer is thought to be unconfined based on the fracture flow dynamics of groundwater flow in volcanics. The geology observed during EBA's site visit was generally consistent with the USGS findings.

According to the Lake County Watershed Protection District's (LCWPD's) *Lake County Groundwater Management Plan*, dated March 31, 2006 (LCWPD, 2006), the project site is located in the Clear Lake Volcanics Groundwater Basin. Within this basin, groundwater yields to wells are highly variable due to nature of the volcanic fracture systems. Volcanic deposits can range from slight to moderate with specific yields ranging from zero to 15 percent. The underlying Great Valley Sequence materials, in turn, may provide small

quantities of groundwater and typically exhibit specific yield characteristics of less than 3 percent. No springs or ephemeral drainages were observed during EBA's site visit.

### *1.5 Local Climate*

Review of published data by the Parameter-Elevation Regressions on Independent Slopes Model (PRISM) Climate Group, indicates the 30-year (1991 – 2020) average annual rainfall in the vicinity of the project site (38.8946, -122.7082) is 52.35 inches per year utilizing the Time Series Values for Individual Locations system (Prism, 2024). The 30-year data was evaluated using the 4-kilometer spatial resolution and the interpolate grid cell values function.

Mean annual potential evapotranspiration (ETo), which represents both transpiration from plants and crops as well as evaporation, was estimated to be 50.94 inches per year based on reference ETo tables for Sanel Valley (Hopland, Mendocino County) provided in the California Irrigation Management Information System (CIMIS) Reference Evapotranspiration Website (CIMIS, 2024). Hopland is the nearest CIMIS station to the project site.

## 2.0 RESEARCH

The following subsections provide a summary of the scope of research performed and the corresponding findings used to implement the hydrogeologic assessment. Please note that references are made herein to the CIA for this WAA. A description of the CIA is presented in Section 3.0 of this WAA.

### *2.1 Site Reconnaissance*

EBA conducted a field reconnaissance at the project site on June 4, 2024. The purpose of the reconnaissance was to observe existing site features, site topography, local geology, and the locations of existing wells. The project properties are characterized by hilly terrain. At the time of the reconnaissance, the existing uses and features were found to be consistent with those described in Subsection 1.1. During the reconnaissance, EBA observed the location of Wells 1, 2, 3, 4, 6, 7, and 8. Wells 5 and 9 were not observed because the 1833 DS owner did not want to disturb his tenants in the residences adjacent to the well sites. Please refer to Subsection 1.3 for a description of the groundwater wells and to Figure 2 (Appendix A) for an illustration of their approximate locations. The reconnaissance also included observations of neighboring properties to establish the nature of nearby developments and property uses. Please be advised that due to the rural nature of the properties and limited public access, visual observations were limited to what could be seen from adjacent roadways. In general, most of the properties in all directions from the project site were comprised of either developed or undeveloped rural properties. The site reconnaissance was supplemented with a review of Google Earth aerial imagery for the area. Findings from this review were generally consistent with the above descriptions.

### *2.2 Well Completion Reports (WCRs)*

WCRs maintained by the DWR were reviewed to obtain pertinent information for the area

regarding water supply use, well completion depths, yields, reported lithology, and drawdown characteristics. The scope of the DWR research encompassed available records for wells located in the vicinity of the CIA which is defined in more detail in Section 3.0 of this WAA. EBA visited the Lake County Public Health Department in Lakeport on two occasions to obtain parcel-specific WCR information from County staff and worked with DWR staff in the Northern Region Office to obtain WCRs for parcels where no information was found during previous search efforts. The results of this research identified 53 off-site WCRs that EBA was able to locate based on the information provided. A summary of well yield characteristics for the identified WCRs is provided in Table 3 below.

**TABLE 3**
**SUMMARY OF WELL CHARACTERISTICS FOR IDENTIFIED WCRs**

| *Description* | *Quantity / Range of Values* | *Average Values* |
|---|---|---|
| Number of Water Supply Wells / Borings | 53 | - |
| Number of Dry Holes | 0 | 0 |
| Drilling Depths (feet bgs) | 95 to 760 | 275 |
| Static Groundwater Levels (feet bgs) | 5 to 550 | 162 |
| Reported Yields (gpm) | 2 to 1,530 | 84 |
| Specific Capacity (gpm/foot) | 0.02 to 83.1 | 2.50 |

WCRs: Well Completion Reports
bgs: below ground surface
gpm: gallons per minute
gpm/foot: gallons per minute per foot of drawdown

Please refer to Figure 5 (Appendix A) for a map of the WCR locations within the CIA. All aforementioned off-site WCRs are included as Appendix E.

### *2.3 Assessor's Parcel Maps*

EBA reviewed County of Lake assessor's parcel map data to identify property boundaries and addresses. This information, in turn, was used to establish the number of properties within the designated CIA (described in Section 3.0) used for this WAA. Findings from this exercise identified 159 properties (including the project site) ranging in size from approximately 0.07 to 456 AC. It should be noted that 57 of the 159 identified properties are only partially within the CIA.

## 3.0 CUMULATIVE IMPACT AREA

The "Cumulative Impact Area" as defined for this WAA corresponds to the change in a specific area resulting from the incremental impact of the project or future potential projects when added to other existing or potential future groundwater uses in the area. Based on this criterion, existing and potential future development characteristics for surrounding

properties were considered, coupled with the site hydrogeology and the nature of the proposed development to estimate the CIA for the proposed project.

An important consideration in establishing the CIA for this project is the local topography and hydrogeology. In this regard, the southern, western, and eastern boundaries of the CIA are delineated by topographic ridges that define the local watershed and inferred hydrogeologic boundary conditions. The northern boundary was delineated based on the assumed generalized regional direction of groundwater flow (from Cobb Mountain towards Clear Lake) and an arbitrary 500-foot buffer from the northernmost property lines. The southwest region of the CIA was delineated to include Salmina Flat. The area of the CIA was calculated to be 1,900.27 AC and is shown on Figures 3 through 5 (Appendix A).

# 4.0 SUMMARY OF EXISTING / PROJECTED GROUNDWATER USE

The following subsections provide an estimation of both the existing and future groundwater uses for the project site as well as the entirety of the 1,900.27-acre CIA. Please refer to Appendix F for weekly groundwater demand data provided by 1833 DS of existing and future groundwater use.

## *4.1 Existing Project Site Water Usage*

Existing project site water usage data using historical well meter information and use estimates was provided by 1833 DS (Appendix F). Based on this data for the 2024 growing season, the existing project water use is comprised of the following components:

- Cannabis irrigation based on 20 AC of outdoor cultivation;
- 2,000 gallons per week of water used for dust control from the week of June 10 through the week of October 21; and
- 1,575 gallons per week for 15 employees with an assumed 15 gallons per day per employee.

Based on EBA's conversations with 1833 DS, 1833 DS cannabis irrigation practices are reportedly optimized using advanced irrigation and management practices when compared to traditional outdoor cannabis operations. Typical hydrogeologic reports for the County of Lake assume a water demand of six gallons per day per plant. However, based on adjusted totalizer data provided by 1833 DS, water use was estimated to be approximately 0.88 gallons per day per plant. This reduced water demand is attributed to smaller plant sizes, optimized spacing, and efficient irrigation methods. In 2024, 1833 DS cultivated 9,000 plants per canopy acre, with each plant allocated 4.75 square feet (excluding row spacing). Drip irrigation and soil moisture sensors are reportedly employed to minimize water usage.

As a point of consideration, 1833 DS asserts that the total number of plants per acre does not directly determine the amount of water used in their operations. Instead, the determining factor is the total green biomass (the combined mass of leaves and stems produced by the

plants). The total water use would remain consistent as long as the total green biomass is the same, regardless of whether 5,000 or 10,000 plants are grown per acre.

1833 DS has identified that smaller plants are more cost effective for the following reasons:

- The shorter growth cycle reduces the cumulative amount of water required.
- Plants are managed to reach maximum canopy size just before harvest, aligning water use with the plant's growth needs and avoiding excess watering during extended growth periods that is required for larger-sized plants.

The tabular data provided by 1833 DS (Appendix F) for the existing groundwater use was used to generate Exhibit 1 below that depicts the historical weekly water demand over time. The existing project water use estimates generated by 1833 DS were based on totalizer data from a water meter that records the sum of flow rates from both Wells 1 and 2. Totalizer data was written on a daily hand irrigation log by 1833 DS staff. Then, the upper range of daily values for each week were used to generate the provided weekly estimates below. Please note that 1833 DS LLC believes that the provided existing water use estimates are conservative because the upper range of daily values were used.

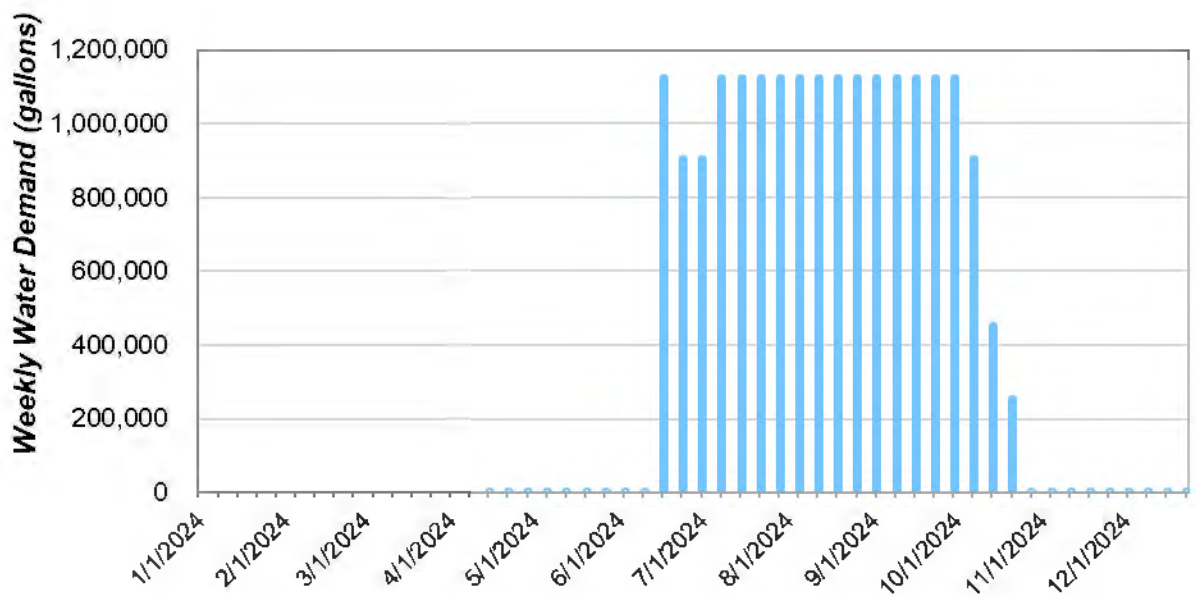



**Exhibit 1 – Historical 20 AC (2024) Weekly Water Demand**

The data shows that 1833 DS water use peaked from the week of June 18 through the week of October 8, with weekly irrigation demands of approximately 900,000 to 1,120,000 gallons.

Prior to the main growing season, water use was limited to 1,575 gallons per day for employees starting the week of April 15. Dust control water use began during the week of June 10 and was followed by the start of the growing season during the week of June 17. Please note that water use decreased during the weeks of June 24 and July 1 due to lower

temperature conditions during the 2024 growing year. The final three weeks of the growing season showed a tapering in water use in parallel with the harvest. Dust control water use ended with the end of the harvest, and employee water use continued through the end of the calendar year.

Based on the values provided by 1833 DS, the total existing annual water use was 19,178,275 gallons per year, or 58.86 AF per year (AFY).

## *4.2 Future Project Site Water Use*

Projected future water use for the operation includes nursery irrigation, cultivation irrigation (outdoor and light deprivation), dust control, and worker water demands. Please refer to the tabular data provided by 1833 DS in Appendix F for additional information.

*Nursery Irrigation*

Nursery irrigation begins at 5,000 gallons per week for the first eight weeks of the calendar year. This increases to 10,000 gallons per week from the week of March 26 through the week of April 30 and peaks at 25,000 gallons per week from the week of May 7 through the week of July 2. The demand then returns to 5,000 gallons per week for the remainder of the year. Based on EBA's conversations with 1833 DS, EBA understands that the nursery will be a fully enclosed facility, maintaining high internal humidity levels, which significantly lowers the vapor pressure deficit. This reduction minimizes plant transpiration, meaning the plants lose less water to the air and therefore require less irrigation. These controlled conditions, combined with the small size of the nursery plants, result in lower water use than outdoor growing.

*Light Deprivation Cultivation*

Light deprivation cultivation begins the week of March 5 and continues until the week of July 9. Based on EBA's conversations with 1833 DS, EBA understands that the light deprivation cultivation area will be 10 acres and operations will be conducted in covered structures that limit light exposure and create a controlled environment. Weekly water use estimates for light deprivation cultivation peak at 500,000 gallons from the week of April 30 through the week of July 9 which aligns with the final growth stages before harvest. The controlled environment within the light deprivation area reduces vapor pressure deficit, which significantly lowers plant transpiration and overall water demand. Once the light deprivation cycle concludes in the week of July 9, the 10 acres transition to outdoor cultivation, contributing to the expansion of the outdoor area from 20.1 acres to 30.1 acres. Plant spacing and irrigation practices in the light deprivation were described by 1833 DS to be consistent with that of outdoor cultivation practices.

*Outdoor Cultivation*

Outdoor cultivation begins the week of June 25 and continues until the week of October 29, 2024. The area initially starts at 20.1 acres during the early growing season (during the weeks of June 25 to July 2). By the week of July 9, the total outdoor cultivation area expands to 30.1 acres. This increase occurs as the 10 acres of light deprivation cultivation completes its cycle, allowing those acres to transition to outdoor use. The outdoor cultivation area remains at 30.1 acres until the week of October 15. After this, it decreases back to 20.1 acres during the week of October 22 as harvesting begins. By the week of

October 29, the outdoor cultivation area further reduces to 10 acres and is eventually phased out completely after all crops are harvested.

Weekly water use for outdoor cultivation peaks during the height of the growing season, reaching 1,690,600 gallons per week from the week of July 16 to the week of October 15.

*Dust Control*

Water use for dust control is seasonal and ranges from 2,000 gallons per week during cooler months to 3,000 gallons per week during the drier summer and fall months.

*Employee Water Use*

Water demand for 20 employees remains steady at 2,100 gallons per week throughout the year. This estimate assumes each worker requires 15 gallons per day.

Weekly water use estimates provided by 1833 DS for the future project site water use is presented in Exhibit 2 below. These values were based on the aforementioned existing water use estimates and 1833 DS experiments in a test nursery.

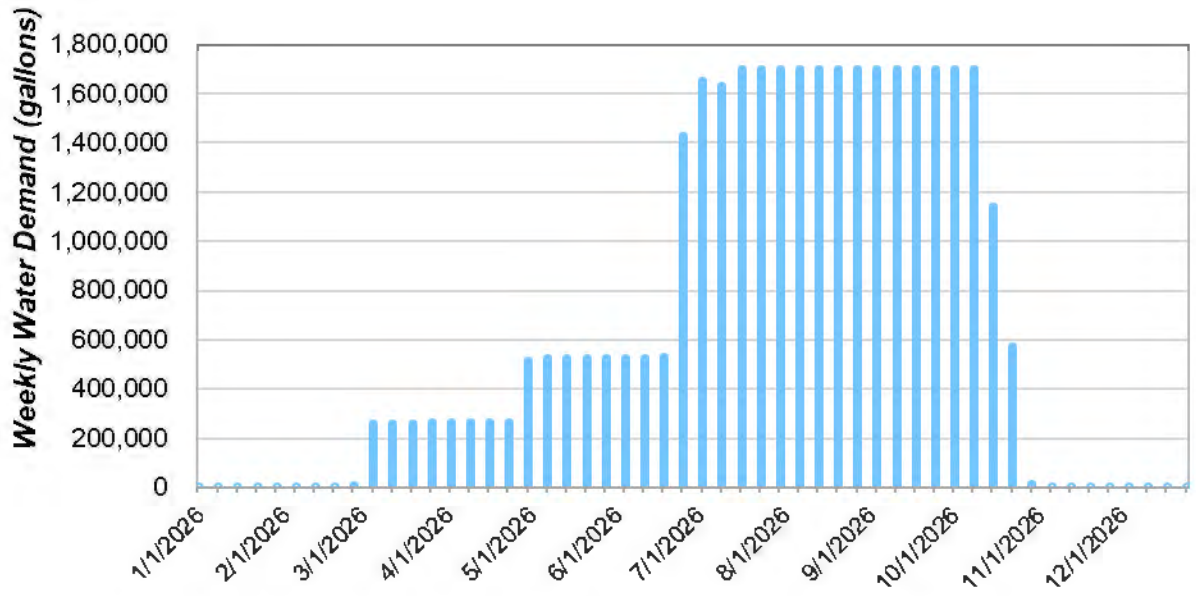



**Exhibit 2 – Future Project Site Weekly Water Demand**

The future project site use involves groundwater pumping throughout the entire calendar year. Groundwater use steps up throughout the year to provide water supply for the nursery, the light deprivation cultivation area, and the outdoor cultivation area. Once the outdoor growing season begins, the initial weekly water demands are lower in the first three weeks since only 20.1 AC of outdoor cultivation area is proposed during this time due to overlap with the light deprivation cultivation area of 10 AC.

Based on the total values provided by 1833 DS, the total proposed annual water use was estimated to be 34,987,600 gallons per year, or 107.37 AFY.

### 4.3 *CIA Existing and Future Non-Project Groundwater Use*

The CIA established for this project encompasses 159 properties (including the project site parcels). Identified uses on these properties include single-family dwellings, agriculture, and undeveloped land with no associated existing water use. As previously discussed, a combination of review of title records and aerial imagery was utilized to determine property development characteristics. Residential water use was estimated using a unit rate use factor of 0.25 AFY per bedroom plus an incidental use factor of 0.25 AFY per residence to account for additional water uses such as landscaping. Locations of residences within the CIA were established based on a Google Earth search performed by EBA staff. Once the residences were located, the number of rooms within each residence was identified using ParcelQuest, Zillow, and Redfin internet searches. Where no data was available, the residence was assumed to have three bedrooms. Residence locations and labels describing the number of bedrooms estimated are presented for reference on Figure 3 (Appendix A). In total, 83 residences were identified during the exploration. Of the 83 identified residences, two residences had 5 bedrooms, four residences had 4 bedrooms, 53 residences had 3 bedrooms, 17 residences had 2 bedrooms, and 7 residences had 1 bedroom. Additionally, future water use estimations for 3-bedroom residences were conservatively assumed for the remaining 19 undeveloped properties with residential zoning to account for potential future groundwater use. This assumption brought the total number of residences to 102 for the potential future off-site non-project groundwater use estimate.

Based on the methodology described above, existing non-project groundwater use within the CIA was estimated to be 77.25, and future non-project groundwater use was estimated to be 96.25 AFY.

## 5.0 GROUNDWATER AVAILABILITY ANALYSIS

As outlined in the introduction of this WAA, the primary objectives were to evaluate whether there is adequate groundwater supply to accommodate the proposed project water demand and to estimate the effects of groundwater pumping of the project irrigation wells within the designated CIA. The following subsections address these issues.

### 5.1 *Groundwater Storage Capacity*

The groundwater storage capacity immediately beneath the project site was estimated by multiplying the volume of the aquifer by its specific yield. In this regard, the aquifer area was estimated based on the size of the project site (602.48 AC) and WCR information. The aquifer thickness, in turn, was based on the average static groundwater level in the units based on measurements taken during the site reconnaissance and the aquifer depth, which was set at the deepest producing water supply well identified. Finally, the aquifer's specific yield or secondary porosity volume was conservatively estimated based on documented literature values for fractured volcanic rocks. For example, a study performed by others on 90 independent volcanic tuff samples revealed a specific yield with an arithmetic mean of 21 percent (Weight and Sonderegger, 2000; Anderson and Woessner, 1992). Furthermore, as previously mentioned, the LCWPD estimates the specific yield of the Clear Lake Volcanics to be between zero and 15 percent (LCWPD, 2006). Based on this information, EBA chose

a conservative value of 7 percent for the estimated specific yield. The storage capacity was then calculated by multiplying the respective variables. The following provides a breakdown of the calculations:

*Project Site Groundwater Storage Capacity: Clear Lake Volcanics*

- Project Site Area: 602.48 AC
- Average Static Groundwater Level: 171.66 feet bgs
- Average Aquifer Depth: 328.00 feet bgs
- Average Aquifer Thickness: 156.34 feet
- Specific Yield: 7 percent
- Estimated Volume of Groundwater in Storage: 6,593 AF

Based on the calculations on the previous page, the total estimated volume of groundwater in storage within the area of the aquifer immediately beneath the project site equates to approximately 6,593 AF. The values for average static groundwater level and average aquifer depth were derived based on information from seven on-site groundwater wells where WCRs were identified.

As presented in Subsection 4.2, the annual total water demand for the project is 107.37 AFY. This annual proposed water demand is estimated to be 1.6 percent of the groundwater in storage underlying the project site.

Next, the estimated groundwater in storage was estimated for the entire CIA. Please note that the typical specific yield literature value for volcanics of 0.07 was used for the entire CIA, because the geology is primarily made up of volcanics and all wells that were drilled into the alluvium formation underlying Salmina Flat are only screened in volcanics underlying the alluvium. The following provides a breakdown of the calculations for the entire CIA:

*CIA Groundwater Storage Capacity: Clear Lake Volcanics*

- CIA Area: 1,900.27 AC
- Average Static Groundwater Level: 167.85 feet bgs
- Average Aquifer Depth: 282.30 feet bgs
- Average Aquifer Thickness: 114.45 feet
- Specific Yield: 7 percent
- Estimated Volume of Groundwater in Storage: 15,224 AF

Based on the above calculations, the total estimated volume of groundwater in storage within the area of the aquifer beneath the CIA equates to approximately 15,224 AF. The values for average static groundwater level and average aquifer depth were derived based on information from seven on-site groundwater wells where WCRs were identified and the 53 off-site WCRs identified in Subsection 2.2.

As mentioned previously, the annual total water demand for the proposed project is 107.37 AFY. This annual proposed water demand was estimated to be less than one percent of the groundwater in storage underlying the CIA. Further, the total estimated future non-project

groundwater usage for the entire CIA was 96.25. This value plus the annual total water demand for the project is 203.62 AFY. This combined future annual water demand was estimated to be approximately 1.3 percent of the groundwater in storage underlying the CIA. It is important to note that due to the interaction between groundwater and subsurface geology in the vicinity of the project site, it is not likely that the entire amount of groundwater in storage can be efficiently extracted.

## *5.2 Project Site Groundwater Recharge Analysis*

EBA prepared an estimate of the project site's groundwater recharge potential under the proposed future use scenario by comparing estimated inflows and outflows from the aquifer. The volume available for recharge was estimated based on precipitation as the principal source of inflow while outflows were estimated based on run-off, evapotranspiration, canopy interception, and spring losses. While secondary sources of inflow (such as upgradient boundary flow), and secondary sources of outflow (such as downgradient boundary flow, and surface-water-groundwater interaction) potentially contribute to the groundwater budget, they are assumed to generally be equal and accordingly result in no net gain or loss. Based on this approach, the following equation was used to calculate potential volume of water available for recharge:

$$\textit{Volume of Water Available for Recharge} = P - (R + ET_a + E_{CI} + S)$$

where "P" is equal to precipitation (in AFY), "R" is equal to run-off (in AFY), "$ET_a$" is equal to actual evapotranspiration (in AFY), "$E_{CI}$" is equal to evaporative losses related to canopy interception (in AFY) and "S" is equal to spring flow (in AFY). The groundwater recharge analysis was performed during average rainfall years and during drought conditions assuming 60 percent of average rainfall. Project specific groundwater recharge potential was then calculated. The methodology used to calculate each of these variables is described below.

*Precipitation (P)*

The total volume of precipitation that falls within the area of the project site was calculated by multiplying the annual precipitation rate of 52.35 inches per year (see Subsection 1.5) by the combined aquifer area of the project site parcel (602.48 AC). The total annual precipitation over this area corresponds to 2,628.32 AFY during average precipitation years and 1,576.99 AFY during the assumed drought scenario.

*Run-off (R)*

The percentage of the total precipitation that results as outflow (i.e., run-off) was estimated using the rational method by comparing the ground slopes within the area of the project site parcel to type curves for various surfaces (Oregon Department of Transportation [ODOT Manual], 2014). AutoCAD Civil3D was used in conjunction with publicly available topography data to evaluate slope characteristics. Land coverage type was estimated based on review of aerial imagery. All areas were conservatively assumed to be "hilly" as defined in the 2014 ODOT manual. These areas, in turn, were further separated by the

types of settings. The following provides a breakdown of the setting types and range of runoff coefficients (RCs) used in the analysis:

- Light Residential: 5.00 AC (RC = 0.45)
- Woodland / Forest(1): 567.38 AC (RC = 0.20)
- Cultivated Land: 30.10 AC (RC = 0.60)

The annual run-off volume for each area was calculated by multiplying the respective areas by the annual precipitation volume, followed by multiplying the corresponding products by the applicable run-off coefficient. The summation of all the area run-off volumes equate to the total estimated annual run-off volume for the project site. The average annual run-off volume was calculated to be approximately 583.64 AFY during average precipitation years and 350.18 AFY during the assumed drought scenario.

*Actual Evapotranspiration ($ET_a$)*

Actual Evapotranspiration ($ET_a$) was calculated using the Water Use Classification of Landscape Species (WUCOLS) site specific model as described in *A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California* (UC Cooperative Extension, 2000). Species factors ($K_S$) and density factors ($K_D$) as outlined in the WUCOLS Guidance Documentation were determined based on observations made during the site visit and review of aerial photography. A microclimate factor ($K_{MC}$) of 1 was selected based upon review of available climate data. Resulting landscape coefficients ($K_L$) were then multiplied by respective unit areas to determine an estimated $ET_a$ for these native vegetation types within the project site parcels. Monthly ETo values from reference ETo tables for Sanel Valley (Hopland) provided in the CIMIS Reference Evapotranspiration Website (CIMIS, 2024) were used to estimate actual evapotranspiration. The $ET_a$ calculations are based on the project schedule including 10 acres of light deprivation for the months of February through April and the 30.1 acres of outdoor cultivation from June through October to provide a conservative estimate for $ET_a$.

The total $ET_a$ within the project site was calculated to be approximately 416.85 AFY. While it is acknowledged that $ET_a$ generally decreases during drought conditions, for the purpose of the following recharge calculations the estimation of $ET_a$ for average precipitation years was also applied to the assumed drought scenario. As such, the estimated $ET_a$ for the drought scenario should be considered conservative in nature.

*Canopy Interception ($EC_I$)*

Canopy interception corresponds to the fraction of rainfall that is intercepted by the canopy of trees and shrubs and subsequently lost to evaporation. This fraction was estimated using equations developed by Helvey and Patric (Helvey & Patric, 1965) that utilize gross rainfall, throughput (i.e., rainfall that reaches the ground through spaces in the vegetative canopy and as drip from leaves, twigs and stems), and stemflow (i.e., rainfall that is caught on the canopy and reaches the ground by running down stems). The calculation excluded grassland, access roads, and greenhouse area as the fraction of canopy interception for these areas is assumed to be negligible or not applicable. All other areas within the project site were subjected to canopy interception losses. Canopy interception loses were

calculated to be approximately 153.76 AFY during average precipitation years and 92.26 AFY during the assumed drought scenario.

*Springs*

Published data regarding spring flow discharges in the area were not available. In the absence of such information, EBA conservatively assumed that 10 percent of annual precipitation is lost through spring discharge. However, it should be noted that no springs were observed during EBA's site inspection. Spring discharge was estimated to represent approximately 262.83 AFY during average precipitation years and approximately 157.70 AFY during the assumed drought scenario.

*Water Budget Results*

A summary of the groundwater recharge calculations under average precipitation years as well as the assumed drought scenario is provided in Table 4 on the following page.

**TABLE 4**
**PROJECT SITE GROUNDWATER RECHARGE CALCULATIONS**
**AVERAGE RAINFALL AND DROUGHT SCENARIOS**

| ***Description*** | ***Inflow/Outflow*** | ***Volume (AFY) Average Rainfall*** | ***Volume (AFY) Drought Scenario*** |
|---|---|---|---|
| Precipitation | Inflow | +2,628.32 | +1,576.99 |
| Run-off | Outflow | -583.64 | -350.18 |
| Actual Evapotranspiration | Outflow | -416.85 | -416.85 |
| Canopy Interception | Outflow | -153.76 | -92.26 |
| Springs | Outflow | -262.83 | -157.70 |
| **TOTALS** | **--** | ***+1,211.24*** | ***+560.00*** |

Using each of the calculated variables in the groundwater recharge equation, the corresponding estimated volume of water available for groundwater recharge in the vicinity of the project site during average precipitation years is approximately 1,211.24 AFY. Annual recharge potential during the assumed drought scenario (60 percent of average precipitation) was calculated to be approximately 560.00 AFY.

The annual total water demand for the project is 107.37 AFY. This was estimated to be approximately 8.9 percent of the average recharge volume and approximately 19.2 percent of the drought recharge volume. As such, a positive water budget exists for the project in both average precipitation years and assumed drought scenarios.

## *5.3 CIA Groundwater Recharge Analysis*

An estimate of groundwater recharge potential for the entirety of the CIA was also developed under the proposed future use scenario. The estimate of groundwater recharge

potential for the CIA was performed using the same procedures and methodologies as described above in Subsection 5.2.

Please note that EBA has included a required Drought Management Plan for the project as Appendix G to address requirements as outlined in the County of Lake's Urgency Ordinance No. 3106 (*An Urgency Ordinance Requiring Land Use Applicants to Provide Enhanced Water Analysis During a Declared Drought Emergency*, County of Lake, 2021).

*Run-off (R) in CIA*

Run-off for the CIA was calculated using the same methodologies presented for the previous run-off calculations for the project site. Again, all areas were conservatively assumed to be "hilly" as defined in the 2014 ODOT manual. These areas, in turn, were further separated by the types of settings. The breakdown on the following shows the setting types and range of runoff coefficients (RCs) used in the analysis:

- Meadows / Pasture Land: 142.84 AC (RC = 0.35)
- Light Residential: 22.57 AC (RC = 0.45)
- Woodland / Forest: 1,638.37 AC (RC = 0.20)
- Cultivated Land: 96.49 AC (RC = 0.60)

The "Cultivated Land" total area of 96.49 AC is comprised of 33.72 AC of cannabis, 54.54 AC of vineyards, and 8.23 AC of orchards. These areas and land use types were also used to compute the evapotranspiration calculations described below.

*Actual Evapotranspiration ($ET_a$) in CIA*

The $ET_a$ calculations for the CIA were again based on the project crop schedule including 10 AC of light deprivation for the months of February through July and the 30.1 AC of outdoor cultivation from July through October, as well as an additional 3.26 AC of off-site outdoor cultivation by others that was conservative assumed to be planted from March through October. The off-site orchard area of 8.23 AC, the off-site vineyard area of 54.54 AC, and the total forested area of 1,638.27 AC were also included in the CIA $ET_a$ calculations.

Proposed vineyard $ET_c$ (Crop Evapotranspiration) was calculated in general accordance with methodologies described in the *California Crop and Soil Evapotranspiration for Water Balances and Irrigation Scheduling/Design* (DWR, 2003). A vineyard crop density of 60 percent cover was assumed. The reference crop evapotranspiration value for this crop type, crop cover, and region is 27.23 inches per year during typical years per Table 5, Zone 8 of the aforementioned DWR publication.

The evapotranspiration demand is provided by the evapotranspiration from effective precipitation in addition to evapotranspiration from applied water. As such, the amount of applied water reported for the vineyard (0.50 AFY per AC), was subtracted from the reference crop evapotranspiration value (DWR, 2003) to yield a unit crop evapotranspiration value due to effective precipitation alone (unit $ET_c$). Please note the unit $ET_c$ equates to the

volume of precipitation across the vineyard area that will be lost by evapotranspiration and not available for groundwater recharge. $ET_a$ for existing vineyard was calculated by multiplying the unit $ET_c$ by the associated acreage of vineyard. These calculations for vineyard $ET_a$ were performed during average precipitation years. While it is acknowledged that $ET_a$ generally decreases during drought conditions, for the purpose of the following recharge calculations the estimation of $ET_a$ for average precipitation years was also applied to the assumed drought scenario. As such, the estimated $ET_a$ for the CIA drought scenario should again be considered conservative in nature.

*Water Budget Results for CIA*

Table 5 on the following page tabulates the groundwater recharge calculations performed for the CIA.

**TABLE 5**
**CIA GROUNDWATER RECHARGE CALCULATIONS**
**AVERAGE RAINFALL AND DROUGHT SCENARIOS**

| ***Description*** | ***Inflow/Outflow*** | ***Volume (AFY) Average Rainfall*** | ***Volume (AFY) Drought Scenario*** |
|---|---|---|---|
| Precipitation | Inflow | +8,289.93 | +4,973.96 |
| Run-off | Outflow | -1,944.45 | -1,166.67 |
| Actual Evapotranspiration | Outflow | -1,128.00 | -1,128.00 |
| Canopy Interception | Outflow | -434.37 | -260.62 |
| Springs | Outflow | -828.99 | -497.40 |
| **TOTALS** | **--** | ***+3,954.12*** | ***+1,921.27*** |

As mentioned previously, the annual total water demand for the project is 107.37 AFY. The proposed water demand was estimated to be 2.7 percent of average-rainfall groundwater recharge and 5.6 percent of drought-year groundwater recharge. Further, including the total estimated future non-project groundwater usage for the entire CIA of 96.25 increases the future total annual CIA water demand to 203.62 AFY. This combined future annual water demand was estimated to be 5.2 percent of the average rainfall-year groundwater recharge and 10.6 percent of the drought-year groundwater recharge.

## 5.4 *Maximum Daily Demand, Pumping Duration, and Recovery Data*

Maximum daily demand (MDD) for groundwater use was estimated using the weekly groundwater use data provided by 1833 DS (Appendix F). The maximum weekly water demand for the project was estimated to be 1,700,700 gallons. Based on EBA's conversations with 1833 DS, the weekly water demand will be partitioned throughout the week equally for each day. As such, the weekly water demand values for the project were divided by seven days per week to yield the MDD value of 242,957 gallons per day (gpd).

Based on the well yield of 197 gpm for Well 1 (2020) and 275 gpm for Well 2 (2021) for a combined pumping rate of 472 gpm, the MDD for the project corresponds to approximately

515 minutes of pumping per day, assuming that both wells are pumping at the same time. This pumping rate would require both wells to be operated for 8.58 hours at their recommended pumping rates.

Based on the pumping test data provided in Appendix D, Wells 1 and 2 recovered 95 percent and 100 percent, respectively, within 15 minutes of pump shutoff. As such, EBA assumes that the wells will recover 95 percent during the approximately 15-hour shutoff period.

## *5.5 Distance Drawdown Modeling*

EBA developed an aquifer hydraulics model to estimate the radius of influence from the projected groundwater pumping rate based on a distance-drawdown model developed in Microsoft® Excel. The distance-drawdown model uses methodology described by Theis (1935) (Equation 1 below).

$$s = \frac{Q}{4\pi T}\int_u^\infty \frac{e^{-u}}{u}du \ , \ u = \frac{r^2 S}{4Tt}, \ \int_u^\infty \frac{e^{-u}}{u}du \ = w(u) \qquad \text{(Equation 1)}$$

where $s$ = drawdown (feet)
$Q$ = flow rate (cubic feet per day)
$T$ = transmissivity (square feet per day)
$t$ = time (days)
$S$ = storativity
$r$ = radial distance from extraction well (feet)
$w$ = the well function
$u$ = the Boltzman variable

The well function is approximated using a Taylor Series expansion per the methodology presented by Cooper and Jacob (1946) (Equation 2).

$$w(u) = \ -0.5772 + \ln(u) + u - \frac{u^2}{2*2!} + \frac{u^3}{3*3!} - \cdots \qquad \text{(Equation 2)}$$

The following assumptions are inherent in the Theis methodology: the aquifer is infinite in extents, horizontal, confined, homogeneous, isotropic, the well diameter is negligible, and groundwater flow is horizontal.

Aquifer transmissivity and storativity values related to Well 1 were estimated based on an 8-hour pumping test performed by Jim's Welding & Pumps on February 13, 2020. This data is provided on page 18 of Appendix D. The pumping test used Well 4 as a sentinel well and Well 1 as a pumping well with a flow rate of 197 gpm. Depth to water measurements indicated that there was 3.97 feet of drawdown in Well 4 (located approximately 137 feet away from Well 1) after a pumping duration of 479 minutes from 9:15 AM until 5:14 PM. Drawdown at Well 1 was measured to be approximately 83 feet during the pumping test. Estimates of transmissivity and storativity values of 3,080 gpd per foot and $1.49 \times 10^{-2}$, respectively, were estimated for the hydrogeologic formation in the vicinity of Well 1 using a sum of the square residuals (SSR) optimization by varying transmissivity and storativity values in conjunction with each other to match both the 83-foot drawdown at Well 1 and

the drawdown at Well 4 of 3.97 feet. This was facilitated using the Solver function in Microsoft Excel. The optimization problem used in this routine is presented on the following page (Equation 3).

$$\min z = \sum_{i=3}^{n} \left(h_{o,i} - h_{m,i}\right)^2 \qquad \text{(Equation 3)}$$

where $z$ = the objective function
$i$ = an index number for all pump test data in series $n$
$h_{o,i}$ = observed hydraulic head (feet)
$h_{m,i}$ = modeled hydraulic head (feet)

Aquifer transmissivity and storativity values related to Well 2 were estimated based on an 4-hour pumping test performed by Jim's Welding & Pumps on July 30, 2021. This data is provided on page 22 of Appendix D. During the pumping test, there was ten feet of drawdown measured after 30 minutes of pumping at a flow rate of 275 gpm. The drawdown reportedly remained unchanged after the initial 30 minutes of pumping until the end of the pumping test. Using the aforementioned Theis equation, EBA estimated transmissivity and storativity values of 34,484 gpd per foot and $1.53 \times 10^{-2}$, respectively, for the hydrogeologic formation in the vicinity of Well 2 using a flow rate of 275 gpm and a drawdown of ten feet after 30 minutes of pumping.

Individual aquifer transmissivity values for Wells 1 and 2 were also estimated to be 4,747 gpd per foot and 55,000 gpd per foot, respectively, utilizing the methods presented by Driscoll (1986) for a confined aquifer (Equation 4).

$$T = \frac{2{,}000\,Q}{s} \qquad \text{(Equation 4)}$$

Please note that the difference in transmissivity between Wells 1 and 2 may be attributed to well construction (i.e., Well 1 has a smaller casing diameter than Well 2) and efficiency differences more than heterogeneity of the aquifer in the vicinity between the wells. Further, drawdown amounts in Well 1 as demonstrated by transducer data does not exhibit 83 feet of drawdown during pumping, but rather approximately 20 feet of drawdown. With that being said, EBA has used a lower transmissivity for Well 1 and as such the radius of influence estimates should be considered conservative.

The radius of influence with a pumping rate of 197 gpm for a duration of 515 minutes was estimated for Well 1 to be approximately 230 feet based on the transmissivity and storativity estimates for Well 1. The radius of influence with a pumping rate of 275 gpm for a duration of 515 minutes was estimated for Well 2 to be approximately 330 feet based on the transmissivity and storativity estimates for Well 2. These values represent where the modeled cone of depression from groundwater extraction reaches a point where the drawdown was estimated to be equal to one foot, which was selected on the basis that groundwater level measurements to a tolerance of under one foot are influenced by variability in barometric pressure, by other groundwater pumping in the CIA, and by recharge patterns. Furthermore, a drawdown of less than one foot is considered by EBA to be a negligible effect on well interference and a de-minimis condition.

In an effort to model cumulative effects of pumping Wells 1 and 2 at the same time, the radius of influence estimates were superimposed onto each other by adding their individual

values. As such, the total radius of influence for pumping Wells 1 and 2 at the same time was estimated to be 560 feet.

Based on the available data and the distance drawdown evaluation described herein, including the associated assumptions for both the drawdown model and the well characteristics implied from the pumping test, the pumping regiment associated with the proposed project appears unlikely to result in appreciable drawdown in off-site water supply wells because the total radius of influence for pumping Wells 1 and 2 at the same time was estimated to be 560 feet, and there are no identified off-site wells within this radius. Please note that the analysis assumes 95 percent recharge in the respective wells before initiating the next pumping cycle.

### *5.6 Pumping Well Hydrograph Data*

Groundwater elevations fluctuate seasonally based on aquifer budget components (variability in recharge from precipitation, recharge or discharge from adjacent hydrogeologic formations, boundary conditions such as streams or lakes, and evapotranspirative losses) and from groundwater production.

Routine monitoring of groundwater levels provides the necessary data to characterize these fluctuations and provides water managers with valuable information for groundwater management. In general, groundwater levels are considered “sustainable” if they rebound seasonally after pumping occurs. This is traditionally considered an indication that an aquifer has sufficient inflows to recharge groundwater in storage. As such, this would typically mean that overdraft conditions are not expected to be present.

1833 DS began collecting groundwater elevation data for Well 1 on June 27, 2024 and for Well 2 on June 17, 2024. EBA was provided this data through the date of December 24, 2024 with measurements taken every 15 minutes.

The hydrograph representing the groundwater elevation over time in Well 1 is presented on the following page as Exhibit 3. The ground surface shown corresponds to 2,567 feet NAVD88 at the approximate well head elevation, and the bottom of the well is 300 feet deeper at an elevation of 2,267 feet NAVD88.

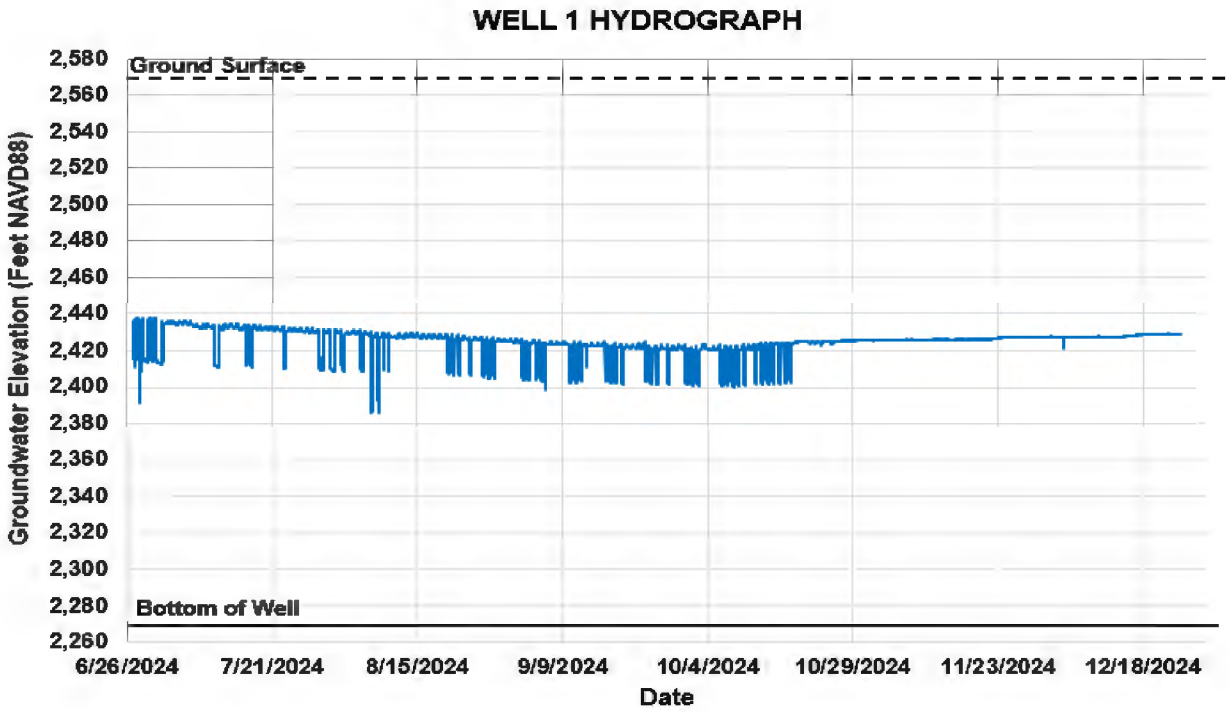



**Exhibit 3 – Well 1 Hydrograph**

The groundwater elevations exhibited in the Well 1 Hydrograph ranged from approximately 2,437 feet NAVD88 in June to lows of approximately 2,420 feet NAVD88 in October during pump shutoff. This indicates that there was a decline in groundwater levels at Well 1 of approximately 17 feet between June and October 2024. This decline can be attributed to seasonal fluctuations, regional groundwater pumping, and project site groundwater pumping to provide water supply for the 20-AC cannabis farm. Drawdown values during pumping were approximately 20 feet and groundwater levels generally rebounded back to pre-pumping levels within 15 minutes of cessation of pumping. As previously mentioned, the drawdown fluctuations shown on the hydrograph are not consistent with the drawdown shown on the 8-hour pumping test performed by Jim's Welding & Pumps on February 13, 2020 of 83 feet.

During the remainder of the data series, groundwater levels gained during precipitation events in October, November, and December 2024 by approximately 9 feet to an average value of 2,429 feet NAVD88 by the end of the data set.

The hydrograph representing the groundwater elevation over time in Well 2 is presented on the following page as Exhibit 4. The ground surface shown corresponds to 2,562 feet NAVD88 at the approximate well head elevation, and the bottom of the well is 305 feet deeper at an elevation of 2,257 feet NAVD88.

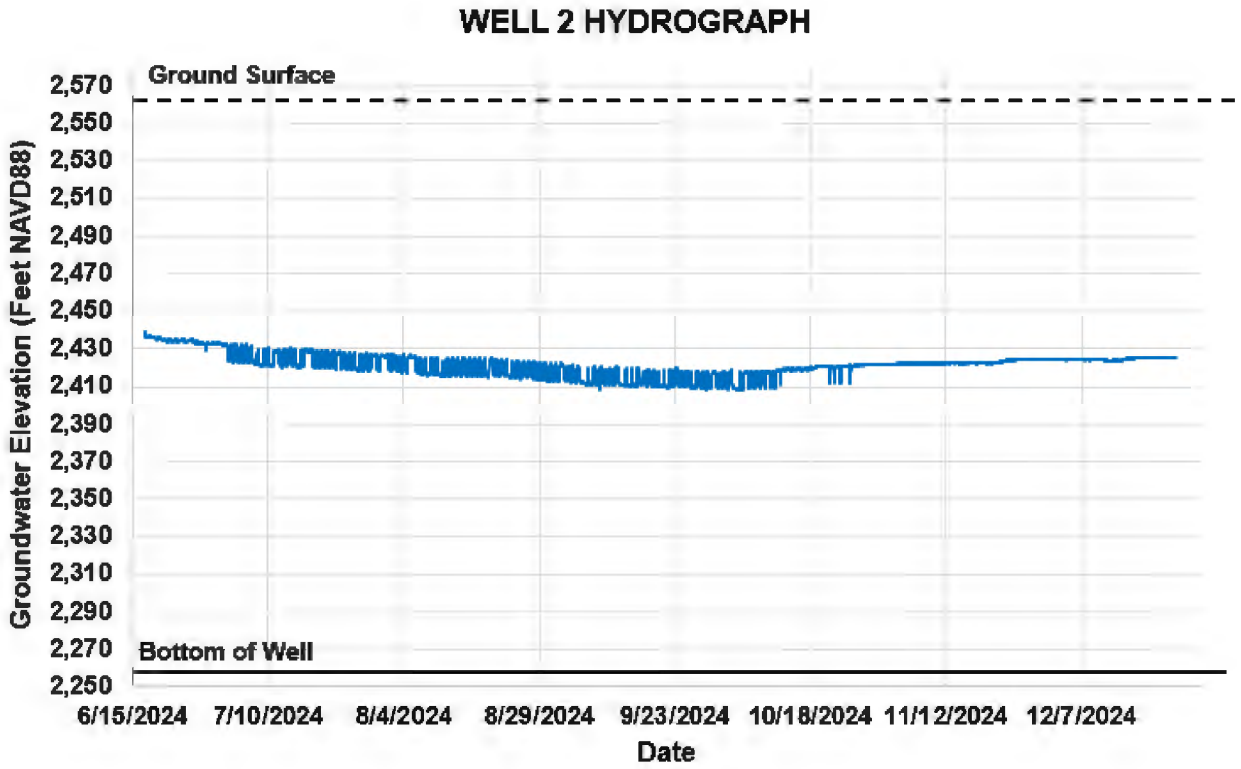



**Exhibit 4 – Well 2 Hydrograph**

The groundwater elevations exhibited in the Well 2 Hydrograph ranged from approximately 2,437 feet NAVD88 in June to lows of approximately 2,416 feet NAVD88 in October during pump shutoff. This indicates that there was a decline in groundwater levels at Well 2 of approximately 21 feet between June and October 2024. This decline can be attributed to seasonal fluctuations, regional groundwater pumping, and project site groundwater pumping to provide water supply for the 20-AC cannabis farm. Drawdown values during pumping were approximately 10 feet and groundwater levels generally rebounded back to pre-pumping levels within 60 minutes of cessation of pumping. During the remainder of the data series, groundwater levels gained during precipitation events in October, November, and December 2024 by approximately 10 feet to an average value of 2,426 feet NAVD88 by the end of the data set.

## 6.0 CONCLUSIONS

The results of the study have indicated that:

- The existing annual water demand provided by 1833 DS was 58.86 AFY, and the annual total water demand for the proposed project was estimated to be 107.37 AFY. Existing non-project groundwater usage within the CIA was estimated to be 77.25, and future non-project groundwater usage was estimated to be approximately 96.25 AFY. As such, the future total annual CIA water demand including the proposed project is approximately 203.62 AFY.

- The total volume of groundwater in storage within the area of the aquifer immediately beneath the project site was estimated to be approximately 6,593 AF. The annual total water demand for the project was estimated to be approximately 1.6 percent of the groundwater in storage underlying the project site. It is important to note that due to the interaction between groundwater and subsurface geology in the vicinity of the project site, it is not likely that the entire amount of groundwater in storage can be efficiently extracted.

- Total volume of groundwater in storage within the area of the aquifer beneath the CIA was estimated to be approximately 15,224 AF. The annual total water demand for the project was estimated to be less than one percent of the groundwater in storage underlying the CIA. The future total annual CIA water demand including the project was estimated to be approximately 1.3 percent of the groundwater in storage underlying the CIA.

- The annual total water demand for the project was estimated to be approximately 2.7 percent of average-rainfall CIA groundwater recharge and approximately 5.6 percent of drought-year CIA groundwater recharge. The future total annual CIA water demand including the project was estimated to be approximately 1.3 percent of the groundwater in storage underlying the CIA. The future total annual CIA water demand including the project was estimated to be approximately 5.2 percent of the average rainfall-year groundwater recharge, and approximately 10.6 percent of the drought-year groundwater recharge.

- Based on the available data and the distance drawdown evaluation described herein, including the associated assumptions for both the drawdown model and the well characteristics implied from the pumping test, the pumping regimen under the MDD scenario appears to be unlikely to result in appreciable drawdown in off-site water supply wells.

- Groundwater elevations in Well 1 and Well 2 declined approximately 17 and 21 feet, respectively, from June through October, and gained back approximately 9 and 10 feet, respectively from October through December under non-pumping conditions.

## 7.0 LIMITATIONS

This WAA was prepared in accordance with generally accepted standards of professional hydrogeologic and civil engineering principles and practices at the place and time this study was performed. This warranty is in lieu of all other warranties, either expressed or implied. The conclusions presented herein are based on information made available to EBA by others, and include professional interpretations based on limited research and data. Based on these circumstances, the decision to conduct additional investigative work, including a longer duration pumping test to further support the findings and conclusions presented herein is the sole responsibility of 1833 DS. The results of this WAA and the conclusions contained herein are dependent upon the accuracy of the estimated future water usage for the project which was developed based upon information provided by others. No guarantee

is made that groundwater of sufficient quantity or quality will be found in any specific depth or interval nor that pumping will not affect quality nor quantity of water found. This WAA has been prepared solely for 1833 DS and any reliance on this WAA by third parties shall be at such party's sole risk.

## 8.0 CLOSING

EBA appreciates the opportunity to be of service to you on this project. If you should have any questions regarding the information contained herein, please do not hesitate to contact our office at (707) 544-0784.

Sincerely,

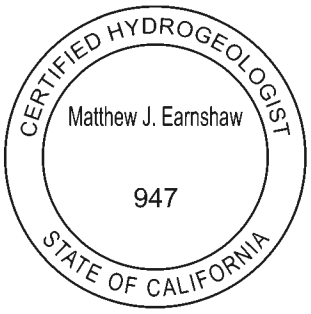
**EBA ENGINEERING**




Brian M. Wallace, PE, MS, MBA, QSD
Project Engineer

Matthew Earnshaw

Digitally signed by Matthew Earnshaw
Date: 2025.01.13 17:41:27 -08'00'




Matthew J. Earnshaw, PG, CHg, CEG, QSD
Vice President – Senior Hydrogeologist

**APPENDICES**

**Appendix A – Figures**
**Appendix B – Acreage Determination Plat (Prepared by Conser Land Surveying)**
**Appendix C – Project Site Well Completion Reports**
**Appendix D – Pumping Test Data and Reports**
**Appendix E – Off-Site Well Completion Reports**
**Appendix F – Weekly Groundwater Demand Data (Prepared by 1833 DS)**
**Appendix G – Drought Management Plan**

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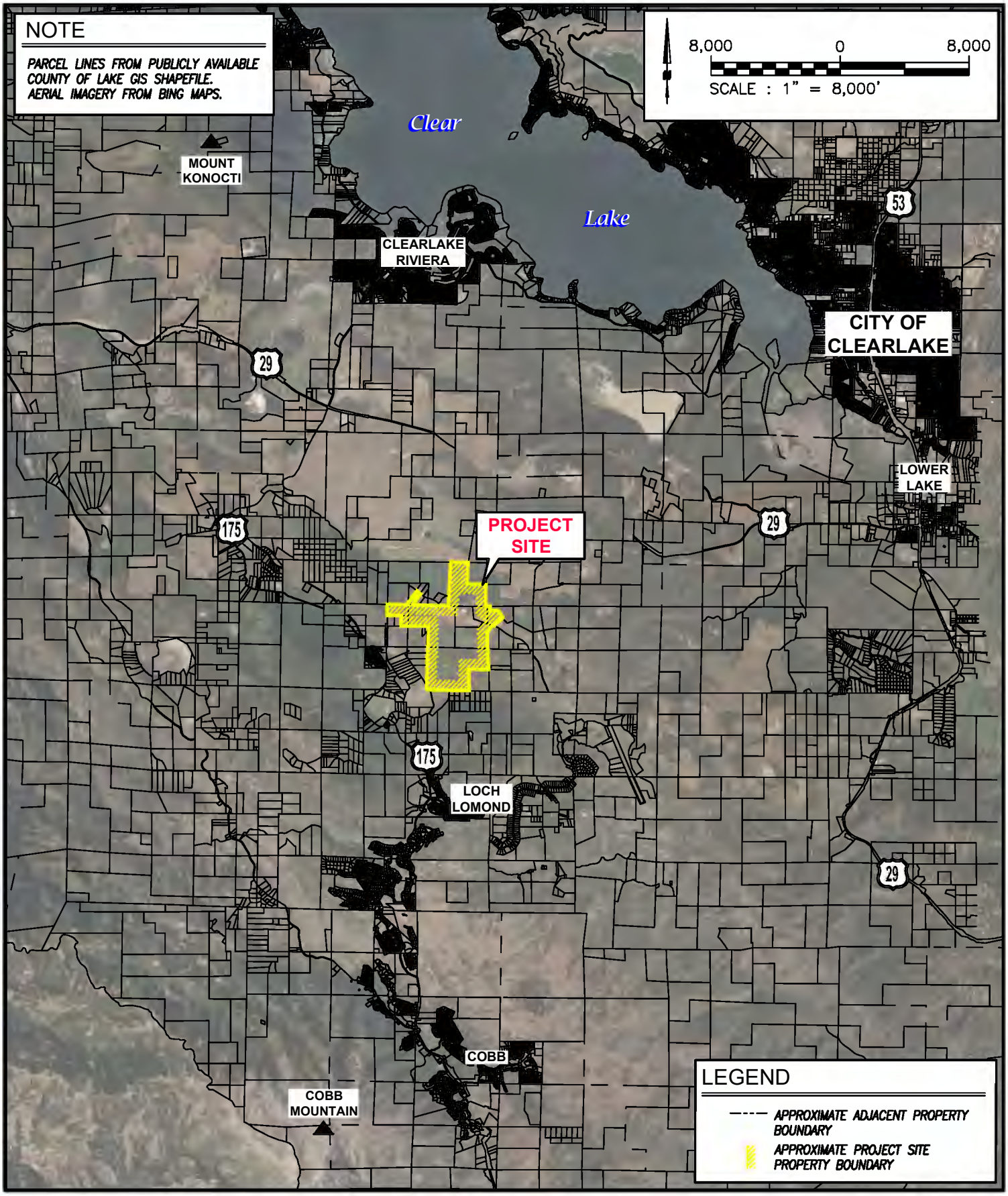
# APPENDIX A

# FIGURES

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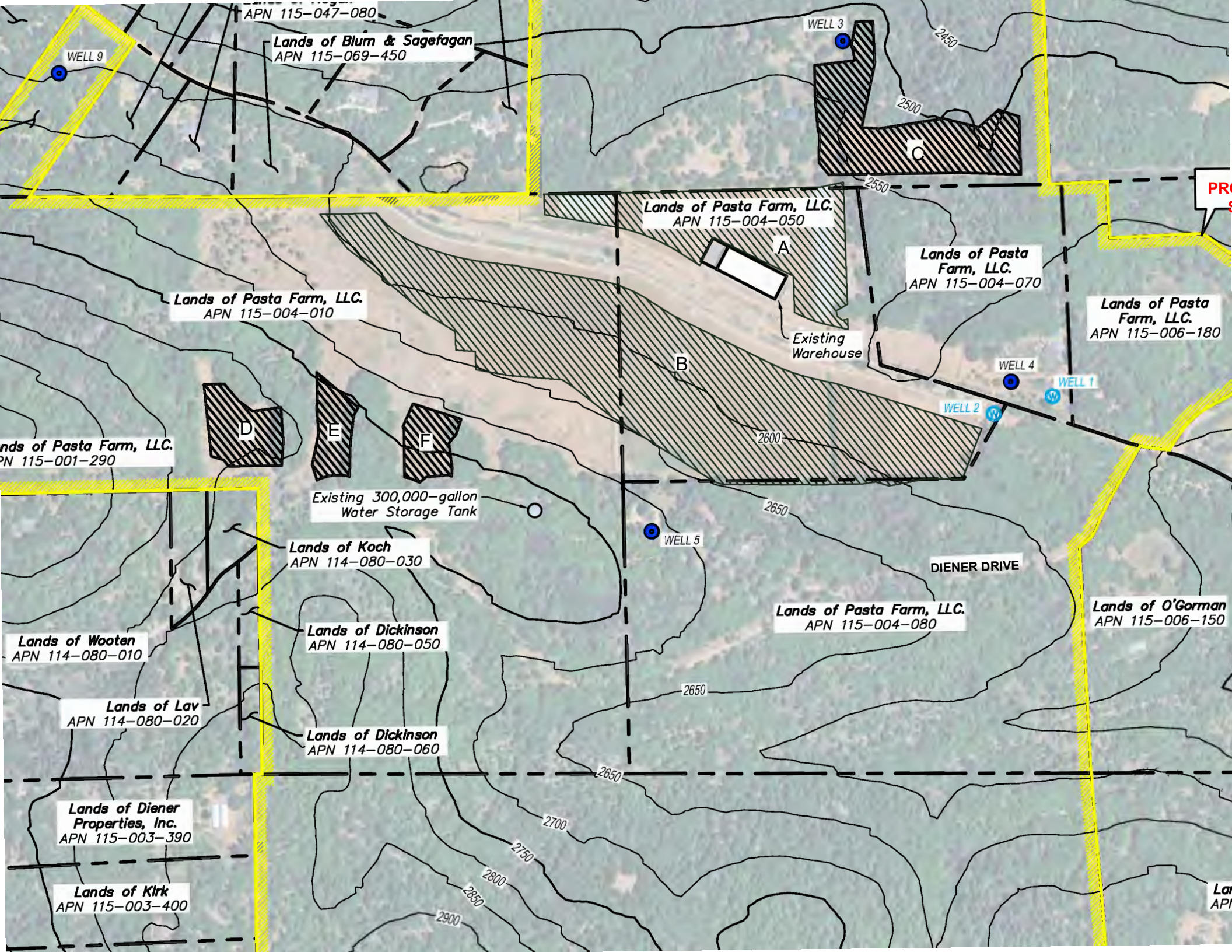
# LOCATION MAP

WATER AVAILABILITY ANALYSIS
1833 DS LLC
KELSEYVILLE, CA 95451

FIGURE
1
24-3575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APN 115–069–450
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WELL 3
2450
2500
C
2550
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APN 115–004–050
A
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APN 115–004–070
Lands of Pasta Farm, LLC.
APN 115–004–010
Existing Warehouse
B
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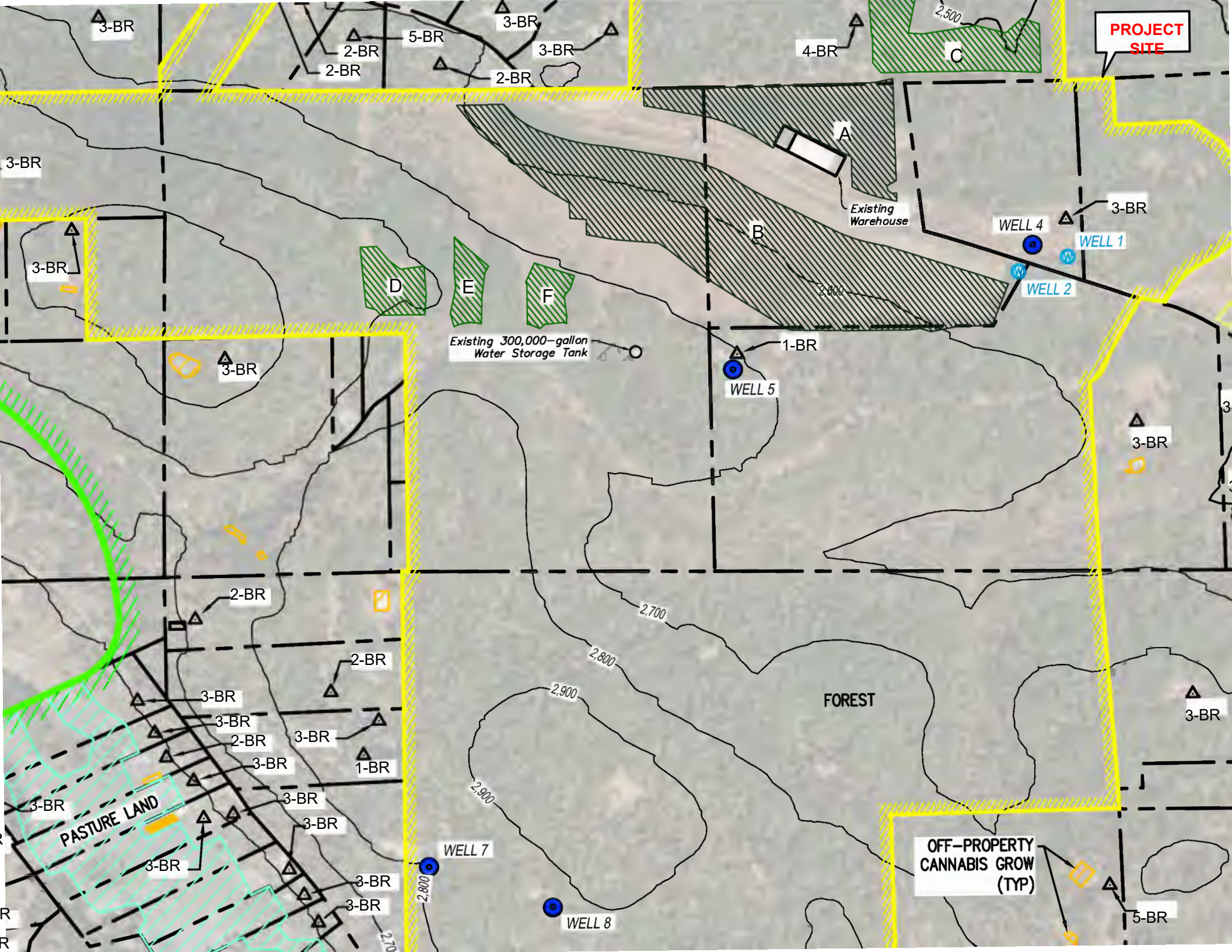
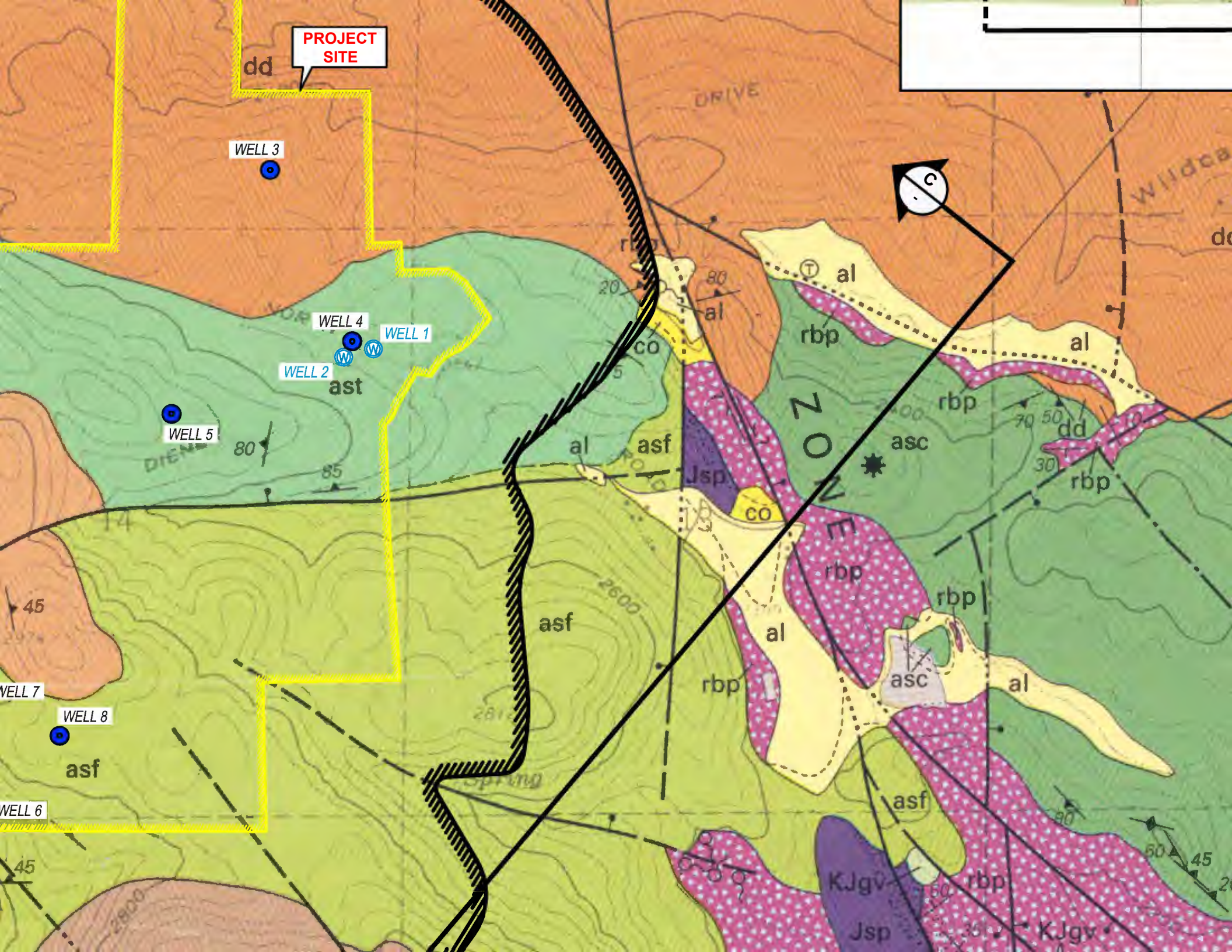
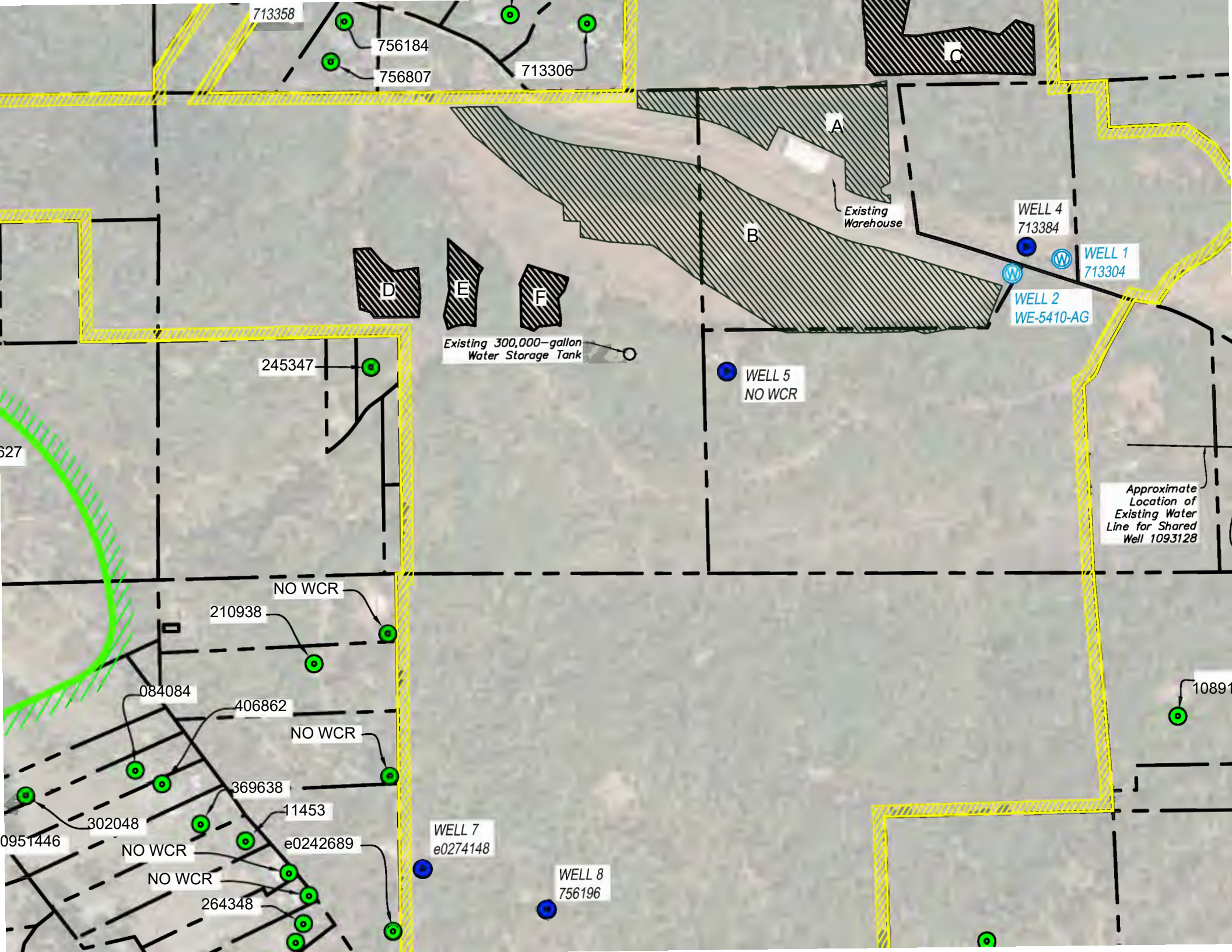
APN 115–006–180
WELL 4
WELL 1
WELL 2
2600
D
E
F
nds of Pasta Farm, LLC.
PN 115–001–290
Existing 300,000–gallon Water Storage Tank
2650
WELL 5
Lands of Koch
APN 114–080–030
DIENER DRIVE
Lands of Pasta Farm, LLC.
APN 115–004–080
Lands of O'Gorman
APN 115–006–150
Lands of Wooten
APN 114–080–010
Lands of Dickinson
APN 114–080–050
Lands of Lav
APN 114–080–020
Lands of Dickinson
APN 114–080–060
2650
Lands of Diener Properties, Inc.
APN 115–003–390
2700
2750
2800
2850
2900
Lands of Kirk
APN 115–003–400

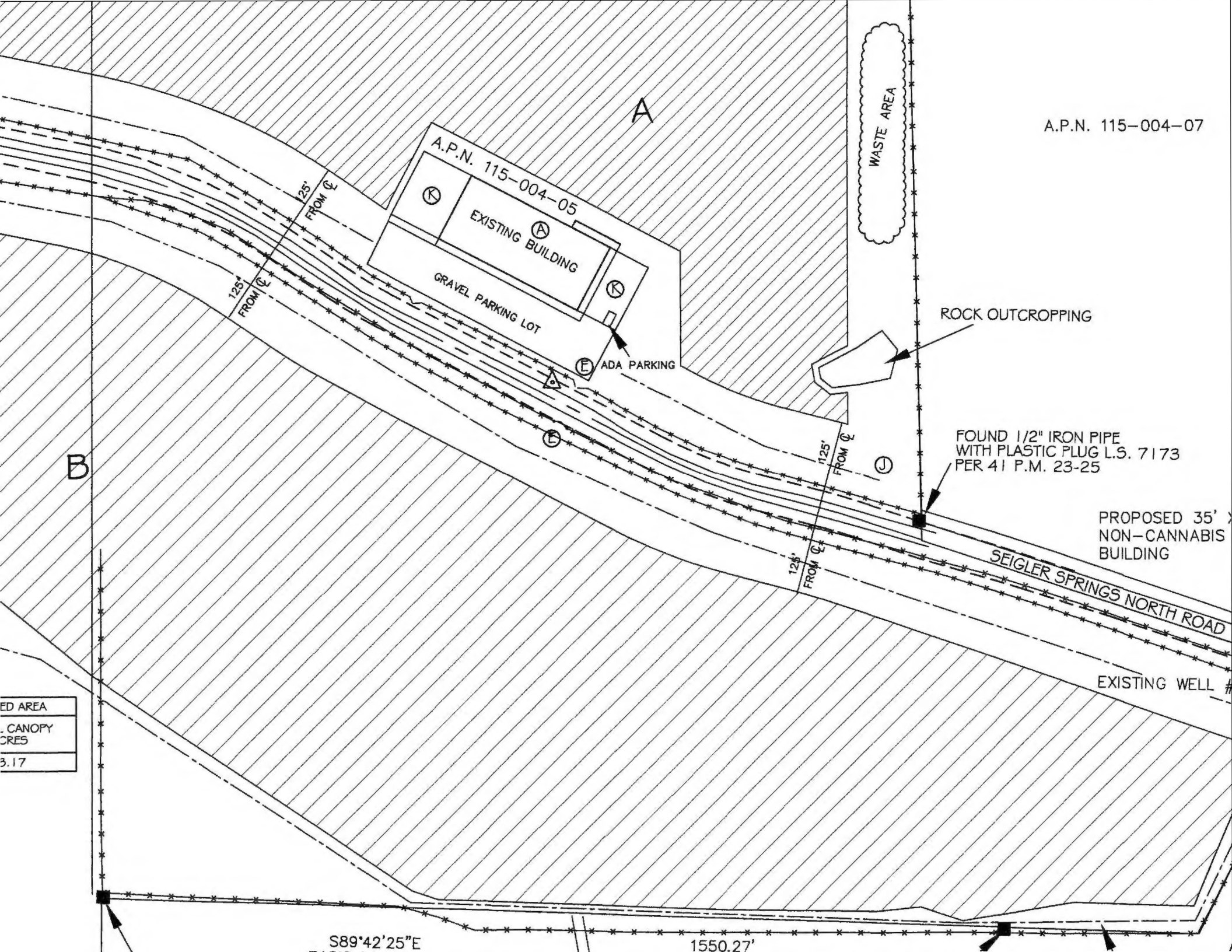

PROJECT SITE
A
B
C
D
E
F
Existing Warehouse
Existing 300,000-gallon Water Storage Tank
WELL 1
WELL 2
WELL 4
WELL 5
WELL 7
WELL 8
FOREST
PASTURE LAND
OFF-PROPERTY CANNABIS GROW (TYP)
2,500
2,600
2,700
2,800
2,900
3-BR
2-BR
1-BR
5-BR
4-BR


PROJECT SITE
dd
WELL 3
WELL 4
WELL 1
WELL 2
ast
WELL 5
WELL 7
WELL 8
asf
WELL 6
DRIVE
al
rbp
co
asf
Jsp
asc
ZONE
KJgv
Spring
2600
2800
45
80
85
20
30
50
70
60
90


713358
756184
756807
713306
C
A
B
Existing Warehouse
WELL 4
713384
WELL 1
713304
WELL 2
WE-5410-AG
D
E
F
Existing 300,000–gallon Water Storage Tank
245347
WELL 5
NO WCR
627
Approximate Location of Existing Water Line for Shared Well 1093128
NO WCR
210938
084084
406862
NO WCR
369638
11453
302048
0951446
NO WCR
e0242689
NO WCR
264348
WELL 7
e0274148
WELL 8
756196
10891

# APPENDIX B

# ACREAGE DETERMINATION PLAT
# (PREPARED BY CONSER LAND SURVEYING)


A
B
A.P.N. 115-004-05
EXISTING BUILDING
GRAVEL PARKING LOT
ADA PARKING
125' FROM ℄
125' FROM ℄
125' FROM ℄
125' FROM ℄
WASTE AREA
A.P.N. 115-004-07
ROCK OUTCROPPING
FOUND 1/2" IRON PIPE
WITH PLASTIC PLUG L.S. 7173
PER 41 P.M. 23-25
PROPOSED 35' X
NON-CANNABIS
BUILDING
SEIGLER SPRINGS NORTH ROAD
EXISTING WELL #
ED AREA
. CANOPY
CRES
3.17
S89°42'25"E
1550.27'

# APPENDIX C

# Project Site Well Completion Reports

ORIGINAL
File with DWR

APR 04 2002

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 713304

DWR USE ONLY — DO NOT FILL IN
12N | 08W-14
STATE WELL NO./STATION NO.
LATITUDE | LONGITUDE
APN/TRS/OTHER

Page ___ of ___
Owner's Well No. ___
Date Work Began 1-18-01 Ended 3-19-01
Local Permit Agency Health Dept.
Permit No. WE 2048 Permit Date 1-17-01

Well 1

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Mud Rotary FLUID Bentonite

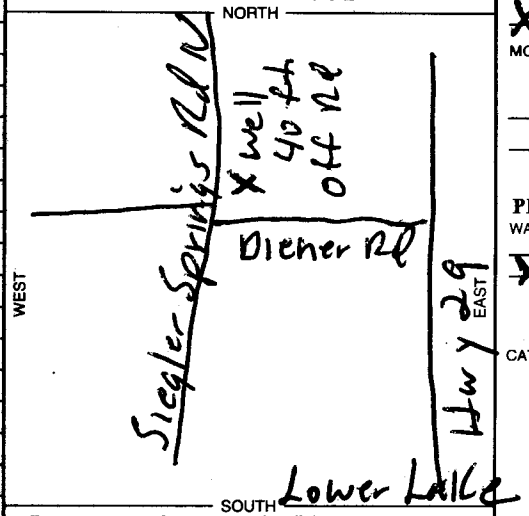
| DEPTH FROM SURFACE Ft. to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|
| 0 120 | Red Volanics |
| 120 230 | Basalt |
| 230 300 | Red, Black Basalt |

TOTAL DEPTH OF BORING 300 (Feet)
TOTAL DEPTH OF COMPLETED WELL 300 (Feet)

## WELL LOCATION

Address 10750 Siegler Springs Rd N.
City Kelseyville
County Lake
APN Book 115 Page 004 Parcel 02
Township 12N Range 8W Section 14
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

### LOCATION SKETCH




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

### PLANNED USES (✓)
WATER SUPPLY
X Domestic ___ Public
X 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 160 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 120 (Ft.) & DATE MEASURED 3-01-01
ESTIMATED YIELD 275* (GPM) & TEST TYPE air lift
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN ___ (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) |
|---|---|---|---|---|---|---|---|---|---|
| 0 245 | 12¼ | X | | | | PVC | 8" | 200 | |
| 245 300 | 11 | | X | | | 11 | 11 | 11 | 1/8 |

### ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 20 | X | | | |
| 20 300 | | | | 5/16 Pea |

APR 1 9 2002

### 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 13011 Hwy 29 CITY Lower Lake STATE Ca ZIP 95457
Signed Larry Herman (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 3-16-01 C-57 LICENSE NUMBER 465091

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

...e Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

Original with DWR

Well 2

State of California

# Well Completion Report

Refer to Instruction Pamphlet

No. XXXXXXX

...ge 1 of 1

...ner's Well Number 1

...ate Work Began 3-29-21 Date Work Ended 4-6-21

...ocal Permit Agency Lake County Environmental Health

...Permit Number WE-5410-AG Permit Date 7-16-2020

**DWR Use Only – Do Not Fill In**

State Well Number/Site Number

Latitude N Longitude W

APN/TRS/Other

## Geologic Log

Orientation ● Vertical ○ Horizontal ○ Angle Specify

Drilling Method Air Rotary Drilling Fluid

| Depth from Surface Feet | to Feet | Description (Describe material, grain size, color, etc) |
|---|---|---|
| 0 | 30 | Red clay with boulders |
| 30 | 200 | Black basalt |
| 200 | 260 | Red volcanics |
| 260 | 300 | Black basalt |

Total Depth of Boring 305 Feet

Total Depth of Completed Well 305 Feet

## Well Owner

Name Tom Larson

Mailing Address 23355 Millerrick Rd.

City Sonoma State CA Zip 95478

## Well Location

Address 10750 Seigler Springs North Rd.

City Kelseyville County LAKE

Latitude Deg. Min. Sec. N Longitude Deg. Min. Sec. W

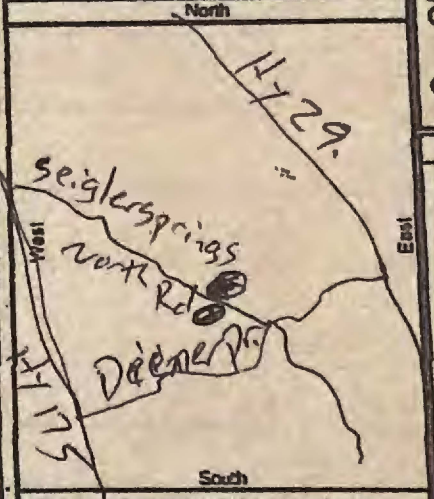
Datum Dec. Lat. Dec. Long.

APN Book 115 Page 004 Parcel 05

Township Range Section

## Location Sketch

(Sketch must be drawn by hand after form is printed.)




Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.

## Activity

● New Well

○ Modification/Repair

○ Deepen

○ Other

○ Destroy

Describe procedures and materials under "CFOLOGC LOG"

## Planned Uses

● Water Supply

■ Domestic ☐ Public

■ Irrigation ☐ Industrial

○ Cathodic Protection

○ Dewatering

○ Heat Exchange

○ Injection

○ Monitoring

○ Remediation

○ Sparging

○ Test Well

○ Vapor Extraction

○ Other

## Water Level and Yield of Completed Well

Depth to first water 200 (Feet below surface)

Depth to Static Water Level 200 (Feet) Date Measured 4-5-21

Estimated Yield* 400 (GPM) Test Type Air lift

Test Length 2 HRS (Hours) Total Drawdown (Feet)

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

## Casings

| Depth from Surface Feet | to Feet | Borehole Diameter (Inches) | Type | Material | Wall Thickness (Inches) | Outside Diameter (Inches) | Screen Type | Slot Size If Any (Inches) |
|---|---|---|---|---|---|---|---|---|
| 0 | 30 | 20" | | steel | 1/4" | 14" | — | — |
| 0 | 200 | | | steel | 1/4" | 10 3/4" | — | — |
| 200 | 300 | | | steel | 1/4" | 10 3/4" | perf. | .250" |

## Annular Material

| Depth from Surface Feet | to Feet | Fill | Description |
|---|---|---|---|
| 0 | 25 | Cement | Seal |
| 25 | 300 | — | — |

## 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 Will Peterson Well Drilling

Person, Firm or Corporation

P.O. Box 69 Kelseyville CA 95451

Address City State Zip

Signed [signature] 4-7-21 1009053

C-57 Licensed Water Well Contractor Date Signed C-57 License Number

DWR 188 REV 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

RECEIVED
JAN 29 1993

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 486026

DWR USE ONLY — DO NOT FILL IN
12N/08W-11M
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page ___ of ___
Owner's Well No. ___
Date Work Began 9-3-92 Ended 9-18-92
Local Permit Agency Lake County Environmental Health
Permit No. WE 770 Permit Date 9-3-92

Well 3

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER 360' (Ft.) BELOW SURFACE

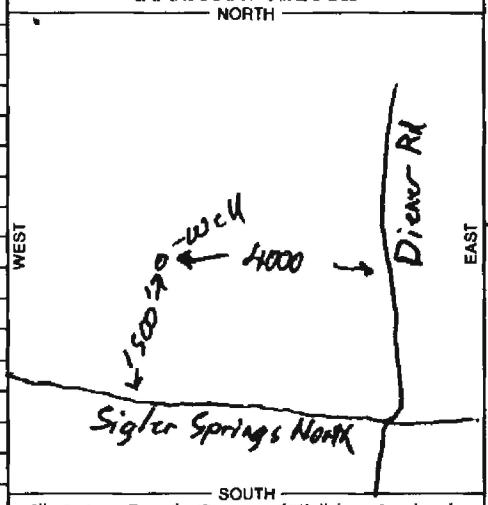
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 2 | Brn. Soil |
| 2 | 10 | Red Clay |
| 10 | 15 | Red Clay + Vol. Boulders |
| 15 | 80 | Black + Brn. Vol. Boulders |
| 80 | 360 | Black + Brn. red Vol. Rock |
| 360 | 405 | Black, Green, White, Pink, Vol. Rock |

TOTAL DEPTH OF BORING 405 (Feet)
TOTAL DEPTH OF COMPLETED WELL 405 (Feet)

## WELL LOCATION

Address 10800 Dicear Court
City Lower Lake
County Lake
APN Book 11 Page 008 Parcel 90
or Township 12N Range 08W Section 11
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 (✓)

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

### PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
X Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD Air Rotary FLUID Air

### WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 264' (Ft.) & DATE MEASURED 9-16-92
ESTIMATED YIELD* 30 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN — (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 | 25 | 10 5/8 | X | | | | PVC 125 | 6" | 125 | |
| 0 | 305 | 10 5/8 / 6 1/8 | X | | | | PVC F480 | 4" | 200 | |
| 305 | 405 | 6 1/8 | | X | | | PVC F480 | 4" | 200 | 2X 1/8 |

### ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 15 | X | | | |
| 15 | 23 | X | | | |
| 23 | 25 | | X | | |
| 40 | 405 | | | X | Pea 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 Dan Mc Mullen Well Drilling '603
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
1487 Old Long Valley Rd. Clearlake Oaks CA 95423
ADDRESS CITY STATE ZIP
Signed Dan Mc Mullen 9-21-92 533152
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page ___ of ___

APR 04 2002

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 713384

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO. 12N/08W-14
LATITUDE ___ LONGITUDE ___
APN/TRS/OTHER

Owner's Well No. ___
Date Work Began 12-29-99 Ended 12-29-99
Local Permit Agency Health Dept
Permit No. WE-1820 Permit Date 12-7-99

Well 4

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD air rotary FLUID ___

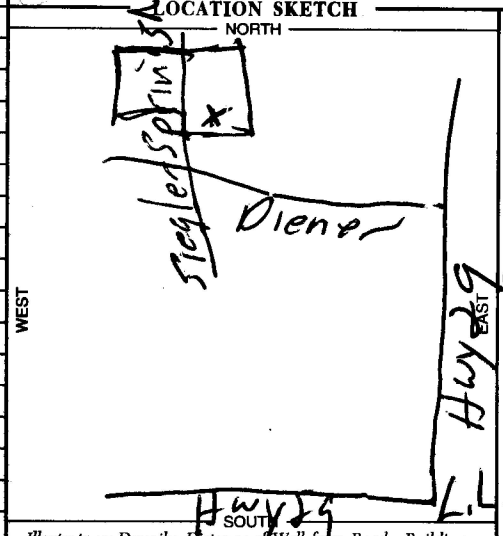
| DEPTH FROM SURFACE Ft. to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|
| 0 10 | Red Ash |
| 10 50 | Basalt in Ash |
| 50 210 | Broken Red & Black Basalt |
| | Pump setting 168' - 90 gpm |

TOTAL DEPTH OF BORING 210 (Feet)
TOTAL DEPTH OF COMPLETED WELL 200 (Feet)

## WELL LOCATION

Address 10750 Siegler Springs North
City Kelseyville
County Lake
APN Book 115 Page 004 Parcel 02
Township 12N Range 08W Section 14
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH




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

PLANNED USES (✓)
WATER SUPPLY
X Domestic ___ Public
X 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 140 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 125 (Ft.) & DATE MEASURED 12-27-99
ESTIMATED YIELD* 150 (GPM) & TEST TYPE air lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 20 | 9" | X | | | | PVC | 4½ | 160 | |
| 20 140 | 7" | X | | | | " | " | " | |
| 140 200 | 5" | | X | | | " | " | " | 1/8" saw cut |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 24 | X | | | |
| 24 200 | | | | 5/16 Pea |

APR 17 2002

## 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 13011 Hwy 29 CITY Lower Lake STATE Ca ZIP 95457
Signed Larry Herman (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 12-29-99 C-57 LICENSE NUMBER 465071

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

DUPLICATE
Driller's Copy

Page 1 of 1

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. e0274148

Well 7

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 6/15/2015, Ended 6/26/2015
Local Permit Agency Lake County Environmental
Permit No. WE 4553 Permit Date 4/21/2015

## 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 – 12 | Sandy tan silt with gravel |
| 12 – 38 | Reddish tan ash and gravel |
| 38 – 42 | Cobble/boulder (gray) |
| 42 – 48 | Sticky tan clay |
| 48 – 63 | Gray, pink and multi-colored volcanic cobbles and gravel |
| 63 – 113 | Red and black crushed volcanic rock |
| 113 – 137 | Yellow and gray volcanic rock |
| 137 – 154 | Green and gray volcanic rock |
| 154 – 173 | Pink and gray volcanic rock |
| 173 – 213 | Highly fractured gray volcanic rock |
| 213 – 493 | Red, black, gray and multi-colored volcanic rock |
| 493 – 500 | Serpentine |

TOTAL DEPTH OF BORING 500 (Feet)
TOTAL DEPTH OF COMPLETED WELL 494 (Feet)

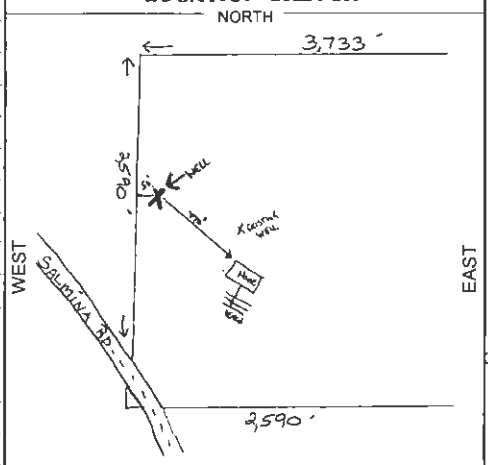
## WELL OWNER

Name Flora Krasnovski
Mailing Address 9954 Salmina Road
Kelseyville CA
CITY STATE ZIP

## WELL LOCATION

Address 9954 Salmina Road
City Kelseyville CA
County Lake
APN Book 115 Page 005 Parcel 03
Township Range Section
Latitude 38 DEG. 53 MIN. 102 SEC. N
122 DEG. 43 MIN. 159 SEC. W

### LOCATION SKETCH




*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
DEPTH OF STATIC WATER LEVEL 302 (Ft.) & DATE MEASURED 6/25/2015
ESTIMATED YIELD 60 (GPM) & TEST TYPE Air Developed
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN 478 (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 | 14 | | | | | | | | |
| 50 – 500 | 10 | | | | | | | | |
| +2 – 394 | | ✓ | | | | PVC | 6 | SDR21 | |
| 394 – 494 | | | ✓ | | | PVC | 6 | SDR21 | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 – 52 | ✓ | | | |
| 52 – 56 | | ✓ | | |
| 56 – 494 | | | ✓ | 3/8 Pea Gravel |

## 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
07/08/15 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 ___ of ___

APR 27 2004

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 756196

DWR USE ONLY — DO NOT FILL IN
12N/08W-14H
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. ___
Date Work Began 3-24-03 Ended 4-6-03
Local Permit Agency Health Dept.
Permit No. WE-3311 Permit Date 4-23-03

Well 8

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD air rotary FLUID ___

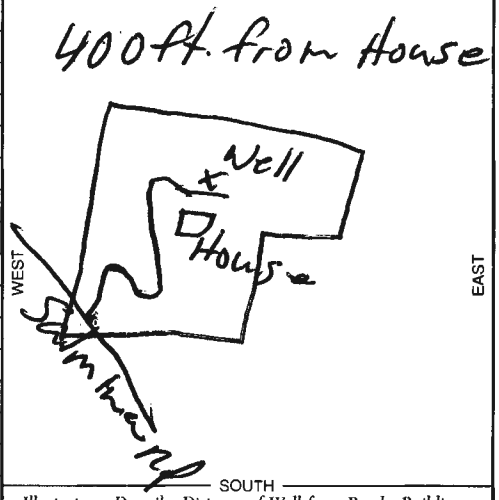
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 25 | Red Top soil |
| 25 | 160 | Tan Vol. Ash |
| 160 | 300 | Red, Blue, Gray Porous Volanic |
| 300 | 470 | Gray soft Porous Volanic |

TOTAL DEPTH OF BORING 470 (Feet)
TOTAL DEPTH OF COMPLETED WELL 470 (Feet)

## WELL LOCATION

Address 9954 Salmina Rd
City Kelseyville
County Lake
APN Book 115 Page 005 Parcel 03
Township 12N Range 08W Section 14
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

## LOCATION SKETCH




*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 (✓)

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

**PLANNED USES (✓)**
WATER SUPPLY
X 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 350 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 330 (Ft.) & DATE MEASURED 4-4-03
ESTIMATED YIELD * 50 (GPM) & TEST TYPE air lift
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

| DEPTH FROM SURFACE Ft. | to Ft. | BORE-HOLE DIA. (Inches) | CASING (S) TYPE (✓) BLANK | SCREEN | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 9 | X | | | | PVC | 4½ | 160 | |
| 20 | 420 | 7 | X | | | | " | " | " | |
| 420 | 470 | 7 | | X | | | " | " | " | 1/8 |

| DEPTH FROM SURFACE Ft. | to Ft. | ANNULAR MATERIAL TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 470 | | | | 5/16 Pea |

JUN 18 2004

## 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 13011 Hwy 29 CITY Lower Lake STATE Ca ZIP 95457
Signed Larry Herman (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 4-6-03 C-57 LICENSE NUMBER 465071

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page ___ of ___

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 713358

DWR USE ONLY — DO NOT FILL IN
12N/08W-11
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. ___
Date Work Began 7-20-04 Ended 7-28-04
Local Permit Agency Health Dept.
Permit No. 3484 Permit Date 7-20-04

Well 9

## GEOLOGIC LOG

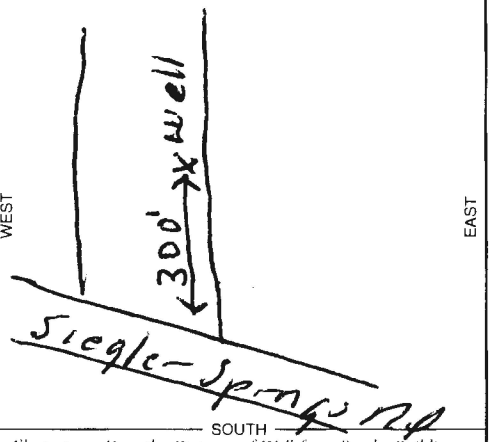
ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD air rotary FLUID ___

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 20 | Red Top soil |
| 20 | 40 | Ash w/ Small Rock |
| 40 | 115 | Broken Basalt |
| 115 | 150 | Hard Gray & Pink Vol. |
| 150 | 220 | Med. Hard Gray & Pink Vol |
| 220 | 340 | Brown & Gray Vol. |
| 340 | 360 | Brown & Green Vol. |
| 360 | 420 | Green, Blue, Gray Vol. Broken |

TOTAL DEPTH OF BORING 420 (Feet)
TOTAL DEPTH OF COMPLETED WELL 410 (Feet)

Address 10145 Siegler Springs Rd
City Clearlake
County Lake
APN Book 011 Page 047 Parcel 06
Township 12N Range 8W Section 11
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

### LOCATION SKETCH




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

### PLANNED USES (✓)
WATER SUPPLY
X 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 340 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 260 (Ft.) & DATE MEASURED 7-22-04
ESTIMATED YIELD* 80 (GPM) & TEST TYPE air lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 9 | X | | | | PVC | 4½ | 160 | |
| 20 | 320 | 7 | X | | | | " | " | " | |
| 320 | 410 | 7 | | X | | | " | " | 200 | .030 |

### ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CE-MENT (✓) | BEN-TONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 410 | | | | 5/16 Pea |

### 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 13011 Hwy 29 CITY Lower Lake STATE Ca ZIP 95457
Signed Larry Herman (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED ___
C-57 LICENSE NUMBER 465071

B 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

# APPENDIX D

# PUMPING TEST DATA AND REPORTS

# TECHNICAL MEMORANDUM

To: Art Deicke
Environmental Pollution Solutions
2513 Deep Harbor Lane
Santa Rosa 95407

From: Christina Kennedy P.G
CKG Environmental, Inc.
P.O. Box 246.
St. Helena, CA 94574

(707) 363-5740 cell.
(707) 967-8080 (office and fax)

Date: January 10, 2020

**Subject: Opinion Regarding Adequacy of Water Well Yield, DiCesare Vineyards, 10750 Siegler Springs Road, Kelseyville, CA**

CKG Environmental Inc., (CKG) has reviewed the data and information provided by Environmental Pollution Solutions (EPS) from the well yield test performed on December 11, 2019 and the original well log prepared by Larry Herman Drilling on December 20, 1999, (both attached). CKG also worked with EPS to develop the scope of work and coordinate with Jim's Pump of Upper Lake, California to do the pumping test.

On December 11, 2019 Jim's Pump measured the depth to static water at the well to be 129 feet below the top of casing. Starting at 10:30 a.m. Jim's pump used the existing pump to pump the well. Initially the pumping rate was 206 gallons per minute (gpm.). As the water elevation dropped the pumping rate also dropped until approximately 11:10 a.m. when the pumping rate was 192 gpm., which was sustained until 1:10 p.m. when the test was terminated. Unfortunately, it was not possible to measure the depth to water during the pump test because there was an obstruction in the well just below 129 feet from the top of casing that prevented the water meter from advancing down the well. Based on the 1999 well log the pump was placed at a depth of 168 feet below the top of casing therefore the depth to water could not have been more than 168 feet. After the pump test the water in the well recharged for approximately half an hour to reach the initial water elevation. Based on these observations Jim's Pump concluded that the well was capable of producing 180 gpm.

EPS was able to measure depth to water in an observation well located approximately 127 feet west on bearing 290 degrees from the pumping well. Prior to starting the pump test the depth to groundwater in the observation well was 128.7 feet below the top of casing. After 2.5 hours of pumping the water at the observation well dropped 2.5 feet to 131 feet below the top of casing. Observation well notes are attached.

CKG could not quantify the well yield because there was no water elevation data available from the pumped well however, qualitatively, the behavior documented by Jim's Pump supports their conclusion that the well can produce at least 180 gpm. In the space of the 3.5 hour test the well produced approximately 40,320 gallons of water, (using the 192 gpm. pumping rate).

Presently there are approximately 20-22 acres of vines planted. The water use to irrigate the vines has not been measured but conservatively CKG estimates that they require one acre-foot of water per acre annually. Cannabis has not been planted yet at the property, but the owners are planning for a maximum of nine acres of cannabis that also will require one acre-foot per acre annually, (conservatively). At a maximum the water use at the property could be as high as 39-acre-feet per year.

One acre-foot of water is 325,851 gallons which means that projected maximum water usage would be 10,101,381 gallons per year or 27,675 gallons per day. Water usage will not be the same all year round so we should assume that there will be no usage in the winter and probably at least twice as much as the average during the summer (conservatively 60,000 gallons per day). If the well produces 180 gpm. /10,800 gallons per hour, it would take about 5.5 hours to pump the required water. Based on the well yield test completed by Jim's pump on December 11, 2019. The well should readily provide sufficient water.

CKG acknowledges that the well yield test was completed in the winter and that at the driest part of the year (September or October) the yield could be less, but irrigation demand, from the grapes in particular, should be less as well. To assure a reliable water supply, and to manage variations in water availability CKG suggests that the owner install water storage to provide at least a few days buffer in the event of drought. CKG understands that the owner is planning to provide such storage.

CKG is pleased to provide the above option regarding adequacy of the existing irrigation well to provide sufficient water for vineyard and cannabis cultivation as described above based on the information provided by EPS. If you have questions or would like to discuss these findings further please feel free to contact me at (707 ) 363 5740 or ckennedy@geologist.com.

Sincerely
CKG ENVIRONMENTAL, INC.






Christina J. Kennedy
Professional Geologist 5077

Attachments:

# NOTES ON WATER WELL TEST

Note Date: December 20, 2019

Well Test Date: December 11, 2019

Test Conducted by: Jim's Welding & Pumps
PO Box 474
Upper Lake, Lake County, Ca 95485
CA License # 993066

TEST WELL

Well Location: 10750 Seigler Springs Road N
Kelseyville, Lake County
Well Data: 8-inch diameter irrigation well
Well Install Date: Report certified March 11, 2001
Well Depth: 300 feet
Screen Interval: 245 to 300 feet, 1/8-inch slot

INTERFERENCE WELL

Well Location: 10750 Seigler Springs Road N
Kelseyville, Lake County (see note 1)
Distance/direction: Approximately 137 feet west (290 deg) of test well
Well Data: 4.5-inch diameter domestic/irrigation well
Well Install Date: Report certified December 29, 1999
Well Depth: 200 feet
Screen Interval: 140 to 200 feet, 1/8-inch slot

INTERFERENCE WELL TEST DATA

| | Time | Depth to water (feet btoc) |
|---|---|---|
| | 0955 | 128.7 |
| Test begins | 1030 | -- |
| | 1054 | 129.8 |
| | 1115 | 130.3 |
| | 1201 | 130.8 |
| | 1300 | 131.0 |
| Test ends | 1310 | -- |
| | 1315 | 130.8 |

Note 1: Interference well was located on 10750 Seigler Springs Road N, Kelseyville at time of installation, but due to parcel split, address is now 11000 Diener Drive, Kelseyville.

ATTACHMENTS

Well Completion Reports for both Test and Interference wells
Jim's Welding & Pumps Well Test Report dated December 11, 2019

# JIM'S WELDING & PUMPS

P.O. Box 474
Upper Lake, CA 95485
Telephone 707-349-2277
Jose Fernandez Jr.
CA# 993066


# WELL TEST REPORT

JOB E.P.S / Hamilton / Larson Family Vineyard SIZE TURBINE 3"

LOCATION 1750 Seigler Springs Rd N Kelseyville SETTING unknown

WELL DEPTH 360' CASING SIZE 8" STATIC LEVEL 129'

DATE STARTED 12-11-19 DATE COMPLETED 12-11-19

| DATE | TIME A.M. | TIME P.M. | OPERATOR | G.P.M. | DRAWDOWN | WATER COLOR |
|---|---|---|---|---|---|---|
| 12-11-19 | 10:30 | | | 206 | 129' | Clear |
| | 10:40 | | | 199 | unknown | |
| | 11:10 | | | 192 | unknown | |
| | 11:40 | | | 192 | unknown | |
| | | 12:16 | | 192 | | |
| | | 12:40 | | 192 | | |
| | | 1:10 | | 192 | | |
| | | end test | | 192 | | |
| | | Recovery time | | | ↓ | ↓ |
| | | 1:40 | | 0 | 130' | |

COMMENTS: At this time we feel this well is capable of (180 gpm) Note: All results are subject to change depending on time of year + weather conditions.

Jim's Pu[illegible]
P.O. Box [illegible]
Upper Lake, CA 95485

# Contractors Invoice

| TO: | WORK PERFORMED AT: |
|---|---|
| E.P.S / Larson Family Vinyard | 1750 Seigler Springs Rd North<br>Kelseyville CA |

| DATE | YOUR WORK ORDER NO. | OUR BID NO. |
|---|---|---|
| 12-11-19 | | |

**DESCRIPTION OF WORK PERFORMED**

Perform Well test on Ag well

At this time we feel this well is capable of (180 gpm)
Note: All results are subject to change depending on time of year + weather conditions. [signature]

total $1033

paid ch # 1860
[signature]

All Material is guaranteed to be as specified, and the above work was performed in accordance with the drawings and specifications provided for the above work and was completed in a substantial workmanlike manner for the agreed sum of _____ Dollars ($_____).

This is a ☐ Partial ☐ Full invoice due and payable by: _____ Month _____ Day _____ Year

in accordance with our ☐ Agreement ☐ Proposal No. _____ Dated _____ Month _____ Day _____ Year

adams TC8122 11-12

#APN 115-004-02

**QUADRUPLICATE**
**For Local Requirements**

Page ___ of ___

Owner's Well No. ___

Date Work Began 1-18-01 Ended 3-19-01

Local Permit Agency Health Dept.

Permit No. WE 2048 Permit Date 1-17-01

STATE OF CALIFORNIA

# WELL COMPLETION REPORT

*Refer to Instruction Pamphlet*

No. **713304**

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

## GEOLOGIC LOG

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

DRILLING METHOD Mud Rotary FLUID Bentonite

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 120 | Red Volanics |
| 120 | 230 | Basalt |
| 230 | 300 | Red, Black Basalt |

RECEIVED
OCT 31 2003
LAKE COUNTY
ENVIRONMENTAL HEALTH

CONFIDENTIAL

TOTAL DEPTH OF BORING 300 (Feet)

TOTAL DEPTH OF COMPLETED WELL 300 (Feet)

## WELL OWNER

Name J[illegible]

Mailing Address 8075 [illegible] Rd

CITY [illegible] STATE Ca. 95[illegible] ZIP

## WELL LOCATION

Address 10750 Siegler Springs Rd N

City Kelseyville

County Lake

APN Book 115 Page 004 Parcel 02

Township 12N Range 8W Section 14

Latitude ___ NORTH DEG. MIN. SEC. Longitude ___ WEST DEG. MIN. SEC.

## LOCATION SKETCH

NORTH




WEST EAST

SOUTH Lower Lake

*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 (✓)

X NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

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

## PLANNED USES (✓)

WAT - SUPPLY
___ Domestic ___ Public
X 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 160 (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 120 (Ft.) & DATE MEASURED 3-01-01

ESTIMATED YIELD * 275 (GPM) & TEST TYPE air lift

TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 245 | 12 1/4 | X | | | | PVC | 8" | 200 | |
| 245 | 300 | " | | X | | | " | " | " | 1/8 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CE-MENT (✓) | BEN-TONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 300 | | | | 5/16 Pea |

## 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 [illegible] Drilling
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

[illegible] Hwy 29 Lower Lake Ca 95457
ADDRESS CITY STATE ZIP

Signed [illegible] 3-[illegible]-01 465071
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

QUADRUPLICATE
For Local Requirements

Page ___ of ___

Owner's Well No. _____

Date Work Began 12-3-99 Ended 12-7-99

Local Permit Agency Lake County

Permit No. 99-150 Permit Date 12-2-99

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 713384

113-004-02

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

## GEOLOGIC LOG

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

DRILLING METHOD Rotary FLUID _____

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 10 | Red Ash |
| 10 | 50 | Basalt with Ash |
| 50 | 80 | Basalt - hard black |
| | | Easier |
| | | Pump testing |
| | | 16 gpm - 90 gpm |

CONFIDENTIAL

RECEIVED
DEC 3 - 1999

TOTAL DEPTH OF BORING 310 (Feet)

TOTAL DEPTH OF COMPLETED WELL 300 (Feet)

## WELL OWNER

Name _____

Mailing Address _____

CITY STATE ZIP

## WELL LOCATION

Address 10750 Siegler Springs Road

City Kelseyville

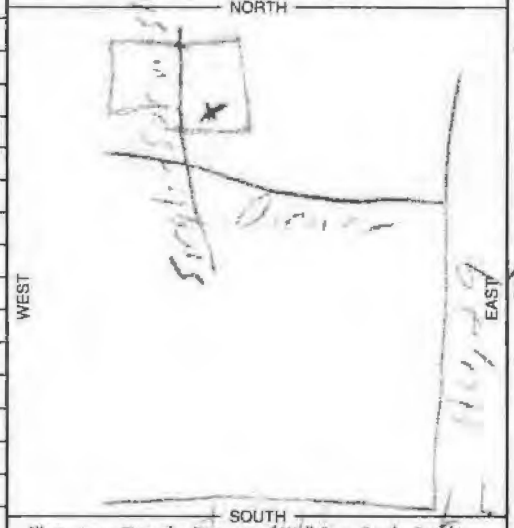
County Lake

APN Book 115 Page 004 Parcel 02

Township _____ Range _____ Section _____

Latitude ___ DEG ___ MIN ___ SEC. NORTH Longitude ___ DEG ___ MIN ___ SEC. WEST

## LOCATION SKETCH




*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 140 (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 125 (Ft.) & DATE MEASURED 12-7-99

ESTIMATED YIELD * 150 (GPM) & TEST TYPE Air Lift

TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN _____ (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 | 220 | 5" | ✓ | | | | PVC | 4½ | 160 | |
| 220 | 440 | 5" | ✓ | | | | | | | |
| 440 | 500 | 5" | | ✓ | | | | | | 45 Slot cut |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 24 | ✓ | | | |
| 24 | 500 | | | | 5/16 pea |

## 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 _____ (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS _____ CITY _____ STATE _____ ZIP _____

Signed _____ (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 12-9-99 C-57 LICENSE NUMBER 457271

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

**JIM'S PUMPS**
P.O. Box 474
Upper Lake, CA 95485
Telephone 707-349-2277
Jose Fernandez Jr.
CA# 993066

# WELL TEST REPORT

JOB Pasta Farms SIZE TURBINE 30Hp
LOCATION 10750 Seigler Sprgs. N APN: 115-004-05 SETTING 295 ft
WELL DEPTH 300 ft CASING SIZE 8in. STATIC LEVEL 151 ft
DATE STARTED 7-30-2021 DATE COMPLETED 7-30-2021

| DATE | TIME | | OPERATOR | G.P.M. | DRAWDOWN | WATER COLOR |
|---|---|---|---|---|---|---|
| | A.M. | P.M. | | | | |
| 7-30-21 | 10:30 | | Ben | 275 | 151 ft | Cloudy |
| | 10:45 | | | 275 | 158 ft | |
| | 11:00 | | | 275 | 161 ft | |
| | 11:15 | | | 275 | 161 ft | Clear |
| | 11:30 | | | 275 | 161 ft | |
| | | 12:00 | | 275 | 161 ft | |
| | | 12:30 | | 275 | 161 ft | |
| | | 1:00 | | 275 | 161 ft | |
| | | 1:30 | | 275 | 161 ft | |
| | | 2:00 | | 275 | 161 ft | |
| | | 2:30 | | 275 | 161 ft | |
| | | | End Test | | | |
| | | 2:30 | Start Recovery | @ | 161 ft | |
| | | 2:45 | End Recovery | @ | 151 ft | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

COMMENTS: At this time We feel this well is capable of (275 GPM). Note: All results are subject to change depending on time of year or Weather Conditions.

VANDERWALL ENGINEERING

# Hydrology Report to Determine Area of Influence for Cultivation Irrigation Wells

for

Pasta Farm, LLC

APN: 115-004-01 & 115-004-05

10750 Springs Road N
Kelseyville, CA 95451

August 11, 2021




Prepared for:

Lake County
Community Development Department
255 North Forbes Street
Lakeport, CA 95453

VANDERWALL
ENGINEERING

## INTRODUCTION

The purpose of this study is to determine the area of influence of 3 existing wells that will continue to be used for residential domestic supply and irrigation for proposed commercial cannabis. The "Project" is currently proposing 11 acres of outdoor cultivation, some of which will be converted to uses that demand less water. This report assumes the highest and most impactful water use of any stage or phase of the Project - 11.0 acres of outdoor cultivation, Currently the project has an existing 9.0 acres of canopy that is permitted for early activation.

The parcels on which the Project is located are owned by Pasta Farm, LLC. The former use of the Property was a 20.0 acre irrigated vineyard and approximately 40 acres of walnuts.

This report estimates the amount of water available and recharge rate during a drought year from the existing wells. In addition, this report estimates the zone of influence to the surrounding and to estimate the cumulative impacts where interference is with existing wells.

## STUDY LIMITATIONS

The yield of wells cannot be estimated with precision because of all the uncertainty with the aquifer and the amount of rain percentage of rainfall that percolates through the ground. Therefore, conservative estimates and assumptions are used in this report.

This study is based on the following information and assumptions.

- Cooper - Jacob well equation
- Well Completion Report by Lake County Environmental Health.
- Well Yield Test and Drillers Reports by Jim's Pumps
- Rainfall for a drought year is 20% of annual precipitation (6.8 inches)
- Aquifer is uniform throughout the area of well influence



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Wm. VanDerWall, R.C.E. 62560
3745 E. Main Street • Kelseyville, CA 95451 • (707) 279-4887
www.vdwengr.com • contact@vdwengr.com

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# WELL

There are 3 wells that are proposed to be used in this project and 1 neighboring residential well calculated as follows:

## WELL #1

- Southeast vicinity of APN: 115-004-07.
- Well is offsite, however, the owner has deeded rights to the well (See Appendix E)
- Total drill depth of 300 feet below the surface.
- The capacity of the well is at least 197 gpm. (See Appendix A - 2/13/2020)
- Use: Commercial Cannabis Irrigation

## WELL #2

- Eastern vicinity of APN: 115-004-05.
- Located 380 feet southwest from Well #1
- The total drill depth of 300 feet (Appendix A - 7/30/2021)
- The pump is located at 256.5 feet depth.
- The capacity is at least 275 gpm.
- Use: Commercial Cannabis Irrigation

## WELL #3

- Center vicinity of APN: 011-069-48.
- Estimated total drill depth of 300 feet (Appendix A - 7/15/2021)
- Capacity of at least 25 gpm.
- Use: Future Commercial Cannabis Irrigation

## WELL #4 (NEAREST NEIGHBOR'S WELL)

- Eastern vicinity of APN: 115-004-07
- Total drill depth of 200 feet (Appendix A - 2/13/2020)
- Located 137 feet west of Well #1
- Use: Residential

Per the well completion report (See appendix A - 3/29/21) the aquifer has a top red clay with boulders layer from 0-30' depth and is therefore confined. The confined aquafer's depth was estimated to be the bottom of the well depth of 300 feet for wells #1, #2, and #3, and 200 feet for well #4.



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## WELL RADIUS OF INFLUENCE

The well radius of influence (cumulative impact) is estimated by the Cooper-Jacob equation:

$$R_{(well)} = \sqrt{\frac{2.24584Tt}{S}}$$

Where,

$R_{(well)}$ = Radius of Influence (m)
t = time (days)
T = transmissivity ($m^2$ / day)
S = water storage capacity (%) unitless

$$T = K * b$$

Where,

K = 2.0 E-4 m/s for Basalt porosity
b = (Total Drill Depth of Well) - (pump depth below clay layer in Well Driller's Report in Appendix A)
t = 1 day
S = 0.15

Therefore;

$R_{(1)}$ => 148 m = 472 feet
$R_{(2)}$ => 148 m = 472 feet
$R_{(3)}$ => 148 m = 472 feet
$R_{(4)}$ => 117 m = 374 feet

Based on the locations and the calculated Radius of Influences, Wells #1 and #2 influence each other and influence the neighbor's well (Well #4). Well #1 is not on the project's property, however it is a shared well with APN: 115-004-07 and project owner has full legal rights to it (See Appendix E)



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## WELLS IN SURROUNDING AREA

Data from existing wells in the area was obtained through the California Department of Water Resources. The next closest well to the subject wells is located at APN: 115-006-15 approximately 550 feet from Well #1's Radius of influence (See appendix B).

# WATER USAGE

The proposed project has a total proposed canopy of 11 acres (479,160 sf) with a Processing Building that has an employee bathroom for 15 employees. There is a 3 BR residence that is serviced by Well #3, and a 3 BR Residence that is serviced by Well #4 that is included with the Total Water Usage Calculation below. For the purposes of this analysis, in an abundance of caution, we have assumed a canopy of double the proposed amount (total 22 acres of canopy).

### WATER USAGE FROM WELLS #1 AND #2

The total water usage of the canopy area is estimated by the square footage of the canopy multiplied by the in/year needed for a singe cannabis plant. The in/yr is estimated to be similar to a tomato plant, which is 20in/year.

$$W_{Irrigation} = A * (ft/yr)$$

$W_{Irrigation}$ = (22.0 acres) * (43,560 sf/acres) * (1.66 ft/year) * (7.48 gal/cf)
$W_{Irrigation}$ = 11,899,267 gal/year

Wells #1 will be servicing the Processing Building Located on APN: 115-004-07

$W_{Processing\ Building}$ = (15 employees) * (15 gals/employee/day) * (0.7 days/week used) * (365 days/year)
$W_{Processing\ Building}$ = 57,487 gal/year

### WATER USAGE FROM WELL #3

$W_{Residence\ 1}$ = (3 br) * (1.5 person/br) * (50 gal/person/day) * (365 days/year)



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$W_{Residence\ 1}$ = 82,125 gal/year

### WATER USAGE FROM WELL #4

$W_{Residence\ 2}$ = 82,125 gal/year

Total Water Usage = $W_{Irrigation} + W_{Proccessing\ Building} + W_{Residence\ 1} + W_{Residence\ 2}$
Total Water Usage = 12,121,004 gal/year

## AQUIFER RECHARGE

The proposed project has an estimated total annual water usage of 12,121,004 gallons per year.

Calculation of Aquifer Recharge is based on the tributary area to the radius of influence of Well #1, #2, and #4, and tributary area to the radius of influence of Well #3. Per map shown in Appendix D, the area is 3,139,904 sf for Tributary A, and for Tributary B, with a total combined area of 1,849,173 sf.

Given: Annual Precipitation, P = 34 inches per year, assume a drought year is 20% of the annual precipitation, yields 6.8" (0.566ft) of rainfall. (Note: Rainfall of 2021 was 9" per NOAA)

Volume of water for recharge = Area x Drought Precipitation x Coefficient of Seepage.

V = (3,139,904 + 1,849,173 sf) x (0.566 ft/yr) x (7.48 gal/cf) x (0.7)

V = 14,785,508 gal/year

14,785,508 > 12,121,004 therefore the well is more than adequate to handle the 22.0 acres of cultivation even in a drought year. The maximum area of canopy this project can grow during a drought year is 27 acres of cultivation,



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unless Pasta Farms LLC develops another well on the property that does not influence other neighboring wells and is not in the recharge area.

## CONCLUSION

Per our calculations and assumptions, the project does have a more than adequate water supply for at least double the proposed irrigation use. Even in a drought year, our estimates show that the well has the capacity to handle more than double the proposed water irrigation needs of the project, without impacting the surrounding neighbor's wells.



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# Appendix

Well Completion & Test Results (A)

Well Area of Influence Map (B)

Surrounding Aerial Map (C)

Well Recharge Area (D)

Well #1 Deed (E)

# Appendix

# A

# REPORT ON WATER WELL TEST

Report Date: February 13, 2020

Well Test Date: February 11 – 12, 2020

Test Conducted by: Jim's Welding & Pumps
PO Box 474
Upper Lake, Lake County, Ca 95485
CA License # 993066

TEST WELL

Well Location: 10750 Seigler Springs Road N
Kelseyville, Lake County
Well Data: 8-inch diameter irrigation well
Well Install Date: Report certified March 11, 2001
Well Depth: 300 feet
Screen Interval: 245 to 300 feet, 1/8-inch slot

INTERFERENCE WELL

Well Location: 10750 Seigler Springs Road N
Kelseyville, Lake County (see note 1)
Distance/direction: Approximately 137 feet west (290 deg) of test well
Well Data: 4.5-inch diameter domestic/irrigation well
Well Install Date: Report certified December 29, 1999
Well Depth: 200 feet
Screen Interval: 140 to 200 feet, 1/8-inch slot

INTERFERENCE WELL TEST DATA

Well #4

| | Date | Time | Depth to water (feet btoc) |
|---|---|---|---|
| | 2-11-20 | 0855 | 129.9 |
| Test begins | | 0915 | 129.83 |
| | | 1054 | 132.5 |
| | | 1215 | 133.7 |
| Test ends | | 1714 | 133.8 |
| | 2-12-20 | 0809 | 130.93 |
| | | 1715 | No access |

Note 1: Interference well was located on 10750 Seigler Springs Road N, Kelseyville at time of installation, but due to parcel split, address is now 11000 Diener Drive, Kelseyville.
Note 2: Well Sounder 2010 Pro was used for water depth measurements for test well, while tape measure used for interference well.

ATTACHMENTS

Jim's Welding & Pumps Well Test Report dated February 11, 2020

Well # 1

**JIM'S PUMPS**
P.O. Box 474
Upper Lake, CA 95485
Telephone 707-349-2277
Jose Fernandez Jr.
CA# 993066

# WELL TEST REPORT

JOB DiCesare Vineyards SIZE TURBINE 25hp 150S250-12

LOCATION 10750 Siegler Springs Rd North SETTING unknown

WELL DEPTH 300 Ft CASING SIZE 8in STATIC LEVEL 129 Ft

DATE STARTED 2-11-2020 DATE COMPLETED 2-11-2020

| DATE | TIME A.M. | TIME P.M. | OPERATOR | G.P.M. | DRAWDOWN | WATER COLOR |
|---|---|---|---|---|---|---|
| 2-11-2020 | 9:15 | | Joe | 206 | 129' | light Brown |
| | 9:30 | | | 206 | 206' | light Brown |
| | 9:45 | | | 206 | 209' | light Brown |
| | 10:00 | | | 200 | 210' | Clear |
| | 10:30 | | | 200 | 212' | Clear |
| | 11:00 | | | 200 | 212' | Clear |
| | 11:30 | | | 197 | 211' | Clear |
| | | 12:00 | | 197 | 212' | Clear |
| | | 1:00 | | 197 | 213' | Clear |
| | | 2:00 | | 197 | 212' | Clear |
| | | 3:00 | | 197 | 212' | Clear |
| | | 4:00 | | 197 | 212' | Clear |
| | | 5:00 | | 197 | 212' | Clear |
| | | 5:15 | end run time | 197 | 212' | Clear |
| | | | recovery time | 0 | | |
| | | 5:30 | | 0 | 133' | |
| 2-12-2020 | | 5:15 | | 0 | 130' | |
| | | | | | | |

COMMENTS: At this time We feel this well is capable of (197 gpm) Note: All results are subject to change depending on time of year and weather conditions.

Jose Fernandez

Well #3

**JIM'S PUMPS**
P.O. Box 474
Upper Lake, CA 95485
Telephone 707-349-2277
Jose Fernandez Jr.
CA# 993066

# WELL TEST REPORT

JOB Pasta farms SIZE TURBINE 3 Hp
LOCATION 10800 Diener Ct. Kelseyville SETTING Unknown
WELL DEPTH Unknown CASING SIZE 6" STATIC LEVEL 157 ft
DATE STARTED 7-15-2021 DATE COMPLETED 7-15-2021

| DATE | TIME A.M. | TIME P.M. | OPERATOR | G.P.M. | DRAWDOWN | WATER COLOR |
|---|---|---|---|---|---|---|
| 7-15-21 | 8:00 | | Ben | 17.6 | 157' | Clear |
| | 8:15 | | | 25 | 157' | |
| | 8:30 | | | 25 | 157' | |
| | 8:45 | | | 25 | 157' | |
| | 9:00 | | | 25 | 157' | |
| | 9:30 | | | 25 | 157' | |
| | 10:00 | | | 25 | 157' | |
| | 10:30 | | | 25 | 157' | |
| | 11:00 | | | 25 | 157' | |
| | 11:30 | | | 25 | 157' | |
| | | 12:00 | | 25 | 157' | ↓ |
| | | | End Test | | | |

COMMENTS: At this time we feel this well is capable of (25 gpm) Note: All results are subject to change depending on time of year and weather conditions

# Contractors Invoice

TO: Pasta Farms

WORK PERFORMED AT: 10800 Diener Court
Kelseyville, CA

| DATE | YOUR WORK ORDER NO | OUR BID NO. |
|---|---|---|
| 7/15/21 | 707-888-2437 | |

**DESCRIPTION OF WORK PERFORMED**

Performed well test. Took water sample for testing at Alpha Labs.

At this time we feel this well is capable of (25 gpm). Note: All results are subject to change depending on time of year and weather conditions.

Static: 157'
Setting: Unknown
Total depth: Unknown

Well test: $650
Ag suitability: $300
Potability: $65
Total: $1,015

Payed w/ check # 1277

Send Labs to. Sam @ Pastafarm.com

All Material is guaranteed to be as specified, and the above work was performed in accordance with the drawings and specifications provided for the above work and was completed in a substantial workmanlike manner for the agreed sum of _____ Dollars ($ _____).

This is a ☐ Partial ☐ Full invoice due and payable by: _____ (Month) _____ (Day) _____ (Year)

in accordance with our ☐ Agreement ☐ Proposal No. _____ Dated _____ (Month) _____ (Day) _____ (Year)

Well # 2

**JIM'S PUMPS**
P.O. Box 474
Upper Lake, CA 95485
Telephone 707-349-2277
Jose Fernandez Jr.
CA# 993066

# WELL TEST REPORT

JOB Pasta Farms SIZE TURBINE 30Hp
LOCATION 10750 Seigler Spgs. N APN: 115-004-05 SETTING 295 ft
WELL DEPTH 300 ft CASING SIZE 8 in. STATIC LEVEL 151 ft
DATE STARTED 7-30-2021 DATE COMPLETED 7-30-2021

| DATE | TIME A.M. | TIME P.M. | OPERATOR | G.P.M. | DRAWDOWN | WATER COLOR |
|---|---|---|---|---|---|---|
| 7-30-21 | 10:30 | | Ben | 275 | 151 ft | Cloudy |
| | 10:45 | | | 275 | 158 ft | ↓ |
| | 11:00 | | | 275 | 161 ft | ↓ |
| | 11:15 | | | 275 | 161 ft | Clear |
| | 11:30 | | | 275 | 161 ft | ↓ |
| | | 12:00 | | 275 | 161 ft | ↓ |
| | | 12:30 | | 275 | 161 ft | ↓ |
| | | 1:00 | | 275 | 161 ft | ↓ |
| | | 1:30 | | 275 | 161 ft | ↓ |
| | | 2:00 | | 275 | 161 ft | ↓ |
| | | 2:30 | | 275 | 161 ft | ↓ |
| | | | End Test | | | |
| | | 2:30 | Start Recovery | 0 | 161 ft | |
| | | 2:45 | End Recovery | 0 | 151 ft | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

COMMENTS: At this time We feel this well is capable of (275 GPM). Note: All results are subject to change depending on time of year or Weather Conditions.

# APPENDIX E

# OFF-SITE WELL COMPLETION REPORTS

**ORIGINAL**

**File with DWR**

Notice of Intent No.

Local Permit No. or Date

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

115-03-32

12N/8W-14

*Do not fill in*

No. 11453

State W[illegible] FIDENTIAL LOG

Other W[illegible] Code Sec. 13752

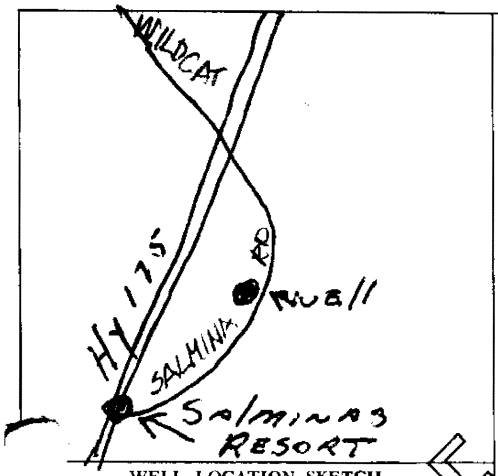
(2) **LOCATION OF WELL** (See instructions):

County LAKE - Owner's Well Number

Well address if different from above Wild Cat Rd & Hy 175

Township 12N Range 8W Section 14

Distance from cities, roads, railroads, fences, etc. 9637 SALMINA RD




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 1/8 [illegible]
Diameter of bore 10" 4
Packed from 20 to 150 ft.

(7) **CASING INSTALLED:**

Steel ☒ Plastic ☐ Concrete ☐

(8) **PERFORATIONS:** Mill Cut

Type of perforation or size of screen

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| Top | 150 | 6 5/8 | 12 | 70 | 90 | 1/8 x 4 |
| | | | | 135 | 145 | 1/8 x 4 |

(9) **WELL SEAL:**

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.

Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.

Method of sealing 100% Cement

(10) **WATER LEVELS:**

Depth of first water, if known 70 ft.

Standing level after well completion 60 ft.

(11) **WELL TESTS:**

Was well test made? Yes ☒ No ☐ If yes, by whom? Driller

Type of test Pump ☐ Bailer ☒ Air lift ☐

Depth to water at start of test 60 ft. At end of test ft

Discharge 1000 gal. after 35 min. Water temperature

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 150 ft. Depth of completed well 150 ft.

from ft. to ft. Formation (Describe by color, character, size or material)

Top To 30' Red Top Soil Sum Bolders
30 To 60' White Alkali with Lite Rock
60 To 90' Hard Rock Gray
90 - 105' Volcanic Rock
Gray Hardness of Sand Stone -
105 - 150 Volcanic Red Rock

Work started Nov 31 1976 Completed Dec 7 1976

**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 [signature] (Well Driller)

NAME Eugene Louisone (Person, firm, or corporation) (Typed or printed)

Address PO Box 65

City Lower Lake Zip 95457

License No. 196290 Date of this report 12-9-76

CONFIDENTIAL NOT FOR PUBLIC USE WATER CODE SEC. 13752

188 (REV. 7-76) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 43816-950 7-76 50M QUAD ① T OSP

**ORIGINAL**

**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

Do not fill in

No. 056263

State Well No.

Other Well No.

of Intent No.

Local Permit No. or Date

## (2) LOCATION OF WELL (See instructions):

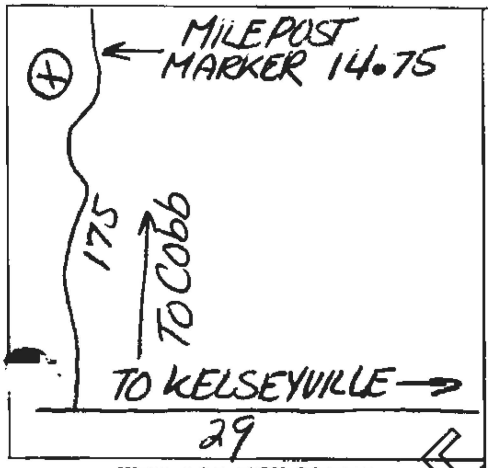
County Lake Owner's Well Number

Well address if different from above

Township Range Section

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

Mile Post 14, Hiway 175
Cobb Mountain




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 pea
Diameter of bore 10 5/8" & 7 7/8"
Packed from 20' to 200' ft.

## (7) CASING INSTALLED:

Steel □ Plastic ■ Concrete □

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 203 | 5" | 160 PVC |

## (8) PERFORATIONS:

Type of perforation or size of screen sawn

| From ft. | To ft. | Slot size |
|---|---|---|
| 100 | 120 | |
| 140 | 200 | 1/8x3" |

## (9) WELL SEAL:

Was surface sanitary seal provided? Yes ■ No □ If yes, to depth 20' ft.
Were strata sealed against pollution? Yes □ No ■ Interval ft.
Method of sealing cement on gravel pack

## (10) WATER LEVELS:

Depth of first water, if known ft.
Standing level after well completion 23' 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 23' ft. At end of test 185' ft
Yield 15 gal/min after 1 1/2 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 200 ft. Depth of completed well 200 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 3 | Brown sandy clay |
| 3 | 18 | White ash and clay |
| 18 | 26 | Brown sandy clay |
| 26 | 52 | Cemented gravel |
| 52 | 58 | Brown fractured rock and clay |
| 58 | 65 | Brown clay |
| 65 | 80 | Fractured brown rock |
| 80 | 112 | Fractured volcanic rock |
| 112 | 128 | Red ash and clay |
| 128 | 200 | Fractured volcanic rock |

Work started Nov. 12, 19 79 Completed Nov. 14, 19 79

## 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 Thompson By: Mary E. Thompson
(Well Driller)

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

Address P.O. Box 176

City Sebastopol, California Zip 95472

License No. C57-177681 Date of this report November 19, 1979

NOT FOR PUBLIC USE
WATER CODE SEC. 13752

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

12N/8W-15

**ORIGINAL**

**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

*Do not fill in*

No. 084084

of Intent No.

Local Permit No. or Date

State Well No.

Other Well No.

(2) LOCATION OF WELL (See instructions):

County ~~Contr.~~ Lake Owner's Well Number

Well address if different from above A.P. # 115-0036

Township Kelseyville Range Section 115-03-36 ?

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

Salaminas Rd.

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 3/8"
Diameter of bore
Packed from 20 to 210 ft.

(7) CASING INSTALLED:

Steel ☐ Plastic ☒ Concrete ☐

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 210 | 5" | c160 psi | 170 | 210 | 1/8 |

(8) PERFORATIONS:

Type of perforation or size of screen

(9) WELL SEAL:

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing cement

(10) WATER LEVELS:

Depth of first water, if known ft.
Standing level after well completion 90 ft.

(11) WELL TESTS:

Was well test made? Yes ☒ No ☐ If yes, by whom? driller
Type of test Pump ☐ Bailer ☒ Air lift ☐
Depth to water at start of test 90 ft. At end of test 180 ft.
Yield 25 gal/min after 2 hours Water temperature
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 ft. Depth of completed well 13/52 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 150 | sand and boulders |
| 150 | 185 | clay |
| 185 | 210 | volcanic |

Work started 10-4 19 79 Completed 10-20 19 79

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 LARRY HERMAN by kathy read (Well Driller)

NAME Eisch-Herman Drilling (Person, firm, or corporation) (Typed or printed)

Address 5001 Gravenstein Hwy. N.

City Sebastopol, Calif. Zip 95472

License No. 304138 Date of this report 11-16-79

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

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

12N-8W-~~15~~ B or 22

22

**ORIGINAL**

**File with DWR.**

Intent No. 174628

Permit No. or Date —

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

*Do not fill in*

No. 094385

State Well No. CONFIDENTIAL LOG

Other Well No. Water Code Sec. 13752

(1)

Add.

City.

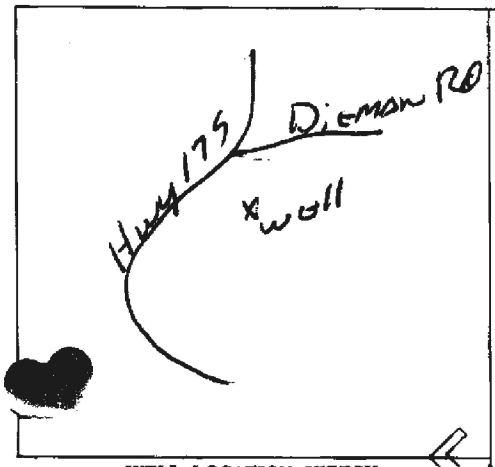
(2) LOCATION OF WELL (See instructions):

County Lake Owner's Well Number

Well address if different from above 16168 Hwy 175 Kelseyville

Township AP #115 12N Range 809-05 8W Section 15

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




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 3/8 Pea

Diameter of bore 8" 40' 6" 180

Packed from 100 to 180 ft.

(7) CASING INSTALLED:

Steel ☑ Plastic ☐ Concrete ☐

(8) PERFORATIONS: Sawed

Type of perforation or size of screen

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 40 | 6 5/8 | 156 | 118 | 128 | |
| 0 | 178 | 4 1/2 | 125 | 138 | 148 | 8 x 3 |
| | | | | 158 | 178 | |

(9) WELL SEAL:

Was surface sanitary seal provided? Yes ☑ No ☐ If yes, to depth 40 ft.

Were strata sealed against pollution? Yes ☑ No ☐ Interval 70-100 ft.

Method of sealing Cement

(10) WATER LEVELS:

Depth of first water, if known 72 ft.

Standing level after well completion 65 ft.

(11) WELL TESTS:

Was well test made? Yes ☑ No ☐ If yes, by whom? Driller

Type of test Pump ☐ Bailer ☑ Air lift ☐

Depth to water at start of test 65 ft. At end of test 110 ft

Discharge 15 gal/min after 1 hours Water temperature

Well 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 180 ft. Depth of completed well 178 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 2 | Boulders |
| 2 | 17 | White Vol Ash (Some Boulders) |
| 17 | 25 | Boulders |
| 25 | 34 | Red Vol Ash |
| 34 | 72 | Lava Rock |
| 72 | 87 | Broken Lava Rock, "Pink Lenes" |
| 87 | 118 | Lava Rock |
| 118 | 121 | Broken Lava Rock |
| 121 | 142 | Lava Rock |
| 142 | 146 | Broken Lava Rock |
| 146 | 160 | Lava Rock |
| 160 | 174 | Hard Lava Rock "Some Broken Lenes" |
| 174 | | Hard Lava Rock |

Work started 7-27 1981 Completed 8-12 1981

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 [signature] (Well Driller)

NAME Irwin Well Drilling (Person, firm, or corporation) (Typed or printed)

Address 3801 Bisordi Ln

City Fulton, Calif Zip 95439

License No. 199831 Date of this report 8-18-81

CONFIDENTIAL NOT FOR PUBLIC WATER CODE SEC. 13752

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

12N08W23

~~10N/9W~~ 23

**ORIGINAL**

**File with DWR**

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

115-09-11

Do not fill in

No. 134452

State Well No.

Other Well No. Water Code Sec. 13752

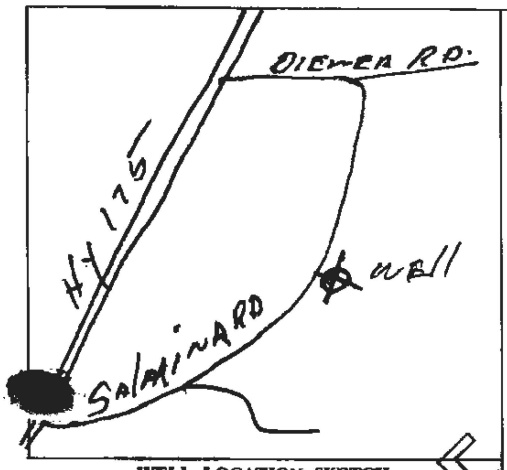
Notice of Intent No.

Permit No. or Date

(12) WELL LOG: Total depth 150 ft. Depth of completed well 150 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| Top | 45 FT | Red Clay & Bolders |
| 45 | 150 | Gray Volcanic Rock |

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number
Well address if different from above
Township ~~[illegible]~~ 10N Range 9W Section 23
Distance from cities, roads, railroads, fences, etc.
Salmina Rd 3/4 mi From Hy 175




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 6"
Diameter of bore 40"
Packed from 20 to 150 ft.

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

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

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| Top | 150 | 8 | .156 | 100 | 145 | 18 x 4" |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☐ Interval ft.
Method of sealing Cement.

(10) WATER LEVELS:
Depth of first water, if known 95 ft.
Standing level after well completion 95 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Driller
Type of test Pump ☐ Bailer ☒ Air lift ☐
Depth to water at start of test 95 ft. At end of test 150 ft
Discharge 10 gal/min after 1 hours Water temperature Cold
Chemical analysis made? Yes ☐ No ☒ If yes, by whom?
Was electric log made? Yes ☐ No ☒ If yes, attach copy to this report

Work started May 17 1978 Completed May 26 1978

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 [signature] (Well Driller)

NAME Eugene Lovisone (Person, firm, or corporation) (Typed or printed)

Address PO Box 65

City Lower Lake Zip 95457

License No. 196290 Date of this report May 29-78

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

SEP 04 1986

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

LOVISONE

**ORIGINAL**

**File with DWR**

12N-8W-23 ✓

Do not fill in

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

No. 135260

CONFIDENTIAL LOG
Water Code Sec. 13752

Notice of Intent No.
Local Permit No. or Date

State Well No. 14-031-05,6
Other Well No.

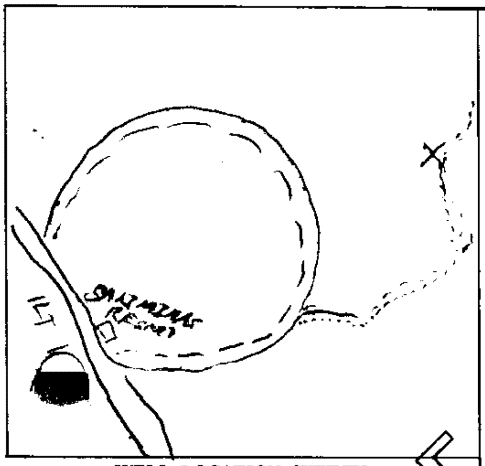
## (2) LOCATION OF WELL (See instructions):

County Lake Owner's Well Number 1

Well address if different from above Mt. Hannah Creek

Township 12N Range 8 W Section 23

Distance from cities, roads, railroads, fences, etc. 1 mile from Salmines Resort




WELL LOCATION SKETCH

## (3) TYPE OF WORK:

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

## (4) PROPOSED USE:

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

## (5) EQUIPMENT:

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

## (6) GRAVEL PACK:

Yes XX No ☐ Size pea
Diameter of bore 10"
Packed from 517 to 20 ft.

## (7) CASING INSTALLED:

Steel ☐ Plastic XX Concrete ☐

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| top | 517 | 6 | 160 | 437 | 517 | 6"x1/8" |
| | | | | | | |
| | | | | | | |

## (8) PERFORATIONS:

Type of perforation or size of screen

## (9) WELL SEAL:

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing neat cement

## (10) WATER LEVELS:

Depth of first water, if known 125 ft.
Standing level after well completion 480 ft.

## (11) WELL TESTS:

Was well test made? Yes ☒ No ☐ If yes, by whom? driller
Type of test Pump ☐ Bailer ☐ Air lift ☒
Depth to water at start of test ft. At end of test ft.
Discharge 37+ gal/min after hours Water temperature cold
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 538 ft. Depth of completed well 517 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 22 | Brown volcanic top soil, floating lava boulders |
| 22 | 41 | Floating lava boulders, volcanic ash |
| 41 | 45 | Volcanic ash, cemented volcanic sands, floating boulders. |
| 45 | 124 | Consolidated but highly fractured lava (very hard) |
| 124 | 198 | Medium hard lava, redish brwn |
| 198 | 268 | Hard volcanic ash. |
| 268 | 320 | Soft volcanic ash, green obsidion, basalt boulders. |
| 320 | 338 | Black lava 50%, obsidion 40% Rayolite 10% |
| 338 | 440 | Black lava 50%, green obsidion 50%. |
| 440 | 458 | Cemented volcani ash 20%, 80% Rayolite. |
| 458 | 472 | Rayolite. |
| 472 | 478 | Rayolite, green obsidion, 1% Graywacke. |
| 478 | 520 | 90% Rayolite, 10% Graywacke |
| 520 | 538 | Rayolite. |

Work started 7-21 19 81 Completed 8-3- 19 81

## 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 Bill Darrah (Well Driller)

NAME The Darrah Drilling Corp. (Person, firm, or corporation) (Typed or printed)

Address 3327 Hill Rd.

City Lakeport, CA Zip 95453

License No. 271528 Date of this report 8-10-81

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

VOLUNTARY
PUBLIC RECORD
NOT FOR PUBLIC DISCLOSURE
WATER CODE 13752

12N/08W-12M

**ORIGINAL**

File with DWR

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

Do not fill in
No. 184052

Notice Intent No.
Board's Permit No. or Date

State Well No.
Other Well No.

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number
Well address if different from above
Township 12 N Range 8W Section 12
Distance from cities, roads, railroads, fences, etc. 40 acres

(12) WELL LOG: Total depth ft. Depth of completed well ft.
From ft. to ft. Formation (Describe by color, character, size of material)
0 - 115 broken Volcanics
115 - 185 Hard Blue Volcanics
185 - 190 Broken Caving Mudstone & Volcanics

Stoplar Springs Vly
Dirt Rd.
Orchard
Well
Dirt Rd.
WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well X Deepening
Reconstruction
Reconditioning
Horizontal Well
Destruction (Describe destruction material, and procedures in Item 14)

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

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

(6) GRAVEL PACK:
Yes X No Size
Amount of gravel 6 Yds
Packed from 20 to 190 ft.

(7) CASING INSTALLED:
Steel Plastic X Concrete

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 190 | 8 5/8 | 160 |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 130 | 190 | 1/8 |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes X No If yes, to depth 20 ft.
Were strata sealed against pollution? Yes No X Interval ft.
Method of sealing Neat Cement

(10) WATER LEVELS:
Depth of first water, if known 182 ft.
Standing level after well completion 115 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 ft. At end of test ft.
Discharge 30 gal/min after 2 hours Water temperature
Chemical analysis made? Yes No X If yes, by whom?
Was electrical log made? Yes No X If yes, attach copy to this report

Work started 10-13 19 88 Completed 10-14 19 88

WELL DRILLER'S STATEMENT: 01562
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Signed (Well Driller)
NAME Lacy Herman Drilling
(Person, firm or corporation) (Typed or printed)
Address 1132 Hwy 29
City Lower Lake Co. Zip 95457
License No. 463071 Date of this report 10-15-88

DWR 188 (REV. 7-78) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

FILED WITH DWR
NOT FOR PUBLIC USE
UNDER SEC. 13752
UNTIL

12N/8W-14

**ORIGINAL**

**File with DWR**

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

*Do not fill in*

No. 210938

Notice of Intent No. _____

Local Permit No. or Date _____

115-03-40

State Well No. _____

Other Well No. _____

[redacted]

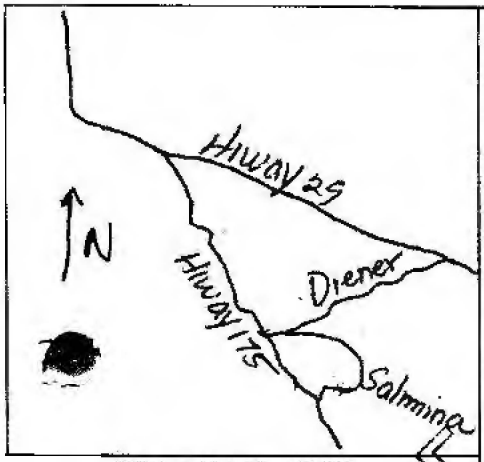
**(2) LOCATION OF WELL** (See instructions):

County Lake Owner's Well Number _____

Well address if different from above _____

Township 12N Range 8W Section 14

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




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 Gen
Diameter of bore 9 7/8, 7 7/8"
Packed from 20' to 260' ft.

**(7) CASING INSTALLED:**

Steel ☐ Plastic ☒ Concrete ☐

**(8) PERFORATIONS:** microperfs

Type of perforation or size of screen

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 219 | 5" | CL200 | 118 | 218 | .032 |

**(9) WELL SEAL:**

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.

Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.

Method of sealing cement on gravel pack

**(10) WATER LEVELS:**

Depth of first water, if known _____ ft.

Standing level after well completion unknown 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 218 ft

Disc[redacted] 17 gal/min after 1 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 260 ft. Depth of completed well 219 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 6 | Red volcanic clay with embedded multicolored volcanic rocks |
| 6 | 16 | Brown volcanic clays with embedded gray volcanic gravels |
| 16 | 23 | Brown tufa with gray volcanic rock |
| 23 | 32 | Gray volcanic rock with traces of brown volcanic clays |
| 32 | 260 | Hard black and red volcanic rock |

Work started 5/19 19 88 Completed 5/26 19 88

WELL DRILLER'S STATEMENT: 00098

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

Don Sinclair

SIGNED Ward Thompson By: Don Sinclair
(Well Driller)

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

Address P.O. Box 176

City Sebastopol, California Zip 95472

License No. C57-177681 Date of this report June 7, 1988

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

CONFIDENTIAL NOT FOR PUBLIC USE
WR 13752

12N/08W-23M

**ORIGINAL**

**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

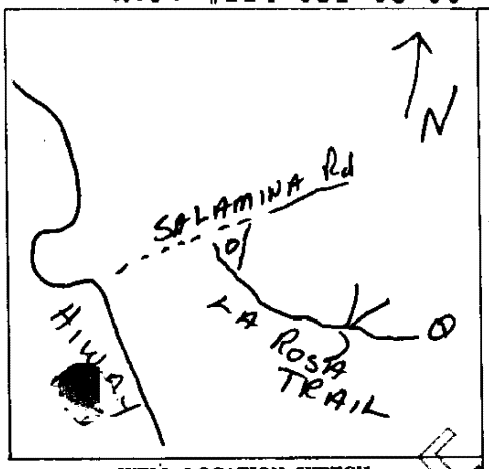
*Do not fill in*
No. 211540

Notice of Intent No.
Local Permit No. or Date WE481

State Well No.
Other Well No.

## (2) LOCATION OF WELL (See instructions):

County LAKE Owner's Well Number
Well address if different from above
Township 12N Range 8W Section 23
Distance from cities, roads, railroads, fences, etc.
10976 La Rosa Trail
Kelseyville
A.P. #114-031-08-00




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 pea
Diameter of bore 12¼,7 7/8,9 7/8"
Packed from 21½ to 760 ft.

## (7) CASING INSTALLED:

Steel ☒ Plastic ☐ Concrete ☐

## (8) PERFORATIONS: none

Type of perforation or size of screen

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 158 | 8 5/8 | .250 | | | |
| 158 | 760 | open hole | | | | |

## (9) WELL SEAL:

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 21½ ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing concrete on gravel pack

## (10) WATER LEVELS:

Depth of first water, if known ft.
Standing level after well completion 550 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 550 ft. At end of test 760 ft
Discharge 120 gal/min after 2 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 760 ft. Depth of completed well 760 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 16 | Sandy red clay with weathered white volcanic ash |
| 16 | 31 | Sandy gray clay and hard gray volcanic rock |
| 31 | 35 | Very hard gray volcanic boulders |
| 35 | 49 | Gray and white tufa |
| 49 | 127 | Very hard cinder rock |
| 127 | 148 | Gray and green tufa |
| 148 | 156 | Very hard gray and burgundy volcanic rock |
| 156 | 163 | Hard weathered multicolored volcanic conglomerate |
| 163 | 760 | Very hard and extremely hard weathered predominately gray rock with traces of green volcanic rock |

NOV 1991

Work started 8-1 1991 Completed 8-22 1991

## 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 By: Don Sinclair
(Well Driller)

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

Address P.O. Box 176-6100 Sebastopol Road
City Sebastopol, California Zip 95473
License No. C57-177681 Date of this report August 29,1991

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

12N/08W-23Q

**ORIGINAL**

**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

*Do not fill in*

No. 211566

Notice of Intent No. _____

Local Permit No. or Date WE548

State Well No. _____

Other Well No. _____

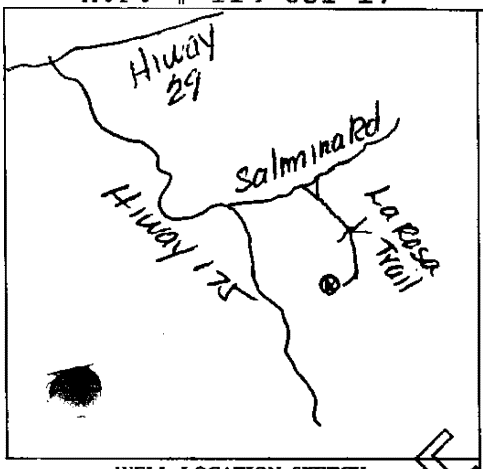
## (2) LOCATION OF WELL (See instructions):

County LAKE Owner's Well Number _____

Well address if different from above _____

Township 12N Range 8W Section 23

Distance from cities, roads, railroads, fences, etc.
10923 La Rosa Trail
Kelseyville
A.P. # 114-031-17




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 [ ] Reverse [ ]
Cable [ ] Air [X]
Other [ ] Bucket [ ]

## (6) GRAVEL PACK:

Yes [X] No [ ] Size pea
Diameter of bore 6 3/4, 9 7/8, 7 7/8"
Packed from 28 ft. to 580 ft.

## (7) CASING INSTALLED:

Steel [ ] Plastic [X] Concrete [ ]

## (8) PERFORATIONS:

Type of perforation or size of screen microperf

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 580 | 5" | CL200 | 477 | 577 | .032 |
| | | | | | | |
| | | | | | | |

## (9) WELL SEAL:

Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth _____ ft.
Were strata sealed against pollution? Yes [ ] No [X] Interval _____ ft.
Method of sealing cement on gravel pack

## (10) WATER LEVELS:

Depth of first water, if known _____ ft.
Standing level after well completion 480 ft.

## (11) WELL TESTS:

Was well test made? Yes [X] No [ ] If yes, by whom? Weeks
Type of test Pump [ ] Bailer [ ] Air lift [X]
Depth to water at start of test 480 ft. At end of test 575 ft
Discharge 60 gal/min after 1 hours Water temperature cool
Chemical 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 580 ft. Depth of completed well 580 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 22 | Tan sandy clay and cobble |
| 22 | 65 | Moist brown clay and cobble |
| 65 | 68 | Boulder |
| 68 | 206 | Reddish brown clay and boulder with seams of volcanic conglomerate |
| 206 | 227 | Volcanic conglomerate rock |
| 227 | 260 | Gray and reddish brown rock |
| 260 | 307 | Volcanic conglomerate rock |
| 307 | 339 | Gray rock |
| 339 | 463 | Red and gray hard volcanic rock |
| 463 | 500 | Gray rock and hard volcanic |
| 500 | 580 | Hard gray volcanic rock |

APR 2 8 1992

Work started 12-4 1991 Completed 12-17 1991

## 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 By: Don Sinclair
(Well Driller)

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

Address P.O. Box 176-6100 Sebastopol Road

City Sebastopol, California Zip 95473

License No. C57-177681 Date of this report Dec. 19,1991

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

12N/8W-23 ✓

**ORIGINAL**

**File with DWR**

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

*Do not fill in*
No. 228047

Notice of Intent No.
Local Permit No. or Date

State Well No.
Other Well No. CONFIDENTIAL LOG
~~Water Code Sec. 13752~~

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number
Well address if different from above Salamina Rd.
Township Kelseyville Range Section
Distance from cities, roads, railroads, fences, etc.
AP# 114-031-09

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: 3/8
Diameter of bore
Packed from 20 to 410 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 410 | 4" | c160 psi |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 370 | 410 | 1/8 |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing cement

(10) WATER LEVELS:
Depth of first water, if known ft.
Standing level after well completion 290 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? driller
Type of test Pump ☐ Bailer ☒ Air lift ☐
Depth to water at start of test 290 ft. At end of test 360 ft
Yield 50 gal/min after 2 hours Water temperature
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 ft. Depth of completed well ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 10 | fill |
| 10 | 95 | fract. vol. |
| 95 | 130 | clay |
| 130 | 190 | vol. with boulders |
| 190 | 370 | volcanics ash |
| 370 | 410 | fract. vol. |

Work started 2-29- 1981 Completed 2-24 1981

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 LARRY HERMAN by kathy baker (Well Driller)
NAME FISCH HERMAN DRILLING CO. (Person, firm, or corporation) (Typed or printed)
Address 5001 Gravenstein Hwy. N.
City Sebastopol, Ca. Zip 95472
License No. 304138 Date of this report 2-26-81

CONFIDENTIAL NOT FOR PUBLIC USE ~~Water Code Sec.~~ 13752

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

CONFIDENTIAL PER Code Sec. 13... Do not fill in

**ORIGINAL**

**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

114-070-02

No. 229122

State Well No. 12N/7W-11E

Other Well No. HH-2W-10

Notice of Intent No.
Permit No. or Date

(1)
Address
City

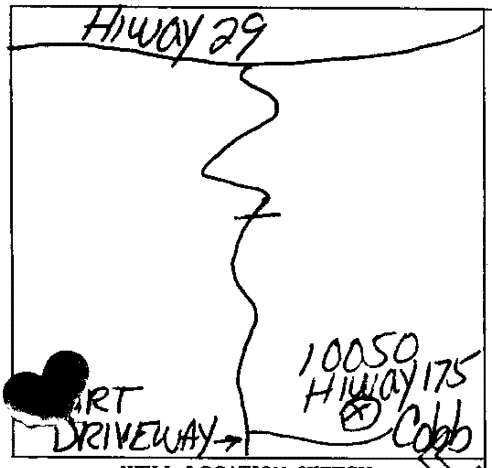
## (2) LOCATION OF WELL (See instructions):

County Lake Owner's Well Number

Well address if different from above

Township Range Section

Distance from cities, roads, railroads, fences, etc.
10050 Hiway 175, Mt. Hannah, Cobb Mountain
Cobb



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 pea
Diameter of bore 9 7/8 - 8 3/4"
Packed from 20' to 150' ft.

## (7) CASING INSTALLED:

Steel ☐ Plastic ☒ Concrete ☐

## (8) PERFORATIONS:

Type of perforation or size of screen saw cut

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 151 | 5" | 200PVC | 96 | 150 | 1/8x3" |
| | | | | | | |

## (9) WELL SEAL:

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing cement on gravel pack

## (10) WATER LEVELS:

Depth of first water, if known ft.
Standing level after well completion 21 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 21 ft. At end of test 80 ft
Discharge 25 gal/min after 2 hours Water temperature cool
[redacted]l analysis made? Yes ☐ No ☒ If yes, by whom?
[redacted]s electric log made? Yes ☐ No ☒ If yes, attach copy to this report

## (12) WELL LOG:

Total depth 150 ft. Depth of completed well 150 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 1 | Top soil |
| 1 | 4 | Dark brown clay with decomposed organic materials |
| 4 | 10 | White volcanic ash |
| 10 | 28 | Fractured brown volcanic rock |
| 28 | 32 | Multicolored volcanic rock |
| 32 | 62 | Hard black fractured volcanic rock |
| 62 | 150 | Hard multicolored volcanic rock |

Work started July 21, 1981 Completed July 24, 1981

## 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 Thompson By: Roy Curl (Well Driller)

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

Address P.O. Box 176 - 6100 Sebastopol Road

City Sebastopol, California Zip 95472

License No. C57-177681 Date of this report July 28, 1981

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

NOT FOR PUBLIC USE
WELL DRILLERS REPORT
PUBLIC CODE SEC. 13752

~~10N~~/08W-23M
12N

**ORIGINAL**
**File with DWR**

Notice of Intent No. _____
Local Permit No. or Date _____

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

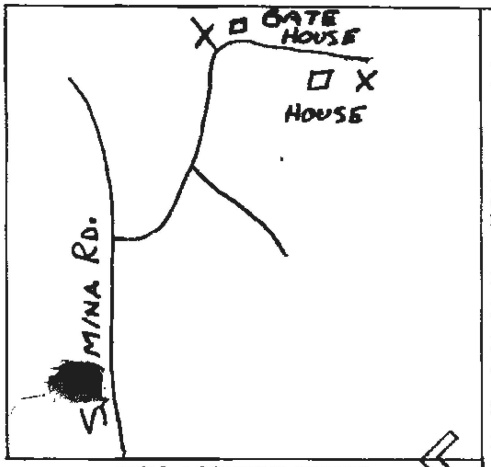
# WATER WELL DRILLERS REPORT

114-031-07, 16, 17

*Do not fill in*
**No. 236826**

State Well No. _____
Other Well No. _____

**(2) LOCATION OF WELL** (See instructions):
County Lake Owner's Well Number _____
Well address if different from above _____
Township _____ Range _____ Section _____
Distance from cities, roads, railroads, fences, etc. _____




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 5/16
Diameter of bore 6"
Packed from 20 to 295 ft.

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

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

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 295 | 4" | 160 | 255 | 295 | 1/8 |

**(9) WELL SEAL:**
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☐ Interval _____ ft.
Method of sealing _____

**(10) WATER LEVELS:**
Depth of first water, if known 270' ft.
Standing level after well completion 200' ft.

**(11) WELL TESTS:**
Was well test made? Yes ☒ No ☐ If yes, by whom? Owner
Type of test Pump ☐ Bailer ☐ Air lift ☒
Depth to water at start of test 200 ft. At end of test 250 ft
Discharge 25 gal/min after 2 hours Water temperature _____
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 295 ft. Depth of completed well 295 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 25 | Broken Rock in Clay |
| 25 | 100 | Extremly Fractured Volcanics |
| 100 | 295 | Volcanics |

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

FEB 05 1987

Work started 7-25 1983 Completed 8-10 1983

**WELL DRILLER'S STATEMENT:** 01562
*This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.*
SIGNED Larry Herman (Well Driller)
NAME Larry Herman Drilling (Person, firm, or corporation) (Typed or printed)
Address 11321 Hwy 29
City Lower Lake, Ca Zip 95457
License No. 304138 Date of this report 8-23-83

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

12N08W14M

**ORIGINAL**

File with DWR

Notice of Intent No.

Local Permit No. or date

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

*Do not fill in*

No. 245347

State Well No.

Other Well No.

(1)
Addr.
City

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number
Well address if different from above Diener Rd.
Township Lock Lomond Range 08 W Section 14
Distance from cities, roads, railroads, fences, etc.
A.P. # 114-080-03

(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:
Yes ☒ No ☐ Size 3/8
Diameter of hole
Packed from 20 to 348 ft.

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

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

| From ft. | To ft. | Dia. in. | Gage of Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 348 | 5 | e160 psi | 328 | 348 | 1/8 |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing cement

(10) WATER LEVELS:
Depth of first water, if known ft.
Standing level after well completion 318 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? driller
Type of test Pump ☐ Bailer ☒ Air lift ☐
Depth of water at start of test 318 ft. At end of test 340 ft.
Discharge 10 gal/min after 2 hours Water temperature
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 ft. Depth of completed well ft.
from ft. to ft. Formation (Describe by color, character, size or material)

0 - 30 clay
30 - 100 broken blue vol. rock
100 - 125 red volcanic
125 - 180 volcanic ash
180 - 280 fract. blue and red vol.
280 - 348 fract. blue and red vol. with boulders

Work started March 1982 Completed March 1982

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 LARRY HERMAN by kathy baker
(Well Driller)
NAME FISCH HERMAN DRILLING CO. 00941
(Person, firm, or corporation) (Typed or printed)
Address 5001 Gravenstein Hwy. N.
City Sebastopol, CA Zip 95472
License No. 399226 Date of this report 3-23-82

DWR 188 (REV. 7-80) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

12N/08W-23M 14

Do not fill in

**ORIGINAL**
File with DWR

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

No. 263679

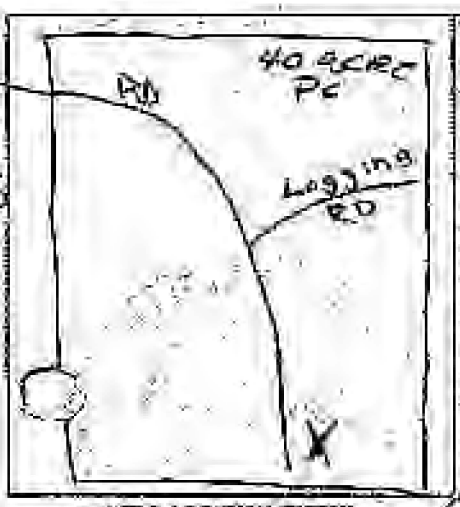
Notice of Intent No.
Local Permit No. or Date WE102

115-005-05

State Well No.
Other Well No.

(1) OWNER: Name Lake County Address 255 N. Forbes St City Lakeport Zip 95453

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number WE102
Well address if different from above Soda Bay Rd
Township 12 Range 8W Section 23
Distance from cities, roads, railroads, fences, etc. Head of Soda Bay Rd



WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well [X] Deepening [ ]
Reconstruction [ ]
Reconditioning [ ]
Horizontal Well [ ]
Destruction [ ] (Describe destruction materials and procedures in Item #2)

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

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

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

| From ft. | To ft. | Dia in. | Gage or Wall |
|---|---|---|---|
| 0 | 365 | 6" | SCH 40 |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 340 | 360 | 1/16 |

(8) GRAVEL PACK:
Yes [X] No [ ] Size
Diameter of bore
Depth of bore 20 to 365 ft.

(9) WELL SEAL:
Was surface seal provided? Yes [X] No [ ] If yes, to depth 20 ft.
Were strata sealed against pollution? Yes [X] No [ ] Interval ft.
Method of sealing Concrete

(10) WATER LEVELS:
Depth of first water, if known 350 ft.
Standing level after well completion 100 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 of test 365 ft. Level of test 300 ft.
Size 10 gallons/min after 3 hours Water temperature
Was a chemical 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 365 ft. Completed depth 365 ft.

| From ft. | to | ft. | Formation (Describe by color, character, size or material) |
|---|---|---|---|
| 0 | - | 80 | Top Soil |
| 80 | - | 365 | Lava Rock |

Work started 12-1 19 87 Completed 12-1 19 87

WELL DRILLER'S STATEMENT: 1637

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

Signed (Well Driller)
NAME Carl Wrenbeck Engineering (Person, firm or corporation) (Typed or printed)
Address Po Box 1
City Cobb Zip 95426
License No. 423144 Date of this report

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

REV 10-88

OVERWRITTEN

VOID DENTIAL
PUBLIC USE
UNDER SEC. 1752
WATER CODE SEC.

12N/8W-~~15~~ 14 M

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

*Do not fill in*

No. 264348

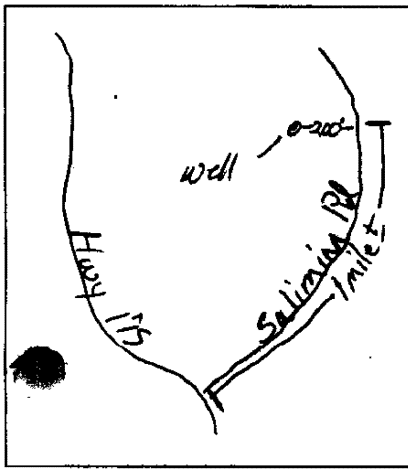
No. of Intent No. _____
Local Permit No. or Date WE-025

115-03-30

State Well No. _____
Other Well No. _____

(1)
Addr
City

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number 1
Well address if different from above
Township 12 N Range 8W Section 15
Distance from cities, roads, railroads, fences, etc. 200' F/ Salimina Rd




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 3/8"
Diameter of bore 6 1/8"
Packed from 180' to 10' ft.

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

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

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 26' | 6" | 125 | | | |
| 4 | 180 | 4" | 125 | 80' | 180' | 1/8" |

(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 cement grout

(10) WATER LEVELS:
Depth of first water, if known 14' ft.
Standing level after well completion 38' ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Driller
Type of test Pump ☐ Bailer ☐ Air lift ☒
Depth of water at start of test 40' ft. At end of test 180' ft.
Discharge 2 gal/min after 1 hours Water temperature _____
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 180' ft. Completed depth 180' ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 14 | Top Soil Brn Gray |
| 14 | 17 | Pea gravel Rusty |
| 17 | 28 | Clay (Gray) |
| 28 | 42 | Fine Gray Vol. ash |
| 42 | 180 | Black Gray Vol. rock |

OCT 03 1989

Work started 7-17 1989 Completed 7-20 1989

WELL DRILLER'S STATEMENT: 1603

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

Signed Dan McMullen (Well Driller)
NAME Dan McMullen Construction + Well Drilling (Person, firm, or corporation) (Typed or printed)
Address 1487 Old Long Valley Rd.
City Clearlake Oaks CA ZIP 95423
License No. 533152 Date of this report 7-24-89

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96355

12N/08W-22M

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

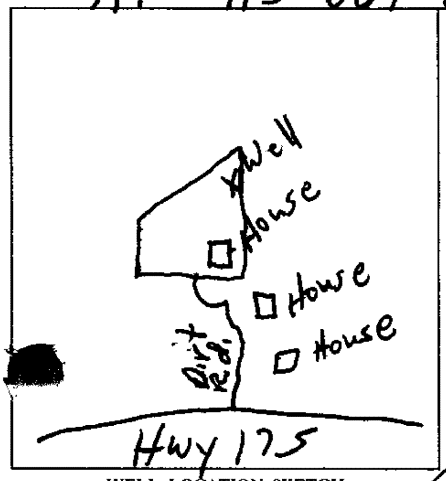
# WATER WELL DRILLERS REPORT

*Do not fill in*
No. 302014

Notice of Intent No. _____
Local Permit No. or Date WE-040

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above 10188 Hwy 175
Township 12 N Range 8W Section 22 ~~or 15~~
Distance from cities, roads, railroads, fences, etc.
10188 Hwy 175 Kelseyville
AP# 115-009-06



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 [ ]
Municipal [ ]
Other [ ]
(Describe)

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

(6) GRAVEL PACK:
Yes [X] No [ ] Size 3/16
Diameter of bore 7 7/8
Packed from 20 to 95 ft.

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

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

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 95 | 6 | F480 | 75 | 95 | 48 |
| | | | | | | |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 20 ft.
Were strata sealed against pollution? Yes [ ] No [X] Interval _____ ft.
Method of sealing Neat Cement

(10) WATER LEVELS:
Depth of first water, if known 65 ft.
Standing level after well completion 25 ft.

(11) WELL TESTS:
Was well test made? Yes [X] No [ ] If yes, by whom? Driller
Type test Pump [ ] Bailer [ ] Air lift [X]
Flowing to water at start of test _____ At end of test _____ ft.
Discharge 50 gal/min after 1 hours Water temperature _____
Chemical 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. Completed depth _____ ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 65 | Clay |
| 65 | 80 | Volcanic Ash |
| 80 | 95 | Broken Volcanics |

APR 23 1990

Work started 7-25 19 89 Completed 7-25 19 89

WELL DRILLER'S STATEMENT: 1582

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

Signed Larry Herman (Well Driller)
NAME Larry Herman Drilling (Person, firm, or corporation) (Typed or printed)
Address 11321 Hwy 29
City Lower Lake Ca ZIP 95457
License No. 465071 Date of this report 8-1-89

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96355

12N/08W-23M

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

*Do not fill in*
No. 302021

Notice of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above _____
Township 12 N Range 8W Section 23
Distance from cities, roads, railroads, fences, etc.
10312 Salimina Rd - Kelseyville
AP# 114-031-01

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 [ ]
Municipal [ ]
Other [ ]
(Describe)

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

(6) GRAVEL PACK:
Yes [X] No [ ] Size 4/16
Diameter of bore 12
Packed from 20 to 340 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 340 | 12 | 160 |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 240 | 340 | 4/8 |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 20 ft.
Were strata sealed against pollution? Yes [ ] No [X] Interval _____ ft.
Method of sealing Neat Cement

(10) WATER LEVELS:
Depth of first water, if known 300 ft.
Standing level after well completion 270 ft.

(11) WELL TESTS:
Was well test made? Yes [X] No [ ] If yes, by whom? Driller
Type test Pump [ ] Bailer [ ] Air lift [X]
Discharge 20 gal/min after _____ hours
to water at start of test _____ ft. At end of test _____ ft.
Water temperature _____
Chemical 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. Completed depth _____ ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 35 | Sandy Clay |
| 35 | 340 | Hard & Broken Volcanics |

CONFIDENTIAL
PUBLIC USE
SEC. 13752
WATER CODE

APR 23 1990

Work started 6-20 19 89 Completed 7-1 19 89

WELL DRILLER'S STATEMENT: 1562

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

Signed Larry Herman (Well Driller)
NAME Larry Herman Drilling (Person, firm, or corporation) (Typed or printed)
Address 11321 Hwy 29
City Lower Lake, Ca ZIP 95457
License No. 465071 Date of this report 7-1-89

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

12N/08W-22H

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

**ORIGINAL**
**File with DWR**

# WATER WELL DRILLERS REPORT

*Do not fill in*

No. 302028

AP 115-009-09

Notice of Intent No. _____

Local Permit No. or Date 12-6-89

State Well No. _____

Other Well No. _____

(2) LOCATION OF WELL (See instructions):

County Lake Owner's Well Number _____

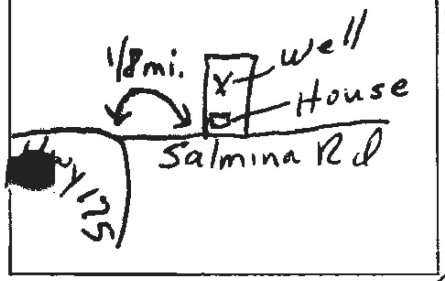
Well address if different from above _____

Township 12 N Range 8 W Section 22

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

1085 Salmina Rd Kelseyville

APN 11-009-09




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 [ ]
Municipal [ ]
Other [ ]
(Describe)

(5) EQUIPMENT:

Rotary [X] Reverse [ ]
Cable [ ] Air [X]
Other [ ] Bucket [ ]

(6) GRAVEL PACK:

Yes [X] No [ ] Size 5/16

Diameter of bore 7 7/8

Packed from 20 to 110 ft.

(7) CASING INSTALLED:

Steel [ ] Plastic [X] Concrete [ ]

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 110 | 4" | F480 |

(8) PERFORATIONS:

Type of perforation or size of screen

| From ft. | To ft. | Slot size |
|---|---|---|
| 90 | 110 | 18 |

(9) WELL SEAL:

Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 20 ft.

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

Method of sealing Grout mix

(10) WATER LEVELS:

Depth of first water, if known 70 ft.

Standing level after well completion 25 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 _____ ft. At end of test _____ ft.

Discharge 50 gal/min after 2 hours Water temperature _____

Chemical 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. Completed depth _____ ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 30 | Clay |
| 30 | 70 | Volcanic Ash |
| 70 | 110 | Blue Volcanics |

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

APR 23 1990

Work started Dec 1989 Completed Dec 1989

WELL DRILLER'S STATEMENT: 156

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

Signed Larry Herman (Well Driller)

NAME Larry Herman Drilling (Person, firm, or corporation) (Typed or printed)

Address 11321 Hwy 29

City Lower Lake Ca ZIP 95457

License No. 465071 Date of this report 12-14-89

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96355

12N/08W-15M

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

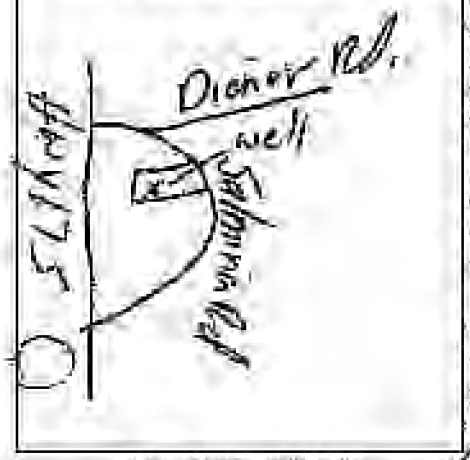
Do not fill in

No. 302048

Date of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above _____
Township 12N Range 8W Section 15
Distance from cities, roads, railroads, fences, etc.
9225 Salmina Rd
Kelseyville
AP # 115-003-35




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 5/16
Diameter of bore 2 in.
Packed from 30 to 125

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

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

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot Size |
|---|---|---|---|---|---|---|
| 0 | 125 | 32 | 160 | 85 | 125 | 48 |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.
Method of sealing Neat Cement

(10) WATER LEVELS:
Depth of first water, if known 80' ft.
Standing level after well completion 29' ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Driller
Type of test Pump ☐ Bailer ☐ Air lift ☒
Depth to water at start of test _____ ft. At end of test _____ ft.
Discharge 50 gal/min after 2 hours Water temperature _____
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 _____ ft. Completed depth _____ ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 80 | Clay w/ Boulders |
| 80 | 125 | Volcanic Ash |

Work started Aug 1990 Completed Aug 1990

WELL DRILLER'S STATEMENT: 1562

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

Signed [signature] (Well Driller)
NAME Larry Herman Drilling (Person, firm, or corporation) (Typed or printed)
Address 4321 Hwy 27
City Lower Lake Ca ZIP 95457
License No. 465071 Date of this report 8-13-90

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

DWR 188 (REV. 12-80) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

12N/08W-23M

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

*Do not fill in*
No. 302067

e of Intent No.
Local Permit No. or Date WE-274

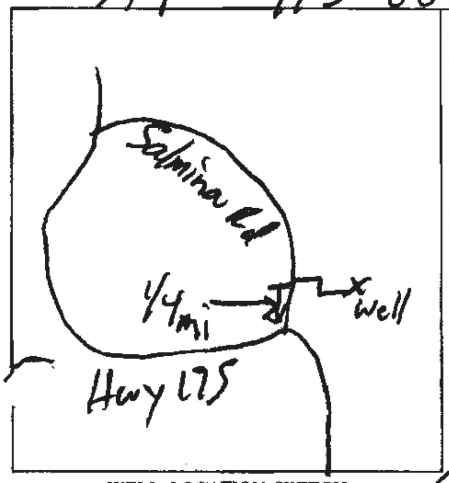
State Well No.
Other Well No.

(12) WELL LOG: Total depth ____ ft. Completed depth ____ ft.
from ft. to ft. Formation (Describe by color, character, size or material)

0 - 270 Brown Blue & red volcanics

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number
Well address if different from above Salmina Rd
Township 12 N Range 8W Section 23
Distance from cities, roads, railroads, fences, etc.

AP # 115-009-20



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 2/16
Diameter of bore 12
Packed from 20 to 270 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 270 | 12 | 160 |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 230 | 270 | 1/8 |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ____ ft.
Method of sealing

(10) WATER LEVELS:
Depth of first water, if known 220 ft.
Standing level after well completion 200 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Driller
Type of test Pump ☐ Bailer ☐ Air lift ☒
Flow to water at start of test ____ ft. At end of test ____ ft.
Discharge 30 gal/min after 2 hours Water temperature
Chemical analysis made? Yes ☐ No ☒ If yes, by whom?
Was electric log made Yes ☐ No ☒ If yes, attach copy to this report

Work started Aug 19 90 Completed Sept 19 90

WELL DRILLER'S STATEMENT: 1582

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

Signed Larry Herman (Well Driller)
NAME Larry Herman Drilling (Person, firm, or corporation) (Typed or printed)
Address 11321 Hwy 29
City Lower Lake Ca ZIP 95457
License No. 465071 Date of this report 9-10-90

DWR 188 (REV. 12-88) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96339

COPY NOT FOR PUBLIC USE
WATER CODE SEC. 13752
VOID
INITIAL

12N/08W-14H

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

Do not fill in

No. 349828

Notice of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(12) WELL LOG: Total depth 200 ft. Completed depth 200 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 22 | Blk soil |
| 22 | 40 | Gray Clay |
| 40 | 75 | Blk Vol. Gravel + Gray Clay |
| 75 | 200 | Blk Vol. Rock |

(8) LOCATION OF WELL (See instructions)
County Lake Owner's Well Number 2
Well address if different from above AP# 115-003-30
Township 12N Range 8W Section 14
Distance from cities, roads, railroads, fences, etc.




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 2/8
Diameter of bore 8 3/4 and 6 1/2
Packed from 20 to 200 ft.

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

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

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 120 | 4½ | 160 | 80 | 120 | |
| 120 | 200 | 4 | 160 | 120 | 200 | |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.
Method of sealing Concrete

(10) WATER LEVELS:
Depth of first water, if known 85' ft.
Standing level after well completion _____ ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Driller
Type of test Pump ☒ Bailer ☐ Air lift ☐
Depth to water at start of test _____ ft. At end of test _____ ft.
Discharge 12 gal/min after 1 hours Water temperature _____
Chemical analysis made? Yes ☐ No ☒ If yes, by whom? _____
Was electric log made Yes ☐ No ☒ If yes, attach copy to this report

Work started 1-29 1990 Completed 1-30 1990

WELL DRILLER'S STATEMENT: 1603

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

Signed Dan McMullen (Well Driller)
NAME Dan McMullen Well Drilling (Person, firm or corporation) (Typed or printed)
Address 1487 Old Long Valley Rd.
City Clearlake Oaks CA ZIP 95423
License No. 533152 Date of this report 1-30-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

DWR 188 (REV. 12-88)

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

12N/08W-23M

**RECEIVED**

OCT 19 1992

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# D. WATER WELL DRILLERS REPORT

*Do not fill in*

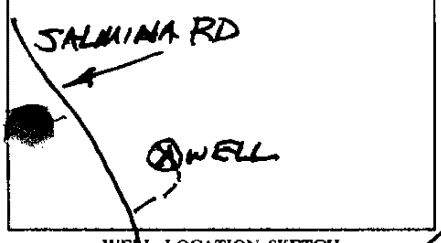
No. 367362

Notice of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County LAKE Owner's Well Number _____
Well address if different from above 10230 SALMINA RD.
Township 12N Range 8W Section 23
Distance from cities, roads, railroads, fences, etc. _____
APN 115-013-01

SEC 14



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 #2
Diameter of bore 9
Packed from 22 to 335 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| +1.5 | 335 | 6 | .188 |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 280 | 335 | 1/8 X 3 |

(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 CEMENT GROUT

(10) WATER LEVELS:
Depth of first water, if known _____ ft.
Standing level after well completion 170 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? HUTTON
Type of test Pump ☐ Bailer ☒ Air lift ☐
Depth to water at start of test 170 ft. At end of test 280 ft.
Discharge 7 gal/min after 4 hours Water temperature C
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 345 ft. Completed depth 335 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 40 | BROWN CLAY / SOME ROCK |
| 40 | 245 | " " / & BOULDERS |
| 245 | 305 | BLUE " " " |
| 305 | 322 | BROWN " " " |
| 322 | 325 | " CLAYEY SAND |
| 325 | 345 | " CLAY & BOULDERS |

MAX. RECOMMEND YIELD 5½-6 GPM

OCT 27 1992

Work started 1/10 19 92 Completed 1/28 19 92

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 [signature] 42
NAME HUTTON DRILLING (Person, firm, or corporation) (Typed or printed)
Address 1146 PITNEY LANE
City UPPER LAKE ZIP 95485
License No 1539 Date of this report 1/26/92

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96355

COPY
NOT FOR PUBLIC USE
WATER CODE SEC. 13752
VOID
INITIAL

12N/08W-22M

**ORIGINAL**
**File with DWR**

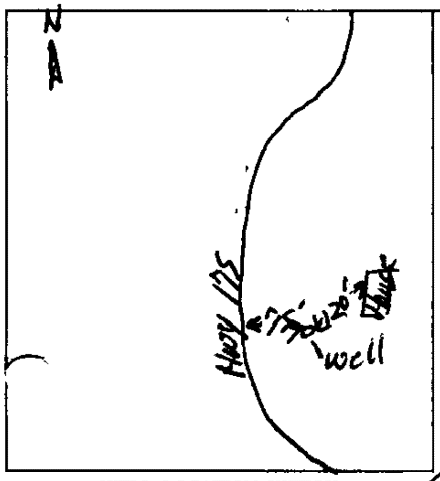
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
# WATER WELL DRILLERS REPORT

*Do not fill in*
No. 369634

...e of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above _____
Township 12N Range 8W Section 22
Distance from cities, roads, railroads, fences, etc. _____
AP # 115-009-25



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 [ ]
Municipal [ ]
Other [ ]
(Describe)

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

(6) GRAVEL PACK:
Yes [X] No [ ] Size 3/8"
Diameter of bore 9"+8"
Packed from 22 ft. to 130 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 130 | 5½ | 160 |
| | | | |
| | | | |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 95 | 130 | 18 |
| | | |
| | | |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 20 ft.
Were strata sealed against pollution? Yes [ ] No [X] Interval _____ ft.
Method of sealing Concrete

(10) WATER LEVELS:
Depth of first water, if known 75'+ ft.
Standing level after well completion 55' ft.

(11) WELL TESTS:
Was well test made? Yes [X] No [ ] If yes, by whom? Driller
Type of test Pump [ ] Bailer [ ] Air lift [X]
Flow to water at start of test 55' ft. At end of test 130' ft.
Discharge 60 gal/min after 1 hours Water temperature Cold
Chemical 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 130 ft. Completed depth 130 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 3 | Brn. Soil |
| 3 | 15 | Red Clay |
| 15 | 55 | Red Clay + Blk + Red Vol. Gravel |
| 55 | 120 | Blk + Red Vol. Rock |
| 120 | 130 | Blk + White Vol. Rock + Ash |

NOV 2 1991

Work started 11-2 19 91 Completed 11-5 19 91

WELL DRILLER'S STATEMENT: 1603
*This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.*
Signed Dan McMullen (Well Driller)
NAME Dan McMullen Well Drilling (Person, firm, or corporation) (Typed or printed)
Address 1407 Old Long Valley Rd.
City Clearlake Oaks CA ZIP 95423
License No. 533152 Date of this report _____

ORIGINAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

12N/08W-22M

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

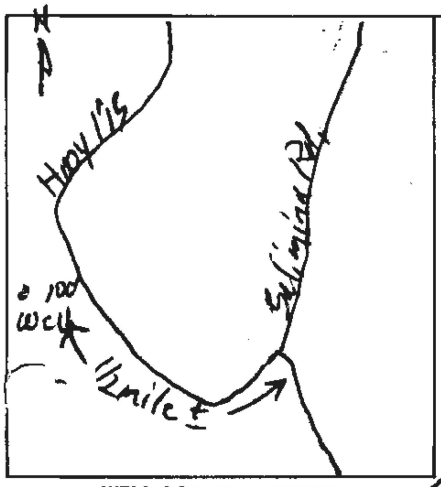
# WATER WELL DRILLERS REPORT

*Do not fill in*
No. 369637

e of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above _____
Township 12N Range 8W Section 22
Distance from cities, roads, railroads, fences, etc. _____
AP # 115-009-01



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 3/8"
Diameter of bore 9 7/8"
Packed from 20 ft. to 125 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 125 | 4½ | 160 |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 85 | 125 | 16 |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.
Method of sealing Concrete

(10) WATER LEVELS:
Depth of first water, if known 75' ft.
Standing level after well completion 67' ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Driller
Type of test Pump ☐ Bailer ☐ Air lift ☐
Flow to water at start of test 67 ft. At end of test 125 ft.
Discharge 150 gal/min after 1 hours Water temperature cold
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 142 ft. Completed depth 125 ft.
from ft. to ft. Formation (Describe by color, character, size or material)

0 - 5' Brn Soil
5 - 55 Red + Brn. Clay + Vol. Gravel
55 - 142 Blk + Red Vol Rock

NOV 1991

Work started 10-29 19 91 Completed 11-5 19 91

WELL DRILLER'S STATEMENT: 1603
*This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.*
Signed Dan McMullen
NAME Dan McMullen Well Drilling (Well Driller) (Person, firm, or corporation) (Typed or printed)
Address 1487 Old Long Valley Rd.
City Clearlake Oaks CA ZIP 95423
License No. 533152 Date of this report 11-5-91

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96355

12N/08W - ~~14M~~ 15

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

*Do not fill in*

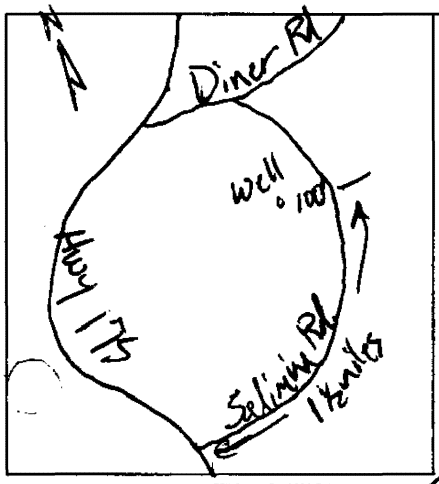
No. 369638

...e of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above _____
Township 12N Range 8W Section 14
Distance from cities, roads, railroads, fences, etc. _____

AP# 115-003-26




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 3/8"
Diameter of bore 9"-8"
Packed from 20 to 145 ft.

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

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

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 145 | 4½ | 160 | 85 | 145 | 1/8" |
| | | | | | | |
| | | | | | | |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.
Method of sealing Concrete

(10) WATER LEVELS:
Depth of first water, if known 85'± ft.
Standing level after well completion 45' ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Driller
Type of test Pump ☐ Bailer ☐ Air lift ☒
Depth to water at start of test _____ ft. At end of test _____ ft.
Discharge 12 gal/min after 1 hours Water temperature cold
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 150 ft. Completed depth 145 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 3 | Brn. Soil |
| 3 | 35 | White clay |
| 35 | 70 | Brn + Red Clay + Vol Gravel |
| 70 | 150 | Blk + Red Vol. Rock. |

NOV 2 1991

Work started 10-31 1991 Completed 11-5 1991

WELL DRILLER'S STATEMENT: 1603

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

Signed Dan McMullen (Well Driller)
NAME Dan McMullen Well Drilling (Person, firm, or corporation) (Typed or printed)
Address 1487 Old Long Valley Rd.
City Clearlake Oaks CA ZIP 95423
License No. 533152 Date of this report 11-5-91

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96355

ORIGINAL
File with DWR

JUL 30 1997

Page ___ of ___

Owner's Well No. ___

Date Work Began 9-12-95 Ended 9-21-95

Local Permit Agency Health Dept.

Permit No. WE-1245 Permit Date 8-29-95

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 405481

DWR USE ONLY — DO NOT FILL IN
12N/08W-10M
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

## GEOLOGIC LOG

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

DEPTH TO FIRST WATER 60 (Ft.) BELOW SURFACE

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 40 | Volcanic Ash |
| 40 | 110 | Soft Basalt |
| 110 | 140 | Hard Basalt |

TOTAL DEPTH OF BORING 140 (Feet)

TOTAL DEPTH OF COMPLETED WELL 140 (Feet)

## WELL LOCATION

Address 9710 Carrie Ln

City Kelseyville

County Lake

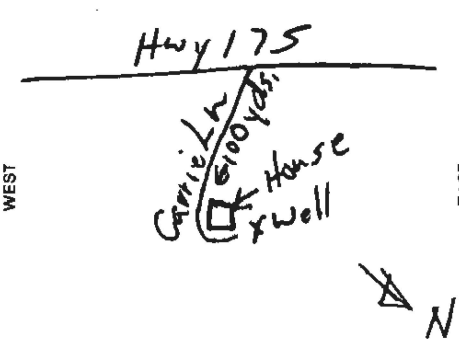
APN Book 115 Page 003 Parcel 07

or Township 12N Range 08W Section 10

or Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

## LOCATION SKETCH

NORTH




SOUTH

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

## ACTIVITY (✓)

X NEW WELL

MODIFICATION/REPAIR

___ Deepen

___ Other (Specify)

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

## PLANNED USE(S) (✓)

___ MONITORING

WATER SUPPLY

X Domestic

___ Public

___ Irrigation

___ Industrial

___ "TEST WELL"

___ CATHODIC PROTECTION

___ OTHER (Specify)

DRILLING METHOD air rotary FLUID ___

## WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 20 (Ft.) & DATE MEASURED 9-29-95

ESTIMATED YIELD* 30 (GPM) & TEST TYPE air lift

TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | 20 | 9" | | | | | | | | |
| 20 | 140 | 8" | | | | | | | | |
| 0 | 60 | | X | | | | PVC-F480 | 4½ | 160 | |
| 60 | 140 | | | X | | | " " | " | " | 48 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 140 | | | | 3/16 Pea |

JUL 31 1997

## 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 13011 Hwy 29 CITY Lower Lake STATE Ca ZIP 95457

Signed Larry Herman (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 9-21-95 C-57 LICENSE NUMBER 465071

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

**ORIGINAL**
**File with DWR**

Page ___ of ___

JUL 26 1997

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 405501

Owner's Well No. ___

Date Work Began 8-30-95 Ended 8-31-95

Local Permit Agency Health Dept.

Permit No. WE-1240 Permit Date 8-29-95

DWR USE ONLY — DO NOT FILL IN

12N/08W-13M

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

MIN/TRS/OTHER

## GEOLOGIC LOG

ORIENTATION (✓) X 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 | 185 | Volcanic ash |
| 185 | 245 | Green soft Sandstone |

TOTAL DEPTH OF BORING 245 (Feet)

TOTAL DEPTH OF COMPLETED WELL 245 (Feet)

## WELL LOCATION

Address 11275 Diener Dr

City Kelseyville

County Lake

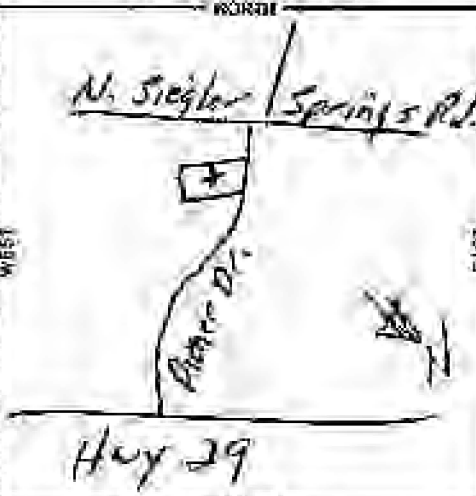
APN Book 115 Page 006 Parcel 03

Township 12N Range 8W Section 13

Latitude ___ DEG. MIN. SEC. NORTH Longitude ___ DEG. MIN. SEC. WEST

## LOCATION SKETCH

NORTH




WEST EAST

SOUTH

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

## ACTIVITY (✓)

X NEW WELL

MODIFICATION/REPAIR:
___ Deepen
___ Other (Specify)

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

## PLANNED USE(S) (✓)

___ MONITORING

WATER SUPPLY:
X Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD air rotary FLUID ___

## WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 100 (Ft.) & DATE MEASURED 9-1-95

ESTIMATED YIELD* 50 (GPM) & TEST TYPE air lift

TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | CONC. CONTROL | FILL PIPE | MATERIAL/GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 9" | | | | | | | | |
| 20 | 245 | 7" | | | | | | | | |
| 0 | 165 | | X | | | | PVC F480 | 4 1/2 | 160 | |
| 165 | 245 | | | X | | | " " | " | " | 1/8 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 245 | | | | 5/16 Pea |

JUL 31 1997

## 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 Larry Herman Drilling
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

13011 Hwy 29 Lower Lake Ca 95457
ADDRESS CITY STATE ZIP

Signed [signature] 9-1-95 465071
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C57 LICENSE NUMBER

DWR 188/REV. 2/90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

RECEIVED
JUL 2 · 1993

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

Page ___ of ___
Owner's Well No. 868 #
Date Work Began 5-20-93 Ended 6-15-93
Local Permit Agency Lake County Health Dept
Permit No. 868 # Permit Date 3-22-93

State Well No. 406862

DWR USE ONLY — DO NOT FILL IN
12N/08W-14M
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

## GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER 18 (FT.) BELOW SURFACE

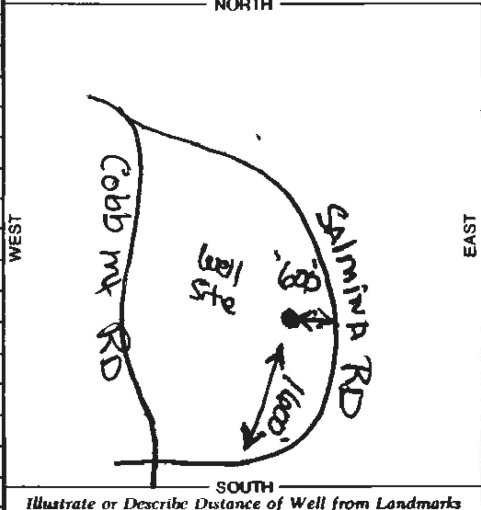
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 55 | BLACK CLAY WITH SOME GRAVEL AREAS |
| 55 | 140 | VOLCANIC ROCK WITH SOME AREAS OF BASALT |

TOTAL DEPTH OF BORING 140 (Feet)
TOTAL DEPTH OF COMPLETED WELL 140 (Feet)

## WELL LOCATION

Address 9565 SALMINA RD
City KELSEYVILLE CA. 95451
County LAKE
APN Book ___ Page ___ Parcel 115-003-29
Township or 12N Range 8W Section 14 #
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 CABLE FLUID NONE

## WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 10' (Ft.) & DATE MEASURED 6-10-93
ESTIMATED YIELD 20 (GPM) & TEST TYPE BAILER
TEST LENGTH 1½ (Hrs.) TOTAL DRAWDOWN 30 (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 | 60 | 10 | ✓ | | | | PVC | 6 | .200 | |
| 60 | 140 | 10 | | ✓ | | | PVC | 6 | .200 | .065 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | ✓ | | | |
| 20 | 140 | | | ✓ | PEA |

JUL 28 1993

## 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 William G Mosegaard Well Drilling 1648
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 1996 MARTIN ST CITY Lakeport STATE CA ZIP 95453

Signed William G Mosegaard 6-15-93 563710
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

RECEIVED

JUL 10 1992

**ORIGINAL**
**File with DWR**

Page ___ of ___

# STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 486020

DWR USE ONLY — DO NOT FILL IN
12N/10W-22M
STATE WELL NO./STATION NO.
LATITUDE ___ LONGITUDE ___
APN/TRS/OTHER

Owner's Well No. D. W. R.
Date Work Began 7-7-92, Ended 7-8-92
Local Permit Agency Lake County
Permit No. WE 917 Permit Date 7-7-92

## GEOLOGIC LOG

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

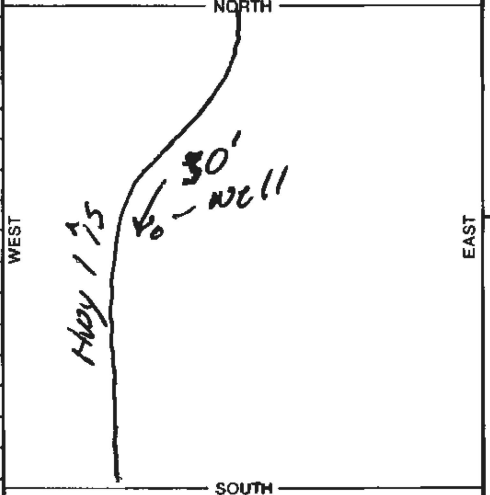
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 3 | Brn. Soil + Vol Gravel |
| 3 | 68 | Yellow, Clay + Vol Gravel |
| 68 | 160 | Black + Red Vol Rock |

TOTAL DEPTH OF BORING 160 (Feet)
TOTAL DEPTH OF COMPLETED WELL 107 (Feet)

## WELL LOCATION

Address 10230 Hwy 175
City Kelseyville
County Lake
APN Book 115 Page 009 Parcel 26
or Township 12N Range 10W Section 22
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 (✓)

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

## PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
K Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD Air FLUID ___

## WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 50' (Ft.) & DATE MEASURED 7-7-92
ESTIMATED YIELD* 60 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | 87 | 9 | K | | | | PVC | 4½ | 160 | |
| 87 | 107 | 9 | | K | | | PVC | 4½ | 160 | 1/8 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 23 | K | | | |
| 23 | 107 | | | K | 3/8 Pea Gravel |

JUL 13 1992

## 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 Dan McMullen Well Drilling 1603
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 1487 Old Long Valley Rd. CITY Clearlake Oaks STATE CA ZIP 95423

Signed Dan McMullen
WELL DRILLER/AUTHORIZED REPRESENTATIVE

DATE SIGNED 7-8-92

C-57 LICENSE NUMBER 533152

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page ___ of ___

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SEP 04 1992
D. W. R.

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 486027

DWR USE ONLY — DO NOT FILL IN
12N/08W-22M
STATE WELL NO./STATION NO.
LATITUDE ___ LONGITUDE ___
APN/TRS/OTHER

Owner's Well No. ___
Date Work Began 8-25-92 Ended 8-28-92
Local Permit Agency Lake County Environmental Health
Permit No. WE756 Permit Date 8-25-92

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER 225 (Ft.) BELOW SURFACE

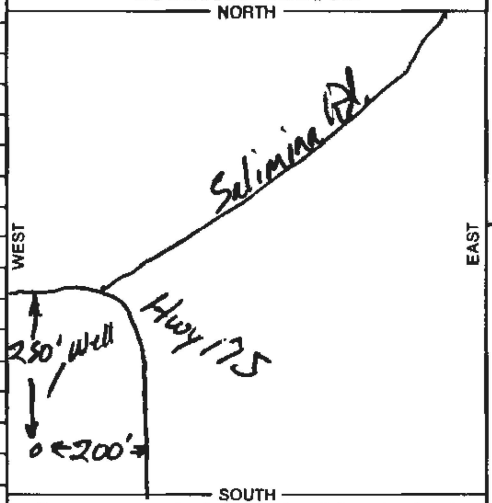
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 3 | Brn. Soil |
| 3 | 70 | Brn. Clay |
| 70 | 80 | Brn. Clay & Vol. Gravel |
| 80 | 110 | Gray Clay |
| 110 | 145 | Gray Clay |
| 145 | 210 | Sandstone Vol. Rock |
| 210 | 240 | Hard Black & Red Vol. Rock |

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

## WELL LOCATION

Address 10899 Hwy 175
City Kelseyville CA
County Lake
APN Book 114 Page 042 Parcel 09
or Township 12N Range 08W Section 22
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 (✓)
X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY (*Describe Procedures and Materials Under "GEOLOGIC LOG"*)

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

DRILLING METHOD Air FLUID ___

## WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 76' (Ft.) & DATE MEASURED 8-25-92
ESTIMATED YIELD* 100+ (GPM) & TEST TYPE Air lift
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

| DEPTH FROM SURFACE Ft. | to Ft. | BORE-HOLE DIA. (Inches) | CASING(S) TYPE (✓) BLANK | SCREEN | CON-DUCTOR | FILL PIPE | MATERIAL/ GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 200' | 9 | X | | | | PVC | 4½ | 160 | |
| 200 | 240 | 9 | | X | | | PVC | 4½ | 160 | 2X ⅛" |

| DEPTH FROM SURFACE Ft. | to Ft. | ANNULAR MATERIAL TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 22 | X | | | |
| 22 | 240 | | | X | Pea Gravel |

SEP 10 1992

## 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 Dan McMullen Well Drilling 1603
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 1487 Old Long Valley Rd. CITY Clearlake STATE CA ZIP 95423
Signed Dan McMullen 8-28-92
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED
C-57 LICENSE NUMBER 533152

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
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Page ___ of ___

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STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 486028

DWR USE ONLY — DO NOT FILL IN
12N/08W-22M
STATE WELL NO./STATION NO.
LATITUDE ___ LONGITUDE ___
APN/TRS/OTHER

Owner's Well No. ___
Date Work Began 8-27-92 Completed 8-28-92
Local Permit Agency Lake County Environmental Health
Permit No. WE 755 Permit Date 8-25-92

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER 120 (Ft.) BELOW SURFACE

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 3 | Black Soil |
| 3 | 12 | Clay |
| 12 | 35 | Clay |
| 35 | 45 | Very Hard Black Vol. Rock |
| 45 | 50 | Blue Sandy Clay |
| 50 | 140 | Black + Red Vol. Rock |

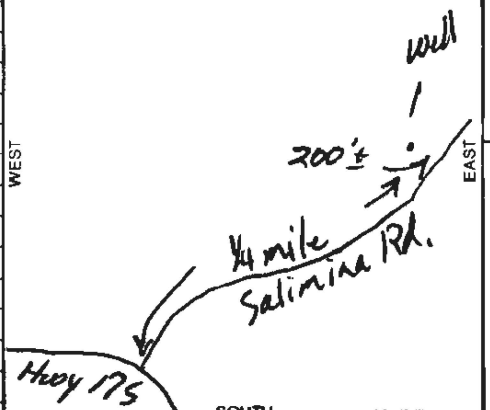
TOTAL DEPTH OF BORING 140 (Feet)
TOTAL DEPTH OF COMPLETED WELL 140 (Feet)

## WELL LOCATION

Address 10559 Soliminia Rd.
City Kelseyville
County Lake
APN Book 115 Page 009 Parcel 12
or Township 12N Range 08W Section 22
or Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

### LOCATION SKETCH

NORTH
WEST
EAST
SOUTH




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

### ACTIVITY (✓)

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

### PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
X Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD Air FLUID ___

### WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 40' (Ft.) & DATE MEASURED 8-28-92
ESTIMATED YIELD* 60 (GPM) & TEST TYPE Air Lift
TEST LENGTH 1 (Hrs.) TOTAL DRAWDOWN ___ (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 | 35 | 9 | X | | | | PVC | 4½ | 160 | |
| 35 | 100 | 7¾ | X | | | | PVC | 4½ | 160 | |
| 100 | 140 | 7½ | | X | | | PVC | 4½ | 160 | 2 x .10 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 26 | X | | | |
| 26 | 140 | | | X | 3/8 Pea Gravel |

SEP 10 1992

## 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 Dan McMullen Well Drilling 1603
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

14871 Old Long Valley Rd. Clearlake Oaks CA 95423
ADDRESS CITY STATE ZIP

Signed Dan McMullen 8-28-92 533152
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

JUL 17 1997

Page 1 of 2

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 509558

DWR USE ONLY — DO NOT FILL IN
12N/08W-10M
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. _____
Date Work Began 6/13/97 , Ended 7/1/97
Local Permit Agency LAKE CO. Environmental Health Dept.
Permit No. WE 1443 Permit Date 6/10/97

## GEOLOGIC LOG

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

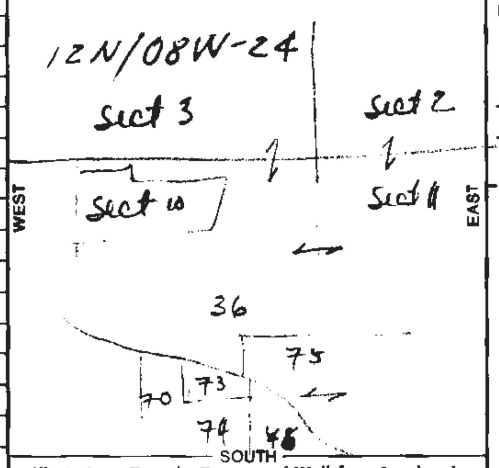
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 1½ | Road base |
| 1½ | 16 | Brown clays and loose volcanic conglomerates |
| 16 | 55 | Blue clays and multi-colored volcanic conglomerates |
| 55 | 95 | Hard, fractured, volcanic conglomerates |
| 95 | 120 | Hard and very hard volcanic conglomerates with seams of blue clay |

TOTAL DEPTH OF BORING 120 (Feet)
TOTAL DEPTH OF COMPLETED WELL 98½ (Feet)

## WELL LOCATION

Address 9500 Siegler Springs
City Kelseyville, CA
County LAKE 11-009-36
APN Book ___ Page ___ Parcel ___
or Township 12N Range 08W Section 10
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 (✓)

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

### PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
___ Domestic
___ Public
X Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD AIR ROTARY FLUID N/A

### WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 5'3" (Ft.) & DATE MEASURED 7/9/97
ESTIMATED YIELD* 1,530 (GPM) & TEST TYPE PUMP
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN 23'6" (Ft.)
* *May not be representative of a well's long-term yield.*

| DEPTH FROM SURFACE Ft. | to Ft. | BORE-HOLE DIA. (Inches) | CASING(S) TYPE (✓) BLANK | SCREEN | CONDUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 17½ | | | | | | | | |
| 20 | 80 | 14 | | | | | | | | |
| 80 | 100 | 12¼ | | | | | | | | |
| 100 | 120 | 9 7/8 | | | | | | | | |

** SEE PAGE 2 for REMAINDER of INFORMATION**

| DEPTH FROM SURFACE Ft. | to Ft. | ANNULAR MATERIAL TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 21 | X | | | |
| 21 | 98½ | | | X | PEA GRAVEL |

### ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
X Other Page 2

*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 AND PUMP CO. By Ward Thompson
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

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

Signed Ward Thompson WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED 7/14/97 C57 LICENSE NUMBER 177681

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

**WELL COMPLETION REPORT # 509558**

Job Location: 9500 Siegler Springs
Kelseyville, CA

**Page 2 of 2**

| DEPTH FROM SURFACE Ft. | to Ft. | BORE-HOLE DIA. (Inches) | CASING(S) TYPE (↙) BLANK | SCREEN | CON-DUCTOR | FILL PIPE | MATERIAL/ GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| +1½ | 60 | | X | | | | STEEL | 10 1/4 | .250 | |
| 95 | 97 | | X | | | | Steel | 10 1/4 | .250 | |
| 0 | 60 | | X | | | | Steel | 12 1/4 | .250 | CONDUCTOR |
| 60 | 95 | | | X | | | Steel | 10 1/4 | .250 | 1/8 x 1 Knife Perfs. |
| | | | | | | | | | | |
| | | | | | | | | | | |

ORIGINAL
File with DWR

NOV 05 2001

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

Page ___ of ___
Owner's Well No. ___
No. 705621
Date Work Began 9/27/01 Ended 10/11/01
Local Permit Agency Lake County Environmental Health
Permit No. WE 3089 Permit Date 10/2/01

DWR USE ONLY — DO NOT FILL IN
12N/08W-23M
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

## GEOLOGIC LOG

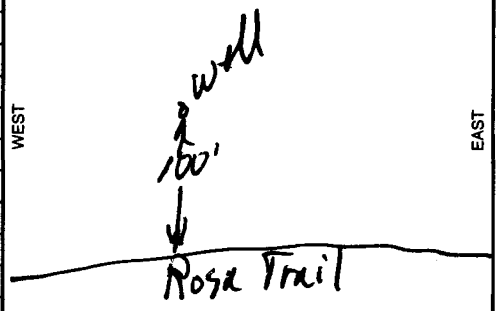
ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 5 | Gravelly Brn. Soil |
| 5 | 70 | Gravelly Brn. Clay |
| 70 | 130 | Yel. Boulders + Brn Clay |
| 130 | 260 | Black + Purple Broken Vol. Rock |
| 260 | 340 | Black Purple Broken Vol. Rock and yellow Silt. |

TOTAL DEPTH OF BORING 340 (Feet)
TOTAL DEPTH OF COMPLETED WELL 325 (Feet)

Address 10643 Rosa Trail
City Kelseyville CA
County Lake
APN Book 114 Page 031 Parcel 03
Township 12N Range 08W Section 23
Latitude ___ NORTH DEG. MIN. SEC. Longitude ___ WEST DEG. MIN. SEC.

### LOCATION SKETCH




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

### PLANNED USES (✓)
WATER SUPPLY
X 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 280 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 272 (Ft.) & DATE MEASURED 10/9/01
ESTIMATED YIELD * 20 (GPM) & TEST TYPE Air Lift
TEST LENGTH 1 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

| DEPTH FROM SURFACE Ft. | to Ft. | BORE-HOLE DIA. (Inches) | CASING (S) TYPE (✓) BLANK | SCREEN | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 130 | 9 | X | | | | PVC F480 | 4½ | SDR26 | |
| 130 | 305 | 7 | X | | | | PVC F480 | 4½ | SDR26 | |
| 305 | 325 | 7 | | X | | | PVC F480 | 4½ | SDR26 | 2K 1/8 |

| DEPTH FROM SURFACE Ft. | to Ft. | ANNULAR MATERIAL TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 325 | | | | Pea Gravel |

NOV 26 2001

### 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 Dan McMullen Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 1487 Old Long Valley Rd. CITY Clearlake Oaks STATE CA ZIP 95423
Signed Dan McMullen WELL DRILLER/AUTHORIZED REPRESENTATIVE
DATE SIGNED 10/11/01
C-57 LICENSE NUMBER 533152

DWR 188 REV. 11-97
IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

Page ___ of ___ Owner's Well No. ___ Date Work Began 4-24-99 Ended 5-3-99 No. 705627
Local Permit Agency Lake County Environmental Health
Permit No. WE 1681 Permit Date 4-23-99

DWR USE ONLY — DO NOT FILL IN
12N/08W-15M
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

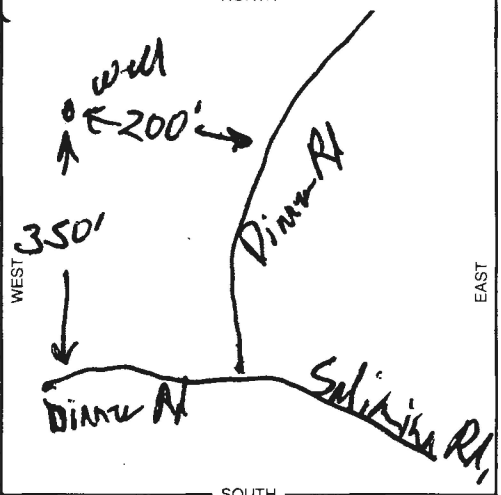
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 3 | Brn Soil |
| 3 | 9 | Yellow Clay |
| 9 | 12 | Vol. Gravel |
| 12 | 50 | Hard Black Vol. Rock |
| 50 | 70 | Pink+Red Vol. Ash |
| 70 | 99 | Black+Red Vol. Rock |
| 99 | 123 | Hard Black Vol Rock |
| 123 | 170 | Broken Black+Red Vol Rock |

TOTAL DEPTH OF BORING 170 (Feet)
TOTAL DEPTH OF COMPLETED WELL 168 (Feet)

## WELL LOCATION

Address 9724 Dinner Rd.
City Kelseyville
County Lake
APN Book 115 Page 08 Parcel 26
Township 12N Range 08W Section 15
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

### LOCATION SKETCH




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

### PLANNED USES (✓)
WATER SUPPLY
X 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 125 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL ___ (Ft.) & DATE MEASURED ___
ESTIMATED YIELD * 30 (GPM) & TEST TYPE Air-Lift
TEST LENGTH 1 (Hrs.) TOTAL DRAWDOWN ___ (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 | 148 | 9 | X | | | | PVC F480 | 4½ | SDR26 | |
| 148 | 168 | 9 | | X | | | PVC F480 | 4½ | SDR26 | 2K 1/8 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 168 | | | | Pea 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 Dan McMullen Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
1487 Old Long Valley Rd Clearlake Oaks CA 95423
ADDRESS CITY STATE ZIP
Signed ___ WELL DRILLER/AUTHORIZED REPRESENTATIVE
5-20-99 DATE SIGNED
533152 C-57 LICENSE NUMBER

ORIGINAL
File with DWR

APR 04 2002

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

Page ___ of ___
Owner's Well No. ___
No. 713305
Date Work Began 3-14-01 Ended 3-23-01
Local Permit Agency Health Dept.
Permit No. WE-2047 Permit Date 1-4-01

DWR USE ONLY — DO NOT FILL IN
12N/08W-11
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD air rotary FLUID ___

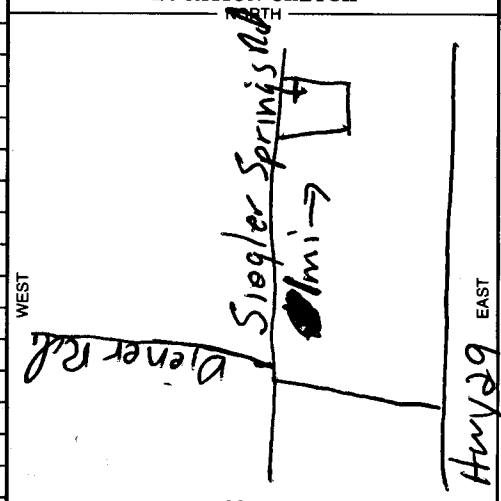
| DEPTH FROM SURFACE Ft. to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|
| 0 25 | Red Soil w/ Clay |
| 25 70 | Broken Basalt & Red Vol. |
| 70 140 | No Returns |
| 140 350 | Brown-Red-Tan Soft Rock |
| 350 385 | Dark Brown, Red, White, Blue, Soft rock |
| 385 395 | Hard Gray rock |

TOTAL DEPTH OF BORING 395 (Feet)
TOTAL DEPTH OF COMPLETED WELL 395 (Feet)

## WELL LOCATION

Address 10080 Siegler Springs Rd. N.
City Kelseyville
County Lake
APN Book 011 Page 047 Parcel 020
Township 12N Range 8W Section 11
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

### LOCATION SKETCH




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

### PLANNED USES (✓)
WATER SUPPLY
X 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 320 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 240 (Ft.) & DATE MEASURED 3-21-01
ESTIMATED YIELD * 50 (GPM) & TEST TYPE air lift
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

| DEPTH FROM SURFACE Ft. to Ft. | BORE-HOLE DIA. (Inches) | CASING (S) TYPE (✓) BLANK | SCREEN | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|
| 0 20 | 9" | X | | | | PVC F480 | 4 1/2 | 160 | |
| 20 335 | 7" | X | | | | " " | " | " | |
| 335 395 | 7" | | X | | | " " | " | " | 48 |

| DEPTH FROM SURFACE Ft. to Ft. | ANNULAR MATERIAL TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 20 | X | | | |
| 20 395 | | | 5/16 Pea | |

## 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 13011 Hwy 29 CITY Lowerlake STATE Ca ZIP 95457
Signed Larry Herman (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 3-25-01 C-57 LICENSE NUMBER 465071

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

APR 04 2002

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 713306

DWR USE ONLY — DO NOT FILL IN
12N/08W-11
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page ___ of ___
Owner's Well No. ___
Date Work Began 3-22-01 Ended 4-20-01
Local Permit Agency Health Dept.
Permit No. WE-3015 Permit Date 3-22-01

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD air rotary FLUID ___

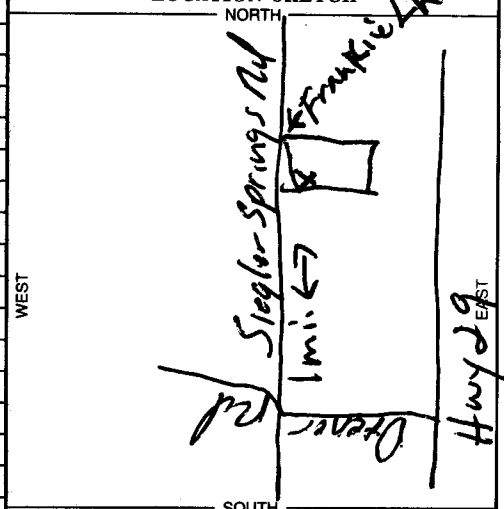
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 110 | Broken Basalt |
| 110 | 287 | Broken light weight Gray metamorphic Rock |

TOTAL DEPTH OF BORING 290 (Feet)
TOTAL DEPTH OF COMPLETED WELL 287 (Feet)

## WELL LOCATION

Address 19650 Siegler Springs Rd N.
City Kelseyville
County Lake
APN Book 11 Page 009 Parcel 82
Township 12N Range 8W Section 11
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

### LOCATION SKETCH




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

### PLANNED USES (✓)
WATER SUPPLY
X 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 240 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 240 (Ft.) & DATE MEASURED 4-16-01
ESTIMATED YIELD * 30 (GPM) & TEST TYPE air lift
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

| DEPTH FROM SURFACE Ft. | to Ft. | BORE-HOLE DIA. (Inches) | CASING (S) TYPE (✓) BLANK | SCREEN | CONDUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 9" | X | | | | PVC F480 | 4½ | 160 | |
| 20 | 272 | 7" | X | | | | " | " | " | |
| 272 | 287 | 7" | | X | | | " | " | " | 18 |

| DEPTH FROM SURFACE Ft. | to Ft. | ANNULAR MATERIAL TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 287 | | | | 5/16 Pea |

APR 17 2002

## 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 13011 Hwy 29 CITY Lower Lake STATE Ca ZIP 95457
Signed Larry Herman (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 4-20-01 C-57 LICENSE NUMBER 465071

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

RECEIVED
MAY 20 1999

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 713834

DWR USE ONLY — DO NOT FILL IN
12N/08W-14M
STATE WELL NO./STATION NO.
LATITUDE | LONGITUDE
APN/TRS/OTHER

Page ___ of ___
Owner's Well No. #1
Date Work Began 3/12/99, Ended 4/14/99
Local Permit Agency LAKE COUNTY HEALTH DEPARTMENT
Permit No. WE1529 Permit Date 4/14/99

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD AIR ROTARY FLUID POLY-JEL

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 39 | Red clay, Cobble & Boulder |
| 39 | 420 | Red, Gray, Maroon volcanic rock and yellow, green, gray volcanic rock. |

TOTAL DEPTH OF BORING 420' (Feet)
TOTAL DEPTH OF COMPLETED WELL 420' (Feet)

## WELL LOCATION

Address 10234 Diener Drive,
City Kelseyville, California 95451
County LAKE
APN Book 114, Page 080, Parcel 03
Township 12N Range 08W Section 14
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

## 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 (✓)

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

## PLANNED USES (✓)

WATER SUPPLY
X 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 340-360' (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 300' (Ft.) & DATE MEASURED 4/14/99
ESTIMATED YIELD * 50 (GPM) & TEST TYPE AIR LIFT
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN 415' (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 | 20 | 12 1/4 | | | | | | | | |
| 20 | 240 | 9 7/8 | | | | | | | | |
| 0 | 20 | 9 7/8 | | | | | | | | |
| +3 | 417 | | X | | | | Steel | 6 5/8 | .250 | |
| 320 | 415 | | | X | | | | | | Mechanical Perf. |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 420 | | | | |
| | | | MAY 25 1999 | | |

## 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 WEEKS DRILLING AND PUMP COMPANY
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS P.O. BOX 176, SEBASTOPOL, CALIFORNIA 95473

Signed WARD THOMPSON By: THURMAN ADAMS
WELL DRILLER/AUTHORIZED REPRESENTATIVE

DATE SIGNED 4/26/99

STATE ___ ZIP ___

C-57 LICENSE NUMBER 177681

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR
Page of
Owner's Well No.

JAN 1 8 2003

# WELL COMPLETION REPORT

No. 756156

3-29-02 4-5-02
Health Dept
WE-3146 3-28-02

GEOLOGIC LOG

X
air rotary

DESCRIPTION

0 2 Top soil
3 440 Basalt
440 470 Gray Rock
470 500 Multi-Colored Sutter Rock

500
500

WELL LOCATION

10180 Siegler Spring Ekl. N.
Kelseyville
Lake
011 047 04
122 11

LOCATION SKETCH

Siegler Spring
Bruce Rd

ACTIVITY

X

PLANNED USES

X

PLEASE BE ACCURATE & COMPLETE

WATER LEVEL & YIELD OF COMPLETED WELL

380 1 gpm
265 4-5 [illegible]
40 air lift
2

CASING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0 | 20 | 9" | X | PVC | 4½ | 160 | |
| 20 | 440 | 7" | X | " | " | " | |
| 440 | 500 | 7" | X | " | " | " | 48 |

ANNULAR MATERIAL

| | | | |
|---|---|---|---|
| 0 | 20 | X | |
| 20 | 500 | | 5/16 Pea |

ATTACHMENTS

CERTIFICATION STATEMENT

Larry Herman Drilling
1301 Hwy 29 Lower Lake CA 95457
[signature] 4-7-02 465 011

ORIGINAL
File with DWR

# WELL COMPLETION REPORT

No. 756184

10-24-02 10-30-02
Health Dept.
WE-3251 10-24-02

GEOLOGIC LOG

air rotary

DESCRIPTION

| | | |
|---|---|---|
| 0 | 4 | Red Top soil |
| 4 | 10 | White Ash |
| 10 | 40 | Broken Basalt |
| 40 | 105 | Broken red & blue Basalt |
| 105 | 325 | reddish Blue Basalt |
| 325 | 500 | Basalt med. Hardness |

air lift test

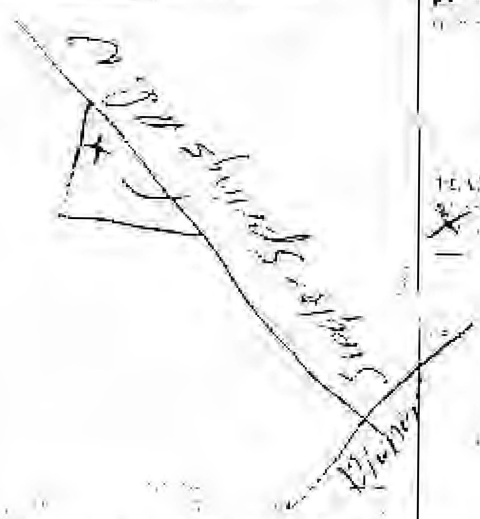
336 ft. = 20 gpm
419 ft. = 30 gpm
477 ft. = 50 gpm

500
500

WELL LOCATION

102 83 Siegler Springs N.
Kelseyville
Lake
011 009 81
12 N 8 W 14

LOCATION SKETCH




ACTIVITY

X

PLANNED USES

X

PLEASE PUBLICATE COMPLETE

WATER LEVEL & METHOD COMPLETED WELL

325
300 10-29-02
50 air lift
4

CASING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0 | 20 | 9 | X | PVC | 4 1/2 | 160 | |
| 20 | 300 | 7 | X | " | " | " | |
| 300 | 390 | 7 | X | " | " | 200 | .030 |
| 390 | 480 | 7 | X | " | " | 160 | |
| 480 | 500 | 7 | X | " | " | 200 | .030 |

ANNULAR MATERIAL

| | | |
|---|---|---|
| 0 | 20 | X |
| 20 | 500 | 5/16 Pea |

ATTACHMENTS

CERTIFICATION STATEMENT

Larry Herman Drilling
13011 Hwy 29 Lower Lake Ca 95457
Larry Herman 11-1-02 465071

ORIGINAL
File with DWR

Page ___ of ___

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 756807

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

Owner's Well No. ___
Date Work Began 6/19/04 Ended 6/30/04
Local Permit Agency Lake County Environmental Health
Permit No. WE3477 Permit Date 6/17/04

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

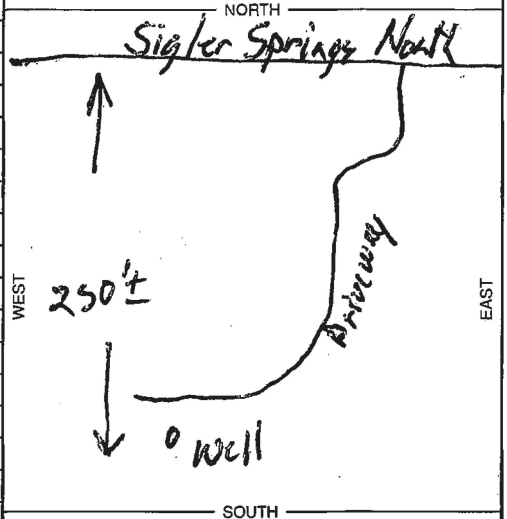
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 5 | Red soil |
| 5 | 10 | Red clay |
| 10 | 60 | Red clay Vol. boulders |
| 60 | 485 | Black + Purple Vol. Rock |

TOTAL DEPTH OF BORING 485 (Feet)
TOTAL DEPTH OF COMPLETED WELL 485 (Feet)

## WELL LOCATION

Address 10235 Sigler Springs North
City Kelseyville
County Lake
APN Book 011 Page 040 Parcel 008
Township 12N Range 8W Section 01
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

## LOCATION SKETCH




*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 (✓)

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

## PLANNED USES (✓)

WATER SUPPLY
X 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 400? (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 340 (Ft.) & DATE MEASURED 6/25/04
ESTIMATED YIELD * 45 (GPM) & TEST TYPE Air Lift
TEST LENGTH 1 (Hrs.) TOTAL DRAWDOWN ___ (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 | 60 | 9 | X | | | | PVC F480 | 4½ | SDR26 | |
| 60 | 485 | 7 | X | | | | PVC F480 | 4½ | SDR26 | |
| 445 | 485 | 7 | | X | | | PVC F480 | 4½ | SDR26 | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 22 | X | | | |
| 22 | 485 | | | | Pea 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 Dan McMullen Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 1467 Old Long Valley Rd. CITY Clearlake Oaks STATE CA ZIP 95423
Signed Dan McMullen WELL DRILLER/AUTHORIZED REPRESENTATIVE
DATE SIGNED 7/19/04
C-57 LICENSE NUMBER 533152

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. 0916393

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

Owner's Well No. Well #1
Date Work Began 10/4/2006, Ended 10/6/2006
Local Permit Agency Lake County Environmental
Permit No. WE3766 Permit Date 8/8/2006

## 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 | 30 | Dark brown clay |
| 30 | 70 | Tan clay with gravels |
| 70 | 100 | Hard sandstone |

TOTAL DEPTH OF BORING 100 (Feet)
TOTAL DEPTH OF COMPLETED WELL 100 (Feet)

## WELL LOCATION

Address 9790 Hwy 175
City Kelseyville CA
County Lake County
APN Book 115 Page 003 Parcel 21
Township 12N Range 8W Section 15
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
DEPTH OF STATIC WATER LEVEL 15 (Ft.) & DATE MEASURED 10/6/2006
ESTIMATED YIELD * 5 (GPM) & TEST TYPE Air Developed
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN 100 (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 | 20 | 11" | | | | | | | | |
| 20 | 100 | 7-7/8" | | | | | | | | |
| +3 | 100 | | ✓ | | | | PVC | 5 | SDR21 | |
| 40 | 100 | | | ✓ | | | | | | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | ✓ | | | |
| 20 | 23 | | ✓ | | |
| 23 | 100 | | | ✓ | 3/8 Gravel |

## 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 Melissa G Lopez
WELL DRILLER/AUTHORIZED REPRESENTATIVE
10/10/06 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

JUL 03 2014

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 0951437

DWR USE ONLY — DO NOT FILL IN
12-N/08W-10
STATE WELL NO./STATION NO.
LATITUDE | LONGITUDE
APN/TRS/OTHER

Page ___ of ___
Owner's Well No. ___
Date Work Began 5/13/2014, Ended 5/20/2014
Local Permit Agency ___
Permit No. ___ Permit Date ___

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 3 | Red soil |
| 3 | 11 | Red Clay like ash |
| 11 | 90 | Gray + Purple Broken Vol. Rock |
| 90 | 271 | Brown, Gray, Purple Vol. Rock |
| 271 | 330 | Brown Broken very Rusty Vol Rock |
| 330 | 502 | Brown + Gray Vol. Rock w/ some rust stains |

TOTAL DEPTH OF BORING 502 (Feet)
TOTAL DEPTH OF COMPLETED WELL 502 (Feet)

## WELL LOCATION

Address 9570 Sigler Springs North
City Kelseyville
County Lake
APN Book 011 Page 069 Parcel 400
Township 12-N Range 08W Section 10
Lat ___ DEG. ___ MIN. ___ SEC. N
Long ___ DEG. ___ MIN. ___ SEC. W

### LOCATION SKETCH

NORTH
WEST
EAST
well
9
400' ±
Sigler Springs North
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 (✓)

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

### USES (✓)

WATER SUPPLY
X 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 340± (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 290 (Ft.) & DATE MEASURED 5/23/2014
ESTIMATED YIELD * 10 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 30 | 9 | X | | | | PVC/F480 | 4½ | SDR26 | |
| 30 | 400 | 7 | X | | | | 〃 | 〃 | 〃 | |
| 400 | 500 | 7 | | X | | | 〃 | 〃 | 〃 | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 1 | X | | | |
| 1 | 23 | | X | | |
| 23 | 502 | | | | Pea 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 Dan McMullen Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS P.O. Box 951 CITY Lower Lake STATE CA ZIP 95457
Signed Dan L Mull C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 5/23/2014 C-57 LICENSE NUMBER 533152

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

OSP 03 78836

**ORIGINAL**
**File with DWR**

AUG 18 2014

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 0951446

DWR USE ONLY — DO NOT FILL IN
12N/ 8W-15 DWR
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page ___ of ___
Owner's Well No. ___
Date Work Began 7/29/2014 Ended 8/14/2014
Local Permit Agency Lake County Environmental Health
Permit No. WE 4479 Permit Date 7/21/2014

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Mud

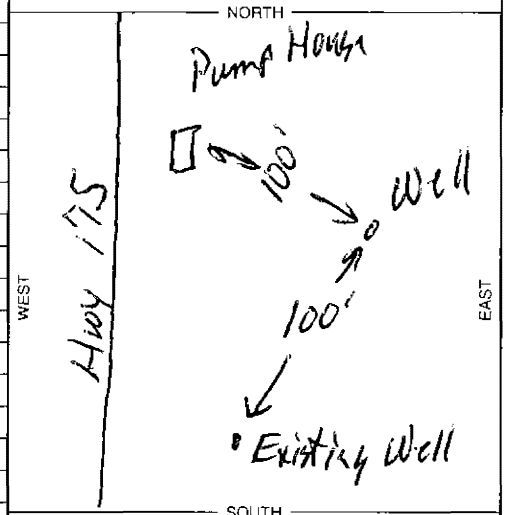
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 5 | Gravely Gray Soil |
| 5 | 18 | Gravely Gray Clay |
| 18 | 41 | Gravely Brown Clay |
| 41 | 90 | Brown + Gray Vol. rock |
| 90 | 220 | Black, Brown, Pink Vol. Rock |

TOTAL DEPTH OF BORING 220 (Feet)
TOTAL DEPTH OF COMPLETED WELL 220 (Feet)

## WELL LOCATION

Address 9574 Hwy 175
City Kelseyville
County Lake
APN Book 115 Page 003 Parcel 420
Township 12N Range 08W Section 15
Lat ___ DEG. ___ MIN. ___ SEC. N Long ___ DEG. ___ MIN. ___ SEC. W

## LOCATION SKETCH




*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 (✓)

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

**USES (✓)**
WATER SUPPLY X
___ 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 50± (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 49 (Ft.) & DATE MEASURED 8/14/2014
ESTIMATED YIELD 25 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 120 | 9 | X | | | | PVC/F480 | 5 | SDR21 | |
| 120 | 220 | 9 | | X | | | 〃 | 〃 | 〃 | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CE-MENT (✓) | BEN-TONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 1 | X | | | |
| 1 | 50 | | X | | |
| 50 | 230 | | | | Peagravel |

## 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 Dan Mc Mullen Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS P.O. Box 951 CITY Lower Lake STATE CA ZIP 95457
Signed Dan L Mullen C-57 LICENSED WATER WELL CONTRACTOR DATE SIGNED 8/13/2014 C-57 LICENSE NUMBER 533152

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 78836

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*
No. 0963054

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

Page ___ of ___
Owner's Well No. ___
Date Work Began 9/10/2013 Ended 9/13/2013
Local Permit Agency Lake County Environmental Health
Permit No. WE 4412-P Permit Date 9/10/2013

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

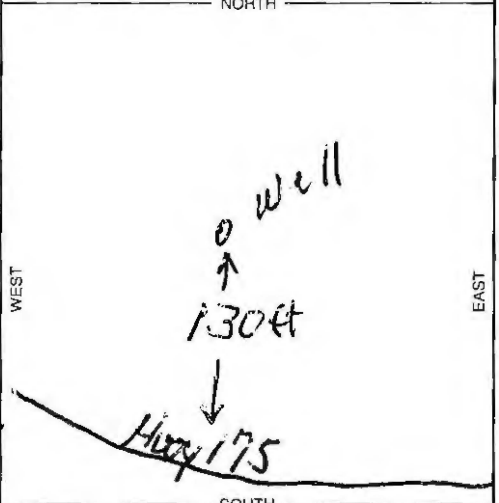
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 2 | Brown Soil |
| 2 | 15 | Brown Clay with Vol. gravel and Boulders |
| 15 | 29 | Hard Gray Vol. rock |
| 29 | 43 | Red Clay with some Vol. gravel |
| 43 | 56 | Tan Clay like Ash and Vol. gravel |
| 56 | 70 | Red Clay like Ash and Vol. gravel |
| 70 | 102 | Tan Clay like Ash and Vol. gravel |
| 102 | 132 | Purple Vol. Rock |
| 132 | 160 | Black and Purple Vol. Rock |

TOTAL DEPTH OF BORING 160 (Feet)
TOTAL DEPTH OF COMPLETED WELL 154 (Feet)

## WELL LOCATION

Address 10848 Hwy 175
City Kelseyville
County Lake
APN Book 115 Page 009 Parcel 130
Township 12N Range 08W Section 15
Lat ___ DEG. ___ MIN. ___ SEC N Long ___ DEG. ___ MIN. ___ SEC W

LOCATION SKETCH




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

USES (✓)
WATER SUPPLY
___ Domestic X 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 21 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 38 (Ft.) & DATE MEASURED 9/12/2013
ESTIMATED YIELD 17 (GPM) & TEST TYPE Air Lift
TEST LENGTH 1/2 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 58 | 9 | X | | | | PVC F480 | 4½ | SDR26 | |
| 58 | 134 | 8 | X | | | | " " | " | " | |
| 134 | 154 | 8 | | X | | | " " | " | " | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 1 | X | | | |
| 1 | 51 | | X | | |
| 51 | 154 | | | | pea 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 Dan McMullen Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS P.O. Box 951 CITY Lower Lake STATE CA ZIP 95457
Signed Dan L McMullen C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 9/13/2013 C-57 LICENSE NUMBER 533152

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 78836

115-007-01

**QUADRUPLICATE**
**For Local Requirements**

Page ___ of ___
Owner's Well No. ___
Date Work Began 5/2/07, Ended 5/11/07
Local Permit Agency Lake County Environmental Health
Permit No. WE 3803 Permit Date 12/21/06

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*
No. 1089145

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

## GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID ___

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 3 | Red Soil |
| 3 | 12 | Red Clay |
| 12 | 40 | Tan Clay |
| 40 | 280 | Gray and Purple and White Soft Broken Vol. Rock |
| 280 | 290 | Black Vol. Rock and Blue Clay |
| 290 | 360 | Black Vol. Rock Broken |

RECEIVED
MAY 11 2007
Environmental Health

TOTAL DEPTH OF BORING 360 (Feet)
TOTAL DEPTH OF COMPLETED WELL 346 (Feet)

## WELL OWNER

Name Jerry and Stephanie Guaiumi
Mailing Address 4[illegible] Pine St.
Mill Valley CA 94941
CITY STATE ZIP

## WELL LOCATION

Address 11435 Sigler Springs North
City Kelseyville
County Lake
APN Book 115 Page 007 Parcel 01
Township ___ Range ___ Section ___
Lat. ___ DEG. ___ MIN. ___ SEC. N Long ___ DEG. ___ MIN. ___ 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")

## 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 325 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 279 (Ft.) & DATE MEASURED 5/10/07
ESTIMATED YIELD * 40+ (GPM) & TEST TYPE Air Lift
TEST LENGTH 1/2 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 40 | 9 | X | | | | PVC F480 | 4½ | SDR26 | |
| 40 | 326 | 7 | X | | | | PVC F480 | 4½ | SDR26 | |
| 326 | 346 | 7 | | X | | | PVC F480 | 4½ | SDR26 | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CE-MENT (✓) | BEN-TONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 22 | | X | | |
| 22 | 346 | | | | Pea 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 Dan McMullen Well Drilling
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
1487 Old Long Valley Rd Clearlake Oaks CA 95423
ADDRESS CITY STATE ZIP

Signed [signature] 5/11/07 583152
C-57 LICENSED WATER WELL CONTRACTOR DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

**ORIGINAL**
**File with DWR**

Page ___ of ___

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 1093066

DWR USE ONLY — DO NOT FILL IN
12N/08W/11
STATE WELL NO./STATION NO.
LATITUDE | LONGITUDE
APN/TRS/OTHER

Owner's Well No. ___
Date Work Began 3/29/06, Ended 4/18/06
Local Permit Agency Health Dept.
Permit No. WE-3703 Permit Date 3-22-06

## GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Air Rotary FLUID ___

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 95 | Loose Soft Tan Red Volcanic |
| 95 | 300 | Red Blue Tan Volcanics |
| 300 | 450 | Gray + Blue Basalt |
| 450 | 490 | Gray Basalt w/ Tan Clay Layers |

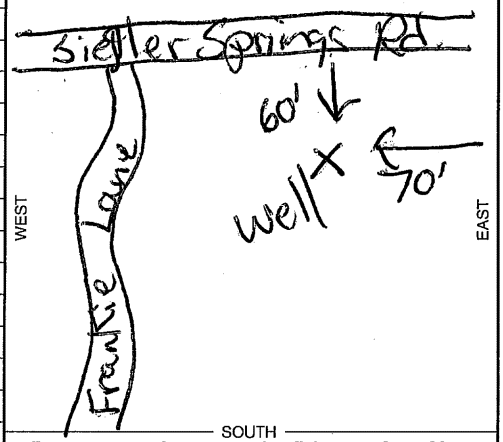
CONFIDENTIAL NOT FOR PUBLIC INSPECTION WATER CODE SECTION

TOTAL DEPTH OF BORING 490 (Feet)
TOTAL DEPTH OF COMPLETED WELL 490 (Feet)

## WELL LOCATION

Address 10550 Seigler Springs Rd.
City Kelseyville Ca 95451
County Lake
APN Book 011 Page 009 Parcel 83
Township 12N Range 8W Section 4 11
Lat ___ DEG. ___ MIN. ___ SEC. N
Long ___ DEG. ___ MIN. ___ SEC. W

### LOCATION SKETCH




*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")*

### 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 230 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 200 (Ft.) & DATE MEASURED 4-15-06
ESTIMATED YIELD * 70 (GPM) & TEST TYPE AIR LIFT
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

| DEPTH FROM SURFACE Ft. | to Ft. | BORE-HOLE DIA. (Inches) | CASING (S) TYPE (✓) BLANK | SCREEN | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 270 | 9" | X | | | | PVC | 4½" | 160 | |
| 270 | 290 | 7" | | X | | | PVC | " | 200 | .032 |
| 290 | 370 | 7" | X | | | | PVC | " | 160 | |
| 370 | 390 | 7" | | X | | | PVC | " | 200 | .032 |
| 390 | 470 | 7" | X | | | | PVC | " | 160 | |
| 470 | 490 | 7" | | X | | | PVC | " | 200 | .032 |

| DEPTH FROM SURFACE Ft. | to Ft. | ANNULAR MATERIAL TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | ✓ | | | |
| 20 | 490 | | 5/16 | | Pea 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS P.O. Box 1152 CITY Lower Lake STATE Ca ZIP 95457
Signed Larry Herman C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 4-25-06
C-57 LICENSE NUMBER 465071

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

OSP 03 788

**ORIGINAL**
**File with DWR**

Page ___ of ___
Owner's Well No. ___
Date Work Began 5-1-06, Ended 5-5-06
Local Permit Agency Health Dept
Permit No. WE 3641 Permit Date 9-23-05

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*
No. 1093068

DWR USE ONLY — DO NOT FILL IN
12N / 08W / 23
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

## GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Air Rotary FLUID ___

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 40 | Brown Ash / Brown Volcanic |
| 40 | 70 | Blue / Red Volcanic |
| 70 | 95 | Brown Ash / Loose blue / Red Volcanic |
| 95 | 115 | Blue Red Volcanic |
| 115 | 125 | White Volcanic + Blue |
| 125 | 190 | White + Blue Volcanic |
| 190 | 220 | Blue + Red Volcanic |

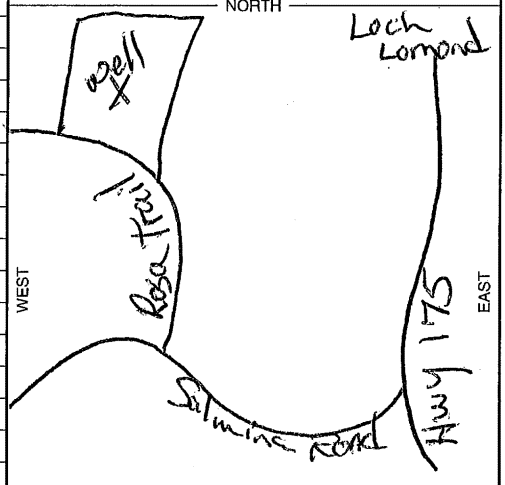
TOTAL DEPTH OF BORING 220 (Feet)
TOTAL DEPTH OF COMPLETED WELL 215 (Feet)

NOT CONFIDENTIAL WATER CODE SEC

## WELL LOCATION

Address 10475 Rosa Trail
City Kelseyville Ca 95451
County Lake
APN Book 114 Page 051 Parcel 02
Township 12N Range 8W Section 23
Lat ___ DEG. ___ MIN. ___ SEC. N Long ___ DEG. ___ MIN. ___ SEC. W

## LOCATION SKETCH




*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")*

## 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 185 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 150 (Ft.) & DATE MEASURED 5-5-06
ESTIMATED YIELD * 10 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 40 | 9 | X | | | | PVC | 4½" | 160 | |
| 40 | 175 | 7 | X | | | | PVC | 4½" | 160 | |
| 175 | 215 | 7 | | X | | | PVC | 4½" | 200 | .030 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CE-MENT (✓) | BEN-TONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 25 | ✓ | | | |
| 25 | 215 | 5/16 | | | pea 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 Larry Herman Drilling
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
PO Box 1152 Lower Lake Ca 95457
ADDRESS CITY STATE ZIP
Signed [signature] 5-8-06 465071
C-57 LICENSED WATER WELL CONTRACTOR DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 78836

**ORIGINAL**
**File with DWR**

Page ___ of ___
Owner's Well No. ___
Date Work Began 3-13-07, Ended 3-16-07
Local Permit Agency Health Dept.
Permit No. WE-3828 Permit Date 2-8-07

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*
No. 1093128

DWR USE ONLY — DO NOT FILL IN
12N/08W/13
STATE WELL NO./STATION NO.
LATITUDE ___ LONGITUDE ___
APN/TRS/OTHER

## GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Mud Rotary FLUID ___

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 100 | Rock Gray |
| 100 | 140 | Purple/Brown Rock |
| 140 | 160 | Rock with Clay |

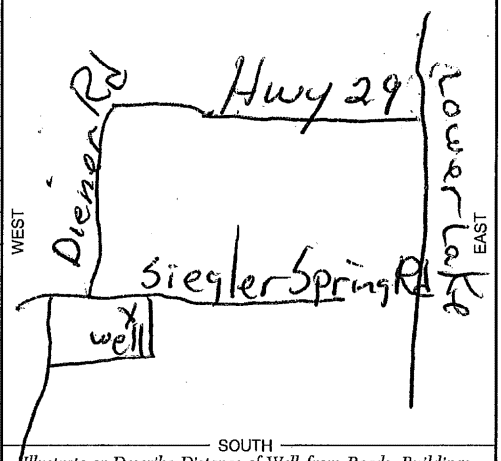
TOTAL DEPTH OF BORING 160 (Feet)
TOTAL DEPTH OF COMPLETED WELL 160 (Feet)

NOT FOR PUBLIC DISCLOSURE CONFIDENTIAL PER WATER CODE SECTION 13752

## WELL LOCATION

Address 11135 Siegler Springs Rd.
City Kelseyville Ca 95451
County Lake
APN Book 115 Page 006 Parcel 02
Township 12N Range 8W Section 13
Lat ___ DEG. ___ MIN. ___ SEC. N
Long ___ DEG. ___ MIN. ___ SEC. W

## LOCATION SKETCH




*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")*

## 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 80 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 36 (Ft.) & DATE MEASURED 3-16-06
ESTIMATED YIELD * 100 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 115 | 7 3/8 | X | | | | PVC | 4 1/2" | 160 | |
| 115 | 155 | 7 3/8 | | X | | | PVC | 4 1/2" | 200 | .030 |
| 155 | 160 | 7 3/8 | X | | | | PVC | 4 1/2" | 160 | |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | ✓ | | | |
| 20 | 160 | | | 5/16 | Pea 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS P.O. Box 1152 CITY Lower Lake STATE Ca ZIP 95457
Signed Larry Herman C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 3-21-07 C-57 LICENSE NUMBER 465071

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 78836

ORIGINAL
File with DWR AUG 14 2014

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. e0224356

DWR USE ONLY --- DO NOT FILL IN
12N | 08W | 15
STATE WELL NO./ STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER



Owner's Well No. WELL #1
Date Work Began 7/16/2014, Ended 7/21/2014
Local Permit Agency Lake County Environmental
Permit No. WE 4473 Permit Date 6/16/2014

## 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 | 5 | Brown clay |
| 5 | 24 | Brown clay and boulders |
| 24 | 82 | White volcanic rock |
| 82 | 110 | Clay and volcanic rock |
| 110 | 182 | Sandy clay embedded rock |
| 182 | 200 | Loose volcanic rock |
| 200 | 220 | Clay and volcanic rock |
| 220 | 230 | Loose volcanic rock |
| 230 | 255 | Clay and volcanic rock |
| 255 | 260 | Hard volcanic rock |

TOTAL DEPTH OF BORING 260 (Feet)
TOTAL DEPTH OF COMPLETED WELL 245 (Feet)

## WELL OWNER

CITY STATE ZIP

## WELL LOCATION

Address 10536 Highway 175
City Kelseyville CA
County Lake
APN Book 115 Page 009 Parcel 08 D
Township 12N Range 08W Section 15
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 ___ Industrial
___ Irrigation
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 34 (Ft.) & DATE MEASURED 7/21/2014
ESTIMATED YIELD * 20+ (GPM) & TEST TYPE Air Developed
TEST LENGTH 1.5 (Hrs.) TOTAL DRAWDOWN 200 (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 | 20 | 11 | | | | | | | | |
| 20 | 60 | 8 | | | | | | | | |
| 60 | 260 | 7 7/8 | | | | | | | | |
| +2 | 80 | | ✓ | | | | PVC | 5 | SDR21 | |
| 80 | 100 | | | ✓ | | | PVC | 5 | SDR21 | .032 |
| 100 | 140 | | ✓ | | | | PVC | 5 | SDR21 | |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 3 | ✓ | | | CONCRETE |
| 3 | 23 | | ✓ | | |
| 23 | 245 | | | ✓ | #6 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
08/08/14 DATE SIGNED
177681 C-57 LICENSE NUMBER


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. e0224356

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

Owner's Well No. WELL #1
Date Work Began 7/16/2014, Ended 7/21/2014
Local Permit Agency Lake County Environmental
Permit No. WE 4473 Permit Date 6/16/2014

## 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 | 5 | Brown clay |
| 5 | 24 | Brown clay and boulders |
| 24 | 82 | White volcanic rock |
| 82 | 110 | Clay and volcanic rock |
| 110 | 182 | Sandy clay embedded rock |
| 182 | 200 | Loose volcanic rock |
| 200 | 220 | Clay and volcanic rock |
| 220 | 230 | Loose volcanic rock |
| 230 | 255 | Clay and volcanic rock |
| 255 | 260 | Hard volcanic rock |

TOTAL DEPTH OF BORING 260 (Feet)
TOTAL DEPTH OF COMPLETED WELL 245 (Feet)

## WELL OWNER

CITY STATE ZIP

## WELL LOCATION

Address 10536 Highway 175
City Kelseyville CA
County Lake
APN Book 115 Page 009 Parcel 08
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 34 (Ft.) & DATE MEASURED 7/21/2014
ESTIMATED YIELD 20+ (GPM) & TEST TYPE Air Developed
TEST LENGTH 1.5 (Hrs.) TOTAL DRAWDOWN 200 (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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 140 | 160 | | | ✓ | | | PVC | 5 | SDR21 | .032 |
| 160 | 180 | | ✓ | | | | PVC | 5 | SDR21 | |
| 180 | 200 | | | ✓ | | | PVC | 5 | SDR21 | .032 |
| 200 | 220 | | ✓ | | | | PVC | 5 | SDR21 | |
| 220 | 240 | | | ✓ | | | PVC | 5 | SDR21 | .032 |
| 240 | 245 | | ✓ | | | | PVC | 5 | SDR21 | |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 3 | ✓ | | | CONCRETE |
| 3 | 23 | | ✓ | | |
| 23 | 245 | | | ✓ | #6 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 ___ 08/08/14 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

ORIGINAL
File with DWR

DEC 12 2014

Page 1 of 1

# STATE OF CALIFORNIA
# WELL COMPLETION REPORT

*Refer to Instruction Pamphlet*

No. e0242689

DWR USE ONLY — DO NOT FILL IN

12N/08W-14

STATE WELL NO./ STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Owner's Well No. WELL #1

Date Work Began 10/8/2014, Ended 10/10/2014

Local Permit Agency Lake County Environmental

Permit No. WE 4494 Permit Date 8/26/2014

## 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 | 14 | Red ash and boulders |
| 14 | 43 | Red ashy clay |
| 43 | 287 | Light gray pumice and gray volcanic rock |
| 287 | 377 | Dirty white pumice and gray volcanic rock |
| 377 | 440 | Gray and multi-colored volcanic rock |

TOTAL DEPTH OF BORING 440 (Feet)

TOTAL DEPTH OF COMPLETED WELL 435 (Feet)

## WELL OWNER

CITY STATE ZIP

## WELL LOCATION

Address 9612 Salmina Road

City Kelseyville CA

County Lake

APN Book 115 Page 003 Parcel 380

Township 12N Range 08W Section 14

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 340 (Ft.) BELOW SURFACE 1

DEPTH OF STATIC WATER LEVEL 320 (Ft.) & DATE MEASURED 10/10/2014

ESTIMATED YIELD 75+ (GPM) & TEST TYPE Air Developed

TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN 420 (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 | 22 | 11 | | | | | | | | |
| 22 | 440 | 8 | | | | | | | | |
| +2 | 315 | | ✓ | | | | PVC | 5 | SDR21 | |
| 315 | 435 | | | ✓ | | | PVC | 5 | SDR21 | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 1 | ✓ | | | CONCRETE |
| 1 | 23 | | ✓ | | |
| 23 | 435 | | | ✓ | 3/8 Pea Gravel |

## 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 June Angelini WELL DRILLER/AUTHORIZED REPRESENTATIVE

11/25/14 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

DEC 12 2014

Page 1 of 1

# STATE OF CALIFORNIA
# WELL COMPLETION REPORT

*Refer to Instruction Pamphlet*

No. e0245591

DWR USE ONLY — DO NOT FILL IN
12N/08W-10
STATE WELL NO./ STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

**Owner's Well No.** WELL #1

Date Work Began 10/10/2014, Ended 10/30/2014

Local Permit Agency Lake County Environmental

Permit No. WE-4464 Permit Date 4/8/2014

## 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 | 41 | Sandy red ash/clay |
| 41 | 63 | Red ash and lava rock |
| 63 | 93 | Extra loose red and black lava rock |
| 93 | 102 | Hard gray volcanic rock |
| 102 | 124 | Loose black and red lava rock |
| 124 | 138 | Gray and yellow volcanic rock |
| 138 | 188 | Loose gray and yellow volcanic rock |
| 188 | 256 | Hard gray volcanic rock |
| 256 | 262 | Loose fractured gray volcanic rock |
| 262 | 307 | Gray volcanic rock |
| 307 | 313 | Void |
| 313 | 396 | Gray volcanic rock |
| 396 | 540 | Fractured gray volcanic rock |
| | | (Extra loose from 500' to 540') |

TOTAL DEPTH OF BORING 540 (Feet)

TOTAL DEPTH OF COMPLETED WELL 530 (Feet)

## WELL OWNER

CITY STATE ZIP

## WELL LOCATION

Address 9595 Seigler Springs Road

City Kelseyville CA

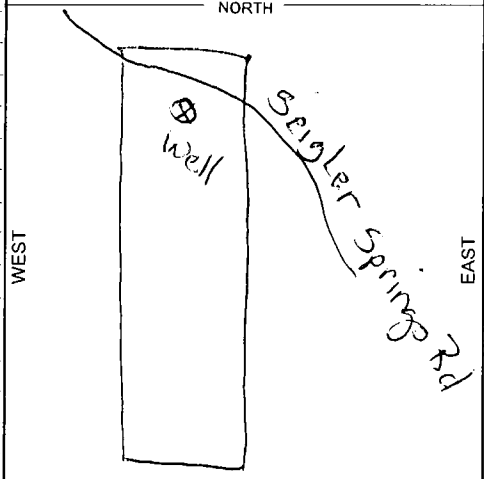
County Lake

APN Book 011 Page 069 Parcel 410

Township 12N Range 08W Section 10

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

## LOCATION SKETCH




*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 350 (Ft.) & DATE MEASURED 10/30/2014

ESTIMATED YIELD 50 (GPM) & TEST TYPE Air Developed

TEST LENGTH 3.75 (Hrs.) TOTAL DRAWDOWN 504 (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 | 22 | 11 | | | | | | | | |
| 22 | 540 | 8 | | | | | | | | |
| +3 | 430 | | ✓ | | | | PVC | 5 | SDR21 | |
| 430 | 530 | | | ✓ | | | PVC | 5 | SDR21 | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 1 | ✓ | | | CONCRETE |
| 1 | 21 | | ✓ | | |
| 21 | 530 | | | ✓ | 3/8 Pea Gravel |

## 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] 12/09/14 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

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

# Well Completion Report

Refer to Instruction Pamphlet

No. XXXXXXX

Page 1 of 1

Owner's Well Number 1

Date Work Began 4-16-21 Date Work Ended 4/19/2021

Local Permit Agency Environmental Health

Permit Number WE-5515 Permit Date 1/20/2021

DWR Use Only – Do Not Fill In

State Well Number/Site Number

Latitude N Longitude W

APN/TRS/Other

## Geologic Log

Orientation ● Vertical ○ Horizontal ○ Angle Specify

Drilling Method Air Rotary Drilling Fluid N/A

| Depth from Surface Feet | to Feet | Description (Describe material, grain size, color, etc.) |
|---|---|---|
| 0 | 20 | Red Clay |
| 20 | 50 | yellow ash |
| 50 | 70 | yellow ash w/ basalt boulders |
| 70 | 110 | Red clay, old surface. |
| 110 | 140 | Black basalt |
| 140 | 220 | Red & Black Volcanics |

Total Depth of Boring 225 Feet

Total Depth of Completed Well 210 Feet

## Well Owner

Name Thomas and Pauline DeWitt

Mailing Address 458 Ava Ave.

City Rohnert Park State CA Zip 94928

## Well Location

Address 10925 Willow Springs Rd.

City Lower Lake County LAKE

Latitude Deg. Min. Sec. N Longitude Deg. Min. Sec. W

Datum Dec. Lat. Dec. Long.

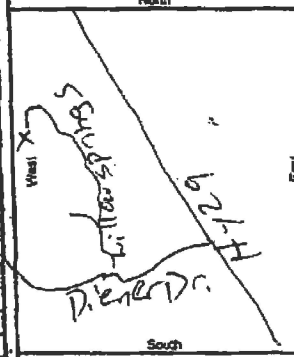
APN Book 001 Page 069 Parcel 49

Township Range Section

## Location Sketch

(Sketch must be drawn by hand after form is printed.)

North




South

## Activity

● New Well

○ Modification/Repair

○ Deepen

○ Other

○ Destroy

Describe procedures and materials under "GEOLOGIC LOG"

## Planned Uses

● Water Supply

☒ Domestic ☐ Public

☐ Irrigation ☐ Industrial

○ Cathodic Protection

○ Dewatering

○ Heat Exchange

○ Injection

○ Monitoring

○ Remediation

○ Sparging

○ Test Well

○ Vapor Extraction

○ Other

## Water Level and Yield of Completed Well

Depth to first water 180' (Feet below surface)

Depth to Static Water Level 180' (Feet) Date Measured 4-19-21

Estimated Yield* 40 (GPM) Test Type Air Lift

Test Length 2 HRS (Hours) Total Drawdown (Feet)

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

## Casings

| Depth from Surface Feet | to Feet | Borehole Diameter (Inches) | Type | Material | Well Thickness (Inches) | Outside Diameter (Inches) | Screen Type | Slot Size If Any (Inches) |
|---|---|---|---|---|---|---|---|---|
| 0 | 40 | 9" | F480 | PVC | 1/4" | 5" | Blank | — |
| 40 | 170 | 7 1/4 | F480 | PVC | 1/4" | 5" | Blank | — |
| 170 | 210 | 7 1/4 | F480 | PVC | 1/4" | 5" | Perfs. | .032" |

## Annular Material

| Depth from Surface Feet | to Feet | Fill | Description |
|---|---|---|---|
| 0 | 1 | Concrete | SEAL |
| 1 | 21 | Bentonite | |
| 21 | 210 | Sand/Pea | Gravel Pack |

## 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 Will Peterson Well Drilling

Person, Firm or Corporation

P.O. Box 695 Kelseyville CA 95451

Address City State Zip

Signed [signature] 4-19-21 100905-3

C-57 Licensed Water Well Contractor Date Signed C-57 License Number

DWR 188 REV 1/2006

* ADDITIONAL SPACE IS NEEDED. USE NEXT CONSECUTIVELY NUMBERED FORM

# APPENDIX F

# WEEKLY GROUNDWATER DEMAND DATA (PROVIDED BY 1833 DS LLC)

| | | | | | |
|---|---|---|---|---|---|
| EK 2 | 1/8/2024 | 0.0 | 0 | 0 | 0 |
| EK 3 | 1/15/2024 | 0.0 | 0 | 0 | 0 |
| EK 4 | 1/22/2024 | 0.0 | 0 | 0 | 0 |
| EK 5 | 1/29/2024 | 0.0 | 0 | 0 | 0 |
| EK 6 | 2/5/2024 | 0.0 | 0 | 0 | 0 |
| EK 7 | 2/12/2024 | 0.0 | 0 | 0 | 0 |
| EK 8 | 2/19/2024 | 0.0 | 0 | 0 | 0 |
| EK 9 | 2/26/2024 | 0.0 | 0 | 0 | 0 |
| K 10 | 3/4/2024 | 0.0 | 0 | 0 | 0 |
| K 11 | 3/11/2024 | 0.0 | 0 | 0 | 0 |
| K 12 | 3/18/2024 | 0.0 | 0 | 0 | 0 |
| K 13 | 3/25/2024 | 0.0 | 0 | 0 | 0 |
| K 14 | 4/1/2024 | 0.0 | 0 | 0 | 0 |
| K 15 | 4/8/2024 | 0.0 | 0 | 0 | 0 |
| K 16 | 4/15/2024 | 0.0 | 0 | 0 | 1,575 |
| K 17 | 4/22/2024 | 0.0 | 0 | 0 | 1,575 |
| K 18 | 4/29/2024 | 0.0 | 0 | 0 | 1,575 |
| K 19 | 5/6/2024 | 0.0 | 0 | 0 | 1,575 |
| K 20 | 5/13/2024 | 0.0 | 0 | 0 | 1,575 |
| K 21 | 5/20/2024 | 0.0 | 0 | 0 | 1,575 |
| K 22 | 5/27/2024 | 0.0 | 0 | 0 | 1,575 |
| K 23 | 6/3/2024 | 0.0 | 0 | 0 | 1,575 |
| K 24 | 6/10/2024 | 0.0 | 0 | 2,000 | 1,575 |
| K 25 | 6/17/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 26 | 6/24/2024 | 20.0 | 900,000 | 2,000 | 1,575 |
| K 27 | 7/1/2024 | 20.0 | 900,000 | 2,000 | 1,575 |
| K 28 | 7/8/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 29 | 7/15/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 30 | 7/22/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 31 | 7/29/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 32 | 8/5/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 33 | 8/12/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 34 | 8/19/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 35 | 8/26/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 36 | 9/2/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 37 | 9/9/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 38 | 9/16/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 39 | 9/23/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 40 | 9/30/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| K 41 | 10/7/2024 | 20.0 | 900,000 | 2,000 | 1,575 |
| K 42 | 10/14/2024 | 15.0 | 450,000 | 2,000 | 1,575 |
| K 43 | 10/21/2024 | 10.0 | 250,000 | 2,000 | 1,575 |
| K 44 | 10/28/2024 | 0.0 | 0 | 0 | 1,575 |
| K 45 | 11/4/2024 | 0.0 | 0 | 0 | 1,575 |
| K 46 | 11/11/2024 | 0.0 | 0 | 0 | 1,575 |
| K 47 | 11/18/2024 | 0.0 | 0 | 0 | 1,575 |
| K 48 | 11/25/2024 | 0.0 | 0 | 0 | 1,575 |
| K 49 | 12/2/2024 | 0.0 | 0 | 0 | 1,575 |
| K 50 | 12/9/2024 | 0.0 | 0 | 0 | 1,575 |
| K 51 | 12/16/2024 | 0.0 | 0 | 0 | 1,575 |
| K 52 | 12/23/2024 | 0.0 | 0 | 0 | 1,575 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1/8/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 3 | 1/15/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 4 | 1/22/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 5 | 1/29/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 6 | 2/5/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 7 | 2/12/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 8 | 2/19/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 9 | 2/26/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 2,000 | 2,100 |
| 10 | 3/5/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 5,000 | 255,000 | 2,000 | 2,100 |
| 11 | 3/12/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 5,000 | 255,000 | 2,000 | 2,100 |
| 12 | 3/19/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 5,000 | 255,000 | 2,000 | 2,100 |
| 13 | 3/26/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 10,000 | 260,000 | 2,000 | 2,100 |
| 14 | 4/2/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 10,000 | 260,000 | 2,000 | 2,100 |
| 15 | 4/9/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 10,000 | 260,000 | 2,000 | 2,100 |
| 16 | 4/16/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 10,000 | 260,000 | 2,000 | 2,100 |
| 17 | 4/23/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 10,000 | 260,000 | 2,000 | 2,100 |
| 18 | 4/30/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 10,000 | 510,000 | 2,000 | 2,100 |
| 19 | 5/7/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 2,000 | 2,100 |
| 20 | 5/14/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 2,000 | 2,100 |
| 21 | 5/21/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 2,000 | 2,100 |
| 22 | 5/28/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 2,000 | 2,100 |
| 23 | 6/4/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 2,000 | 2,100 |
| 24 | 6/11/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 2,000 | 2,100 |
| 25 | 6/18/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 3,000 | 2,100 |
| 26 | 6/25/2026 | 10.0 | 500,000 | 20.1 | 900,000 | 0.92 | 25,000 | 1,425,000 | 3,000 | 2,100 |
| 27 | 7/2/2026 | 10.0 | 500,000 | 20.1 | 1,120,000 | 0.92 | 25,000 | 1,645,000 | 3,000 | 2,100 |
| 28 | 7/9/2026 | 10.0 | 500,000 | 20.1 | 1,120,000 | 0.92 | 5,000 | 1,625,000 | 3,000 | 2,100 |
| 29 | 7/16/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 30 | 7/23/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 31 | 7/30/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 32 | 8/6/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 33 | 8/13/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 34 | 8/20/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 35 | 8/27/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 36 | 9/3/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 37 | 9/10/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 38 | 9/17/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 39 | 9/24/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 40 | 10/1/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 41 | 10/8/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| 42 | 10/15/2026 | 0.0 | 0 | 30.1 | 1,130,600 | 0.92 | 5,000 | 1,135,600 | 3,000 | 2,100 |
| 43 | 10/22/2026 | 0.0 | 0 | 20.1 | 565,000 | 0.92 | 5,000 | 570,000 | 2,000 | 2,100 |
| 44 | 10/29/2026 | 0.0 | 0 | 10.0 | 5,000 | 0.92 | 5,000 | 10,000 | 2,000 | 2,100 |
| 45 | 11/5/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 46 | 11/12/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 47 | 11/19/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 48 | 11/26/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 49 | 12/3/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 50 | 12/10/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 51 | 12/17/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| 52 | 12/24/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |

# APPENDIX G

# DROUGHT MANAGEMENT PLAN

January 13, 2025

Mr. Samual Edwards
1833 DS LLC
10750 Seigler Springs Road North
Kelseyville, CA 95451

**RE: DROUGHT MANAGEMENT PLAN**
**1833 DS LLC**
**KELSEYVILLE, CALIFORNIA 95451**
***EBA Job No. 24-3575***

Dear Mr. Edwards,

This Drought Management Plan (DMP) has been prepared to outline the recommended best management practices to be implemented as water saving measures during drought conditions for the proposed project at the 1833 DS LLC site, located near Kelseyville, California, hereinafter referred to as the project site. This DMP has been prepared as an Appendix to supplement EBA Engineering's August 2024 *Water Availability Report* (EBA, 2025) and for submittal to the County of Lake to address requirements as outlined in the County of Lake's Urgency Ordinance No. 3106 (*An Urgency Ordinance Requiring Land Use Applicants to Provide Enhanced Water Analysis During a Declared Drought Emergency*, County of Lake, 2021).

## WATER SOURCES AND IRRIGATION

All project water demand will be supplied by the project site's irrigation wells: Well 1 and Well 2. Well 1, located on APN 115-004-070 at an elevation of 2,567 feet NAVD88, is primarily used for water supply to the cannabis farm, with a yield of 197 gallons per minute and a static groundwater level of 129 feet bgs per the Well Completion Report. Well 2, situated on APN 115-004-080 at 2,562 feet NAVD88, serves as the second water supply well, with a yield of 275 gallons per minute and a static groundwater level of 151 feet bgs per the Well Completion Report. Both wells have been tested to ensure adequate performance and recovery rates by Jim's Pumps from Upper Lake.

Irrigation will be provided from the water distribution system which will utilize the irrigation wells as a source and a 300,000-gallon aboveground water storage tank for storage. The cannabis irrigation distribution system will consist of highly efficient drip irrigation delivered to cannabis plants through a combination of PVC piping, black polyethylene tubing, and drip lines. The water storage tank will be equipped with a float valve to prevent overflow and runoff of irrigation water when full. Additionally, safety valves are equipped to supply lines in case the flow of irrigation water needs to be stopped in an emergency situation. A meter compliant with Title 23, Division 3, Chapter 2.7 of the California Code of Regulations is used to measure water produced from the irrigation wells to maintain water usage records. All records will be made available to all interested state and county departments upon request.

While the results of EBA's *Water Availability Analysis* (EBA, 2025) suggest that a positive water balance exists for project site-specific groundwater recharge during an assumed drought scenario (60 percent of average annual precipitation), best management practices have been developed to provide additional water saving measures during a declared drought emergency. These best management practices are described in the following subsection.

## BEST MANAGEMENT PRACTICES DURING A DECLARED DROUGHT EMERGENCY

During a declared drought emergency, EBA recommends implementation of the following:

- Incremental annual development of water storage volume to catch/store rainwater from the roofs of the cannabis processing building and other project buildings;
- Installation of low flow fixtures in all facilities;
- Use of growing mediums with enhanced water storage/retention capacity;
- Reduction in water applied per plant via reduced duration of water application and/or reduced volume of water emitted from irrigation emitters via flow constrictors; and
- If deemed necessary, a reduction in total water applied annually via a reduction in the total square footage of canopy planted/irrigated.

## CLOSING

EBA appreciates the opportunity to be of service to you on this project. If you should have any questions regarding the information contained herein, please do not hesitate to contact our office at (707) 544-0784.

Sincerely,

**EBA ENGINEERING**



Brian M. Wallace, PE, MS, MBA, QSD
Project Engineer

## REFERENCES


County of Lake, July 27, 2021. An Urgency Ordinance Requiring Land Use Applicants to Provide Enhanced Water Analysis During a Declared Drought Emergency.

EBA Engineering, Water Availability Analysis, 1833 DS LLC., Kelseyville, California. January, 2025.

**HELIX Environmental Planning, Inc.**
1180 Iron Point Road, Suite 130
Folsom, CA 95630
916.435.1205 tel
619.462.0552 fax
www.helixepi.com

March 3, 2025 09173.00001.001

Peter Simon
Beyers Costin Simon LLP
200 4th Street, #400
Santa Rosa, CA 95401

**Subject: 1833 DS Cannabis Cultivation Project Air Quality and Greenhouse Gas Emissions Analysis**

Dear Mr. Simon:

HELIX Environmental Planning, Inc. (HELIX) assessed the air quality and greenhouse gas (GHG) emissions impacts associated with the construction and operation of the proposed 1833 DS Cannabis Cultivation Project (project) located in Lake County (County). Analysis within this report was prepared to support impact analysis pursuant to the California Environmental Quality Act (CEQA; Public Resources Code Sections 21000 et seq.) and CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations).

## PROJECT LOCATION

The proposed project is located at an existing cannabis cultivation facility at 10750 North Seigler Springs Road in the community of Kelseyville, Lake County, California. The overall cannabis cultivation facility property consists of five adjacent Assessor's Parcel Numbers (APNs): 011-069-48, 115-004-01, 115-004-05, 115-004-07, and 115-004-08. The proposed project site encompasses 51.61 acres on APNs 011-069-48, 115-004-01, and 115-004-05; however, the footprint of the proposed cannabis cultivation area and new cannabis support structures would occur on 43.14 acres of the project site. The project site is accessed by State Route (SR) 29 between Lakeport and Lower Lake via Diener Drive or by SR 175 between Middletown and Kelseyville via Seigler Spring Road from Loch Lomond. See Figure 1, *Site and Vicinity Map*, and Figure 2, *Aerial Map* (Note: all figures are included in Attachment A).

## PROJECT BACKGROUND

### Previous CEQA Analysis

The proposed project would expand upon an existing cannabis cultivation facility in Lake County. An Initial Study/ Mitigated Negative Declaration (IS/MND) was approved for the initial cannabis cultivation facility on April 4, 2022, under Use Permit UP 20-11, which evaluated 11 acres of cannabis canopy,

removal of existing vineyards, construction of a 27,201 square foot (sf) nursery facility, installation of temporary hoop houses for shading, construction of four 22,000-sf greenhouses, installation of fencing, improvement of internal dirt/gravel roads for access to cultivation areas, utilization of a 300,000-gallon agricultural water storage tank for fire suppression and water management, and construction of a pesticide storage shed, compost shed, and a secured cannabis waste container. The initial outdoor cannabis cultivation and processing area under this phase only occurred on APNs 115-004-01 and 115-004-05.

A Phase II expansion of the cannabis cultivation facility was approved on April 19, 2023, under Use Permit 22-31, which expanded the total outdoor cannabis cultivation canopy from 11 to 20 acres. Under this phase, outdoor cannabis cultivation and processing remained on APNs 115-004-01 and 115-004-05.

## Existing Conditions

### Cannabis Cultivation Facilities

The initial operation of the cannabis cultivation facility was approved on April 4, 2022, and approved for further expansion on April 19, 2023. The cannabis cultivation facility includes 35.73 acres of previously approved outdoor cultivation areas, which contain 20 acres of total outdoor cannabis canopy, located on cultivation Areas A and B. The property also includes an existing 22,000-sf processing building with awnings, an approximately 2,000-sf concrete pad, and perimeter fencing around the existing cultivation areas. A total of three single-family residences are located on the applicant-owned property, located on APNs 011-069-48, 115-004-07, and 115-004-08; however, these single-family residences are located outside of the project footprint.

### Site Access

The cannabis cultivation facility is accessible via four existing driveways off Seigler Springs North Road, including two on the north side and two on the south side of the road. The existing driveways provide access for employees, delivery trucks, emergency vehicles, sheriffs and other law enforcement officers, and government employees who are responsible for inspection or enforcement actions. The first 50 feet of the primary driveway leading to the existing processing building is maintained with an all-weather surface to allow for year-round access to the site. Driveway encroachments onto the County-maintained road are constructed to current County standards with an encroachment permit obtained from the Department of Public Works.

Access for agricultural operations within the cannabis cultivation facility occurs via three existing dirt roads. An 18-foot-wide dirt access road is located on the north side of Seigler Springs North Road behind the facility's fence line, which spans both of the facility's northern driveways. Another 18-foot-wide dirt road is located on the south side of Seigler Springs North Road behind the facility's fence line, which spans the north, south, and west perimeter of cultivation Area B.

### Parking

A gravel parking lot is located along the southern side of the existing processing building to accommodate employee parking and maneuvering of delivery or emergency vehicles.

## Utilities

A double culvert crosses north-south under Seigler Springs North Road, which has two small diameter culverts that serve to convey stormwater under dirt/gravel entrances to the south and north portions of the facility. A vegetated swale is located between the southern cultivation area and the south side of Seigler Springs North Road.

Pacific Gas and Electric Company (PG&E) provides electricity to the cannabis cultivation facility via an existing connection.

Cannabis waste is composted on-site to the east of the existing processing building. C&S/Lake County Waste Solutions are responsible for the removal of the three-cubic yard waste bin from the property during scheduled service appointments.

## Water Supply and Storage

Water is supplied by two existing irrigation wells dedicated for cannabis cultivation. Well 1 is located on APN 115-004-07 and serves as the primary water supply to the cannabis cultivation facility with a pumping yield of 197 gallons per minute. Well 2 is located on APN 115-004-08 and serves as the secondary water supply well with a pumping yield of 275 gallons per minute.

## Water Use

Currently, the existing outdoor cannabis cultivation areas utilize approximately 58.86 acre-feet per year (AFY) of water.

## Landscaping

A vegetative screen, including native trees, was previously planted around the perimeter of the security fencing along the boundary of the project site along Seigler Springs North Road. The trees are currently approximately five feet tall and are anticipated to grow up to 20 feet or more upon maturity. The trees are maintained to provide visual screening of the site from Seigler Springs North Road. Additionally, lavender and other odiferous plants are planted around the perimeter of the outdoor cultivation areas.

## Odor Control

The cannabis cultivation facility currently implements an odor control plan that limits and controls the cannabis odor such that it is undetectable outside of the premises. As part of this plan, odor control and reduction systems are installed during cultivation, including placing portions of the outdoor cultivation canopy under plastic sheeted temporary hoops to contain odor, as well as maintaining odiferous plants such as lavender around the property to help overpower and mask cannabis odors. Along with this system, contingency measures to mitigate or curtail odor and other emissions in the event the methods described above are inadequate to fully prevent off-site nuisance conditions include adding additional plastic sheeting to areas with odor migration issues or installation of carbon filter(s) in series.

### Current Operation

Operation of the cannabis cultivation facility involves the cultivation of flowering cannabis plants within outdoor cultivation Areas A and B, which comprise a total of 20 acres of canopy. Once harvested, the plants are dried and trimmed in the existing processing building, before being bulk-packaged for seasonal transfer to an off-site facility. Currently, a maximum of 15 full-time employees are employed on-site at a time.

The facility typically operates Monday through Friday between 7:00 A.M. and 4:00 P.M. During peak season, the facility occasionally operates on Saturdays and Sundays. All deliveries and/or pickups occur Monday through Saturday between 7:00 A.M. and 7:00 P.M. and Sundays from 12:00 P.M. to 5:00 P.M.

## PROJECT DESCRIPTION

### Cannabis Cultivation Facilities

The proposed project would increase the existing canopy on cultivation Area B and would add a new canopy on the proposed outdoor cultivation Areas C through F, located on APNs 115-004-01 and 011-069-48. The total proposed new canopy would be 10.1 acres. The proposed project would also construct a 39,900-sf processing building on a 40,000-sf site and a 40,000-sf nursery building (see Figure 3, *Site Plan*; included in Attachment A).

### Site Access

Similar to the existing cannabis cultivation facility, primary access to the project site is from Seigler Springs North Road, which traverses the center of the project site from northwest to southeast. Four existing driveways provide access to the project site from Seigler Springs North Road, including two on the north side and two on the south side of the roadway. Seigler Springs North Road is an unstriped roadway that is mostly paved; however, it is unpaved/gravel in the vicinity of the project. Diener Drive is an unstriped, gravel roadway that extends south-southwest from Seigler Springs North Road and provides access to the proposed southern cultivation areas D, E, and F.

### Parking

No new parking areas or spaces are proposed under the project.

### Utilities

Utilities for the proposed project would remain the same as the existing cannabis cultivation facility.

### Water Supply and Storage

Two 600,000-gallon water storage tanks would be constructed southeast of cultivation Area F and west of the existing 300,000-gallon water storage tank on APN 115-004-01. It should be noted that an additional 300,000-gallon water storage tank was previously approved for construction in this area; however, it is not part of the proposed project and has not been constructed yet.

The cannabis cultivation facility currently receives water supplies from the two existing irrigation wells, Well 1 and Well 2, that are dedicated for cannabis cultivation. Under the proposed project, water from the two existing wells would be used to irrigate the existing outdoor cannabis cultivation on Areas A and B, the proposed canopy on Areas C through F, and the proposed cultivation within the new nursery building. Additionally, water from the wells would be pumped and stored in the existing 300,000-gallon water storage tanks and the two proposed 600,000-gallon water storage tanks.

### Water Use

Based on the values estimated for water use for cannabis cultivation and non-irrigation purposes, the total annual water use on-site would be 107.37 AFY under the proposed project. This is inclusive of the 58.86 AFY of water used under existing cultivation conditions.

### Landscaping

No new landscaping is proposed under the project.

### Construction Schedule and Equipment

Construction of the proposed project is anticipated to begin in April 2026 and be completed in October 2027. Construction of the proposed project would include site preparation, grading, trenching for underground utilities, and building construction. Only minor grading is anticipated, as the majority of the project site has been previously graded. Per the project engineer, no off-site export of debris, vegetation, or soil would be required. Construction activities would be limited to Monday through Friday, between 7:00 A.M. and 7:00 P.M.

### Project Operation

Operation of the proposed project would involve the continued cultivation of flowering cannabis plants within the six outdoor mature cultivation areas and the new cultivation of immature plants within the proposed nursery building. The proposed project would increase the maximum number of employees from 15 to 20 workers at any given time. However, this increase in employees would be minimal and would not result in a significant increase in vehicle trips related to current facility operations. Operation of the proposed project would not require new backup generators. The facility would remain not open to the public, and normal working hours would continue to be Monday through Friday, 7:00 A.M. to 4:00 P.M.

## AIR QUALITY/GREENHOUSE GAS EMISSIONS ANALYSIS

The proposed project is located at 10750 North Seigler Springs Road in the town of Kelseyville, unincorporated Lake County, which lies within the Lake County Air Basin (LCAB). Air quality in the LCAB is regulated by the U.S. Environmental Protection Agency (USEPA) at the federal level, by the California Air Resources Board (CARB) at the state level, and by the Lake County Air Quality Management District (LCAQMD) at the regional level.

# REGULATORY SETTING

## Air Quality

### Criteria Pollutants

Air quality at the regional level is defined by ambient air concentrations of specific pollutants, identified Criteria pollutants, are defined and regulated by State and federal law as a risk to the health and welfare of the public, and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources, including carbon monoxide (CO); reactive organic gases (ROGs), also known as volatile organic compounds (VOCs); [1] nitrogen oxides ($NO_X$); sulfur dioxide ($SO_2$); coarse particulate matter ($PM_{10}$); fine particulate matter ($PM_{2.5}$); and lead. Of these primary pollutants, CO, $SO_2$, $PM_{10}$, $PM_{2.5}$, and lead are criteria pollutants. ROGs and $NO_X$ are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. The principal secondary criteria pollutants are ozone and nitrogen dioxide ($NO_2$). In addition to being primary pollutants, $PM_{10}$ and $PM_{2.5}$ can be secondary pollutants formed by chemical reactions in the atmosphere.

Ambient air quality is described in terms of compliance with State and national standards and the levels of air pollutant concentrations considered safe to protect the public health and welfare. These standards are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. The USEPA has established national ambient air quality standards (NAAQS) for criteria pollutants. As permitted by the Clean Air Act (CAA), California has adopted the more stringent California ambient air quality standards (CAAQS) and expanded the number of regulated air pollutant constituents.

CARB is required to designate areas of the State as attainment, nonattainment, or unclassified for any State standard. An “attainment” designation for an area signifies that pollutant concentrations do not violate the standard for that pollutant in that area. A “nonattainment” designation indicates that a pollutant concentration violated the standard at least once.

The project site is located in unincorporated Lake County, which lies within the LCAB. The air quality attainment status of Lake County is shown in Table 1, *Lake County Attainment Status*. Lake County is designated as attainment or unclassified with respect to the NAAQS and CAAQS.

[1] CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.

**Table 1**
**LAKE COUNTY ATTAINMENT STATUS**

| Pollutant | State of California Attainment Status | Federal Attainment Status |
|---|---|---|
| Ozone | Attainment | Attainment/Unclassified |
| Coarse Particulate Matter ($PM_{10}$) | Attainment | Unclassified |
| Fine Particulate Matter ($PM_{2.5}$) | Attainment | Attainment/Unclassified |
| Carbon Monoxide | Attainment | Attainment/Unclassified |
| Nitrogen Dioxide | Attainment | Attainment/Unclassified |
| Lead | Attainment | Attainment/Unclassified |
| Sulfur Dioxide | Attainment | Attainment/Unclassified |
| Sulfates | Attainment | No Federal Standard |
| Hydrogen Sulfide | Attainment | No Federal Standard |
| Visibility Reducing Particles | Attainment | No Federal Standard |

Source: CARB 2025a

## Toxic Air Contaminants

Toxic air contaminants (TAC) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. TACs can cause long-term chronic health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye-watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For carcinogenic TACs, there is no level of exposure that is considered safe, and impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

The Health and Safety Code (§39655[a]) defines TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." All substances that are listed as hazardous air pollutants pursuant to subsection(b) of Section 112 of the CAA (42 United States Code Sec. 7412[b]) are designated as TACs. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

## Diesel Particulate Matter

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid materials. The solid material in diesel exhaust is referred to as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is 2.5 microns or less in diameter (CARB 2025b). Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health

effects. DPM has a notable effect on California's population—it is estimated that about 70 percent of the total known cancer risk related to air toxins in California is attributable to DPM (CARB 2025b).

## Lake County Air Quality Management District

The proposed project is located in unincorporated Lake County, which lies within the LCAB. Air quality in the LCAB is regulated by the USEPA at the federal level, by the CARB at the state level, and by LCAQMD at the regional level. As a regional agency, the LCAQMD enforces local, State, and federal air quality laws, rules, and regulations to meet the Ambient Air Quality Standards (AAQS) and protect the public from air toxins. Due to the fact that the LCAB is in attainment for all NAAQS and CAAQS, LCAQMD has not adopted an air quality plan; however, the LCAQMD uses its rules and regulations to address air quality standards.

### Rules and Regulations

The following rules promulgated by the LCAQMD would be applicable to the construction of the proposed project (CARB 2025c):

#### *Chapter II Prohibitions and Standards*

**Article I-Visible Emissions:** A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated as number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

**Article II-Particulate Matter Emissions:** A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause to have a natural tendency to cause injury or damage to business or property.

## Lake County General Plan

The Lake County General Plan sets forth the following goals and policies relating to air quality, and which have potential relevance to the project's CEQA review (County 2008):

- **Policy HS-3.1 – Monitoring of Point and Area Sources:** New and existing point sources of air pollution should be monitored for compliance with County, State, and federal air quality regulations and standards.

- **Policy HS-3.4 –Paving or Treatment of Roadways for Reduced Air Emissions:** As unpaved roads are a major source of the County's particulate emissions, the County should require that all new roads and driveways for new projects that are in close proximity to adjacent residences, or the public be paved or treated to reduce dust generation where feasible. Unpaved roads, driveways, and parking areas should be considered for surfacing improvements when permits are granted for expanded use.

- **Policy HS-3.9—Air Quality Analysis:** The County may require an analysis of potential air quality impacts associated with significant new developments through the environmental review process, and identification of appropriate mitigation measures before approval of any major development project.

- **Policy HS-3.10—Dust Suppression During Construction:** The County shall require dust-suppression measures for grading activities, and asbestos dust hazard mitigation plans for projects located in Naturally Occurring Asbestos Areas.

- **Policy HS-3.11—Asbestos Inspection During Construction:** The County shall require that all projects requiring a grading permit or a building permit that would result in earth disturbance, in areas likely to contain naturally occurring asbestos, utilize approved asbestos dust mitigation measures as required by the LCAQMD, CARB, and the Lake County Community Development Department.

## Greenhouse Gases

Global climate change refers to changes in average climatic conditions on Earth, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting sunlight in but preventing heat from escaping, thus warming the Earth's atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition.

The GHGs defined under California's Assembly Bill (AB) 32 include carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride ($SF_6$). Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Estimates of GHG emissions are commonly presented in carbon dioxide equivalents ($CO_2e$), which weigh each gas by its global warming potential (GWP). Expressing GHG emissions in $CO_2e$ takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only $CO_2$ were being emitted. GHG emissions quantities in this analysis are presented in metric tons (MT) of $CO_2e$. For consistency with United Nations Standards, modeling, and reporting of GHGs in California and the U.S. use the GWPs defined in the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report (IPCC 2007): $CO_2$ – 1; $CH_4$ – 25; $N_2O$ – 298.

### Greenhouse Gas Reduction Regulations and Plans

The primary GHG reduction regulatory legislation and plans (applicable to the project) at the State, regional, and local levels are described below. Implementation of California's GHG reduction mandates is primarily under the authority of CARB at the State level.

**Executive Order S-3-05**: On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack

in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to the year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. Executive Orders are not laws and can only provide the governor's direction to State agencies to act within their authority to reinforce existing laws.

**Assembly Bill 32 – Global Warming Solution Act of 2006**: The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of Statewide GHG emissions. CARB is directed by AB 32 to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

**Executive Order B-30-15**: On April 29, 2015, EO B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28-nation European Union. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal established by EO S-3-05 of reducing emissions to 80 percent under 1990 levels by 2050.

**Senate Bill 32**: Signed into law by Governor Brown on September 8, 2016, Senate Bill (SB) 32 (Amendments to the California Global Warming Solutions Action of 2006) extends California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a Statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

**Assembly Bill 1279**: Approved by Governor Newsom on September 16, 2022, AB 1279, the California Climate Crisis Act, declares the policy of the State to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and ensure that by 2045, Statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. AB 1279 anticipates achieving these policies through direct GHG emissions reductions, removal of $CO_2$ from the atmosphere (carbon capture), and an almost complete transition away from fossil fuels.

**California Air Resources Board Scoping Plan**: The Scoping Plan is a strategy CARB develops and updates at least once every five years, as required by AB 32. It lays out the transformations needed across our society and economy to reduce emissions and reach our climate targets. The current 2022 Scoping Plan is the third update to the original plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32 mandate of returning to 1990 levels of GHG emissions by 2020, a reduction of approximately 15 percent below business as usual. The 2008 Scoping Plan included a mix of incentives, regulations, and carbon pricing, laying out the portfolio approach to addressing climate change and clearly making the case for using multiple tools to meet California's GHG targets. The 2013 Scoping Plan assessed progress toward achieving the 2020 mandate and made the case for addressing short-lived climate pollutants (SLCPs). The 2017 Scoping Plan also assessed the progress toward achieving the 2020

limit and provided a technologically feasible and cost-effective path to achieving the SB 32 mandate of reducing GHGs by at least 40 percent below 1990 levels by 2030.

On December 15, 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan). The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels; further reductions in SLCPs; support for sustainable development; increased action on natural and working lands to reduce emissions and sequester carbon; and the capture and storage of carbon (CARB 2022).

## SENSITIVE RECEPTORS

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution (sensitive receptors): adults over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptor locations. Examples of these sensitive receptor locations are residences, schools, hospitals, and daycare centers.

The closest existing sensitive receptor location to the project site is an existing residence located approximately 300 feet west of the project site. This is greater than the required 200-foot setback for off-site residences from commercial cannabis cultivation, as described in Article 27. 3 of the Lake County Zoning Ordinance. There are no schools located in the project vicinity.

## METHODOLOGY AND ASSUMPTIONS

Criteria pollutant and precursor emissions, and GHG emissions for the project construction activities were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1. CalEEMod is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air districts. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The model calculates emissions of criteria pollutants, ozone precursors, and GHGs. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, C, and D (CAPCOA 2025). The input data and subsequent construction emission estimates for the proposed project are discussed below.

### Construction Assumptions

Construction of the proposed project is anticipated to begin in April 2026 and be completed in October 2027. The construction activity schedule was estimated using data provided by the project engineer and

is outlined in Table 2, *Project Construction Schedule*, below. Per the project engineer, the new buildings would not be painted.

**Table 2**
**PROJECT CONSTRUCTION SCHEDULE**

| Construction Activity | Construction Start Date | Construction End Date | Number of Working Days |
|---|---|---|---|
| Site Preparation | 4/1/2026 | 5/12/2026 | 30 |
| Grading | 5/13/2026 | 6/23/2026 | 30 |
| Underground Utilities (Trenching) | 6/24/2026 | 9/30/2026 | 71 |
| Building Construction | 10/1/2026 | 10/31/2027 | 282 |

Source: CalEEMod Output (Attachment B)

Construction equipment for each construction activity was estimated based on CalEEMod defaults and the anticipated construction activities. Table 3, *Project Construction Equipment*, below, presents a summary of the assumed equipment that would be involved in each activity of construction. Off-highway trucks included in the modeling would be water trucks.

**Table 3**
**PROJECT CONSTRUCTION EQUIPMENT**

| Construction Activity | Equipment | Number |
|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 |
| | Tractors/Loaders/Backhoes | 4 |
| | Off-Highway Trucks | 1 |
| Grading | Graders | 1 |
| | Excavators | 2 |
| | Tractors/Loaders/Backhoes | 2 |
| | Scrapers | 2 |
| | Rubber Tired Dozers | 1 |
| | Off-Highway Trucks | 1 |
| Underground Utilities (Trenching) | Excavators | 1 |
| | Tractors/Loaders/Backhoes | 1 |
| Building Construction | Forklifts | 3 |
| | Generator Sets | 1 |
| | Cranes | 1 |
| | Welders | 1 |
| | Tractors/Loaders/Backhoes | 3 |

Source: CalEEMod Output (Attachment B)

Per the project engineer, no off-site export of debris, vegetation, or soil would be required. Construction emissions modeling assumes the implementation of dust mitigation (watering exposed areas twice per day). Worker, vendor, and hauling trips were estimated based on CalEEMod defaults.

### Operational Assumptions

Operation of the proposed project would involve the continued cultivation of flowering cannabis plants within the six outdoor mature cultivation areas and the new cultivation of immature plants within the proposed nursery building. The proposed project would increase the maximum number of employees from 15 to 20 workers at any given time. However, this increase in employees would be minimal and would not result in a significant increase in vehicle trips related to current facility operations. Operation of the proposed project would not require new backup generators. The total annual water use on-site would be 107.37 AFY under the proposed project; however, this is inclusive of the 58.86 AFY of water used under existing cultivation conditions. Water sourced from public utilities results in GHG emissions from the energy required to source, treat, and transport the water over long distances. The existing and proposed annual water supply would be sourced from the two existing wells on the project site. Therefore, the change in water use and electricity used by the proposed project would be minimal in comparison to current facility operations. Therefore, changes in project operational emissions would be negligible compared to operational emissions from the existing facility. Therefore, project operational emissions were not quantified.

## SIGNIFICANCE CRITERIA

### Air Quality

According to Appendix G of the State CEQA Guidelines, a project would have a significant air quality environmental impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan; or
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard; or
3. Expose sensitive receptors to substantial pollutant concentrations; or
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. As the County is designated as attainment or unclassified for all criteria air pollutants, the LCAQMD has not adopted specific CEQA thresholds relating to air quality. As the LCAQMD does not have standards for thresholds of significance for criteria air pollutants, the Bay Area Air Quality Management District (BAAQMD) thresholds have been used in this analysis as the basis to determine if mitigation should be implemented. BAAQMD's thresholds are based on the air quality within the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB is designated as nonattainment for several NAAQS and CAAQS.

The BAAQMD has adopted thresholds that lead agencies can use to determine the significance of a development project's short-term construction and long-term operational pollutant emissions. The

BAAQMD's 2022 thresholds of significance for criteria pollutants and precursors are shown in Table 4, *BAAQMD Significance Thresholds*.

**Table 4**
**BAAQMD SIGNIFICANCE THRESHOLDS**

| Pollutant | Construction | Operation | |
|---|---|---|---|
| | Average Daily Emissions (pounds/day) | Average Daily Emissions (pounds/day) | Maximum Annual Emissions (tons/year) |
| Reactive Organic Gasses (ROG) | 54 | 54 | 10 |
| Nitrogen Oxides ($NO_X$) | 54 | 54 | 10 |
| Particulate Matter Exhaust ($PM_{10}$) | 82 | 82 | 15 |
| Fine Particulate Matter Exhaust ($PM_{2.5}$) | 54 | 54 | 10 |
| $PM_{10}$ and $PM_{2.5}$ Fugitive Dust | BMPs[1] | none | none |
| Local Carbon Monoxide (CO) | none | 9.0 ppm (8-hour average), 20.0 ppm (1-hour average) | |
| Sulfur Oxides ($SO_X$) | none | none | none |

Source: BAAQMD 2023
ppm = part per million; BMP = Best Management Practices
[1] For construction fugitive dust, rather than a numeric threshold BAAQMD recommends that lead agencies consider projects which implement the Basic Construction Best Management Practices to have a less than significant impact related to fugitive dust.

## Greenhouse Gas Emissions

Given the relatively small levels of emissions generated by a project in relationship to the total amount of GHG emissions generated on a national or global basis, individual projects are not expected to result in significant, direct impacts with respect to climate change. However, given the magnitude of the impact of GHG emissions on the global climate, GHG emissions from new development could result in significant, cumulative impacts with respect to climate change. Thus, the potential for a significant GHG impact is limited to cumulative impacts. According to Appendix G of the State CEQA Guidelines, the following criteria may be considered in establishing the significance of GHG emissions:

Would the project:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

The determination of significance is governed by CEQA Guidelines 15064.4, entitled "Determining the Significance of Impacts from Greenhouse Gas Emissions." CEQA Guidelines Section 15064.4(a) states, "[t]he determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to … [use a quantitative model or qualitative

model]" (emphasis added). In turn, CEQA Guidelines Section 15064.4(b) clarifies that a lead agency should consider "Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project." Therefore, consistent with CEQA Guidelines Section 15064.4, the GHG emissions analysis for the project appropriately relies upon a threshold based on the exercise of careful judgement and is believed to be appropriate in the context of this project. The LCAQMD has not adopted specific CEQA thresholds relating to GHG emissions; therefore, the BAAQMD thresholds have been used in this analysis as the basis to determine if mitigation should be implemented.

On April 20, 2022, the BAAQMD Board of Directors adopted revised CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans, described fully in an associated justification report. Rather than quantitative thresholds for emissions of GHG, BAAQMD has adopted thresholds based on performance standards. Land use development projects must include either Threshold A or Threshold B (BAAQMD 2023):

A. Projects must include, at a minimum, the following project design elements:

    1. Buildings

        a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).

        b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.

    2. Transportation

        a. Achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:

            i. Residential projects: 15 percent below the existing VMT per capita

            ii. Office projects: 15 percent below the existing VMT per employee

            iii. Retail projects: no net increase in existing VMT

        b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

B. Projects must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

## AIR QUALITY IMPACT ANALYSIS

*(1) Conflict with or obstruct implementation of the applicable air quality plan?*

**Less than significant impact with mitigation.** Consistency with the air quality plan is determined by whether the project would hinder the implementation of control measures identified in the air quality plan or would result in the growth of population or employment that is not accounted for in local and regional planning. The project site is located within the LCAB, which is under the jurisdiction of the LCAQMD. As shown in Table 1, Lake County is designated as attainment or unclassified with respect to the NAAQS and CAAQS. Due to the fact that the LCAB is classified as attainment with respect to the NAAQS and CAAQS, LCAQMD has not adopted an air quality plan; however, the LCAQMD uses its rules and regulations to address air quality standards.

According to the Water Availability Analysis prepared for the proposed project (included as Attachment C), the immediate vicinity of the project site has mapped to consist of Andesite of Split Top Ridge (ast), Rhyodacite of Diener Drive (dd), Older dacite of Mount Hannah (doh), Andesite of Salmina Flat (asf), and Rhyodacite of Seigler Mountain (ds) underlain in some areas by Pyroclastic deposits (rbp) and further underlain by the bedrock units of Jurassic Serpentinite (Jsp) and Great Valley Sequence (KJgv; EBA Engineering 2025). However, per the County Parcel Viewer, the project site does not contain Serpentine Soils (County 2025). Therefore, the proposed project would pose no threat of asbestos exposure during the construction or operation of the proposed project.

Additionally, according to the Lake County Zoning Ordinance section on Commercial Cannabis Cultivation (Section 27.11), air quality must be addressed in the Property Management Plan. The intent of addressing this is to ensure that "all cannabis permittees shall not degrade the County's air quality as determined by the Lake County Air Quality Management District" and that "permittees shall identify any equipment or activity that may cause, or potentially cause the issuance of air contaminates including odor and shall identify measures to be taken to reduce, control or eliminate the issuance of air contaminants, including odors". This includes obtaining an Authority to Construct (A/C) Permit pursuant to LCAQMD rules and regulations. Mitigation Measure AQ-1 would be implemented which requires preparation of a Property Management Plan to address air quality impacts and requires that an A/C Permit would be obtained before construction. With the implementation of Mitigation Measure AQ-1, the impact would be less than significant.

### Mitigation Measure

**Mitigation Measure AQ-1: Preparation of a Property Management Plan**

Before obtaining the necessary permits and/or approvals for any phase of the project, the project applicant shall prepare a Property Management Plan and obtain an Authority to Construct (A/C) Permit for all operations and for any diesel-powered equipment and/or other equipment with potential for air emissions or provide proof that a permit is not needed.

*(2) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard?*

**Less than significant impact with mitigation**. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in the nonattainment of ambient air quality standards. Instead, the potential for a project's individual emissions to contribute to existing cumulatively significant adverse air quality impacts is evaluated.

Lake County is designated as attainment or unclassified with respect to the NAAQS and CAAQS and, therefore, has not adopted specific CEQA thresholds relating to air quality. As the LCAQMD does not have standards for thresholds of significance for criteria air pollutants, BAAQMD thresholds have been used in this analysis as the basis to determine if mitigation should be implemented. The BAAQMD has adopted thresholds that lead agencies can use to determine the significance of a development project's short-term construction and long-term operational pollutant emissions.

## Construction Emissions

CalEEMod version 2022.1 was used to quantify project construction-period emissions, as discussed in *Methodology and Assumptions*, above. The model output sheets are included in Attachment B to this memo. Construction of the proposed project is anticipated to begin in April 2026 and be completed in October 2027. The quantity, duration, and intensity of construction activity influence the amount of construction emissions and related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction activity is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of: (1) a more modern and cleaner-burning construction equipment fleet mix than assumed in CalEEMod; and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

The project's construction emissions were estimated using CalEEMod, as described above. The emissions generated from construction activities include:

- Dust (including $PM_{10}$ and $PM_{2.5}$), primarily from fugitive sources such as soil disturbance and vehicle travel over paved and unpaved surfaces; and

- Combustion emissions of air pollutants (including ROG, $NO_X$, $PM_{10}$, $PM_{2.5}$, CO, and sulfur oxides [$SO_X$]), primarily from the operation of heavy off-road equipment and haul trucks.

The project's construction period emissions of ROG, $NO_X$, $PM_{10}$, and $PM_{2.5}$ are compared to BAAQMD's daily construction thresholds in Table 5, *Daily Construction Criteria Pollutant and Precursor Emissions*. The BAAQMD does not have a recommended threshold for construction-generated CO and $SO_X$. The emissions estimate assumes the implementation of the BAAQMD recommended Basic Construction Mitigation Measures (BCMMs) for fugitive $PM_{10}$ and $PM_{2.5}$, listed in Mitigation Measure AQ-2, below, specifically watering exposed areas a minimum of twice per day and enforcing a 15 miles per hour speed limit on unpaved surfaces.

**Table 5**
**Daily CONSTRUCTION CRITERIA POLLUTANT AND PRECURSOR EMISSIONS**

| Activity | ROG | $NO_X$ | CO | $SO_X$ | Fugitive $PM_{10}$ | Exhaust $PM_{10}$ | Fugitive $PM_{2.5}$ | Exhaust $PM_{2.5}$ |
|---|---|---|---|---|---|---|---|---|
| Site Preparation | 3.7 | 31.8 | 33.1 | 0.1 | 83.9 | 1.3 | 11.6 | 1.2 |
| Grading | 3.6 | 29.9 | 32.1 | 0.1 | 89.3 | 1.2 | 10.1 | 1.1 |
| Underground Utilities (Trenching) | 0.3 | 2.3 | 3.7 | <0.1 | 19.1 | 0.1 | 1.9 | 0.1 |
| Building Construction | 1.3 | 10.0 | 15.1 | <0.1 | 164.3 | 0.3 | 16.4 | 0.3 |
| **Maximum Daily** | **3.7** | **31.8** | **33.1** | **0.1** | **164.3** | **1.3** | **16.4** | **1.2** |
| *BAAQMD Daily Thresholds* | *54* | *54* | *none* | *none* | *BMPs* | *84* | *BMPs* | *54* |
| ***Exceed Daily Threshold?*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** |

CalEEMod (output data is provided in Attachment B); Thresholds BAAQMD 2023a
ROG = reactive organic gas; $NO_X$ = nitrogen oxides; CO = carbon monoxide; $SO_X$ = sulfur oxides;
$PM_{10}$ = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 5, the project's daily construction emissions of criteria pollutants and precursors would not exceed BAAQMD's thresholds. However, because the BAAQMD considers fugitive dust emissions to be significant if the BCMMs are not implemented, Mitigation Measure AQ-2 would require the implementation of the BCMMs.

## Operational Emissions

As outlined in *Methodology and Assumptions*, the operation of the proposed project would involve the continued cultivation of flowering cannabis plants within the six outdoor mature cultivation areas and the new cultivation of immature plants within the proposed nursery building. The proposed project would increase the maximum number of employees from 15 to 20 workers at any given time. However, this increase in employees would be minimal and would not result in a significant increase in vehicle trips related to current facility operations. Operation of the proposed project would not require new backup generators. The total annual water use on-site would be 107.37 AFY under the proposed project; however, this is inclusive of the 58.86 AFY of water used under existing cultivation conditions. Water sourced from public utilities results in GHG emissions from the energy required to source, treat, and transport the water over long distances. The existing and proposed annual water supply would be sourced from the two existing wells on the project site. Therefore, the change in water use and electricity used by the proposed project would be minimal in comparison to current facility operations. Changes in project operational emissions would be negligible compared to operational emissions from the existing facility. Therefore, project operational emissions were not quantified.

As outlined in question (1), Mitigation Measure AQ-1 would be implemented, which requires the preparation of a Property Management Plan to address air quality impacts and requires that an A/C Permit be obtained for all operational activities.

## Impact Summary

With the implementation of Mitigation Measure AQ-1 and Mitigation Measure AQ-2, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project

region is nonattainment under an applicable federal or State ambient air quality standard during either construction or operation. The impact would be less than significant with mitigation.

## Mitigation Measures

**Mitigation Measure AQ-1: Preparation of a Property Management Plan**

**Mitigation Measure AQ-2: Basic Construction Mitigation Measures**

Before obtaining the necessary permits and/or approvals for any phase of the project, the County shall specify on all grading, building, and other construction permits for the project, implementation of the following Basin Construction Mitigation Measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of the California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The air district's phone number shall also be visible to ensure compliance with applicable regulations.

*(3) Expose sensitive receptors to substantial pollutant concentrations?*

**Less than significant impact with mitigation.** CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution (sensitive receptors): adults over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as

asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptor locations. Examples of these sensitive receptor locations are residences, schools, hospitals, and daycare centers.

The closest existing sensitive receptor location to the project site is an existing residence located approximately 300 feet west of the project site. This is greater than the required 200-foot setback for off-site residences from commercial cannabis cultivation, as described in Article 27.3 of the Lake County Zoning Ordinance. There are no schools located in the project vicinity.

## Construction Emissions

### Toxic Air Contaminants (DPM)

Construction of the project would result in emissions of DPM from the use of construction equipment on the project site. The dose (of TAC) to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has to the substance; a longer exposure period to a fixed quantity of emissions would result in higher health risks. Current models and methodologies for conducting cancer health risk assessments are associated with longer-term exposure periods (typically 30 years for individual residents based on guidance from OEHHA) and are best suited for the evaluation of long-duration TAC emissions with predictable schedules and locations. These assessment models and methodologies do not correlate well with the temporary and highly variable nature of construction activities. Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime (OEHHA 2015).

Concentrations of mobile source DPM emissions disperse rapidly and are typically reduced by 70 percent at approximately 500 feet (CARB 2005). Considering the dispersive nature of DPM and the fact that construction activities with intensive use of heavy diesel-powered construction equipment would be intermittent and would occur for short durations, it is not anticipated that construction of the project would not expose sensitive receptors to substantial DPM concentrations. However, to further reduce DPM concentrations, Mitigation AQ-3 would be implemented, which requires diesel equipment to be used in compliance with State registration requirements.

### Fugitive Dust

The generation of dust (fugitive $PM_{10}$ and $PM_{2.5}$) during construction activities could adversely affect sensitive receptors and construction workers. As outlined in question (2), construction of the project would not result in emissions of PM in excess of the BAAQMD thresholds. However, the construction emissions estimate assumes the implementation of the BAAQMD-recommended BCMMs, listed in Mitigation Measure AQ-2. Mitigation Measure AQ-2 would be implemented, which requires the implementation of the BCMMs. Additionally, the project applicant would be required to prepare and submit a Dust Control Plan to the LCAQMD before obtaining the necessary permits and/or approvals for

any phase of the project. Mitigation Measure AQ-4 would be implemented, which requires the preparation of a Dust Control Plan.

### Hazardous or Toxic Materials

Pesticide applications would be used during the growing season; however, they would be applied carefully to individual plants. The cultivation area would be surrounded by a fence to prevent off-site drift of pesticides. The Property Management Plan would include a description of the application of pesticides during the growing season. Additionally, the project applicant would be required to maintain and provide the LCAQMD with records of all hazardous or toxic materials used in construction to update the Air Toxic Emissions Inventory. Mitigation Measure AQ-5 would be implemented, which requires records of all hazardous or toxic materials used during construction.

### Asbestos Containing Material

As outlined in question (1), according to the Water Availability Analysis prepared for the proposed project (included as Attachment C), the immediate vicinity of the project site has been mapped to consist of Andesite of Split Top Ridge (ast), Rhyodacite of Diener Drive (dd), Older dacite of Mount Hannah (doh), Andesite of Salmina Flat (asf), and Rhyodacite of Seigler Mountain (ds) underlain in some areas by Pyroclastic deposits (rbp) and further underlain by the bedrock units of Jurassic Serpentinite (Jsp) and Great Valley Sequence (KJgv; EBA Engineering 2025). However, per the County Parcel Viewer, the project site does not contain Serpentine Soils (County 2025). Therefore, the proposed project would pose no threat of asbestos exposure during the construction or operation of the proposed project.

## Operational Emissions

Operation of the proposed project would not require the use of new stationary sources of TACs, such as backup generators. Additionally, the use of diesel-powered equipment for occasional project operational maintenance would be similar to maintenance equipment used for the existing water system. However, Mitigation AQ-3 would be implemented, which requires diesel equipment to be used in compliance with State registration requirements.

### Hazardous or Toxic Materials

The project applicant would be required to maintain and provide the LCAQMD with records of all hazardous or toxic materials used during project operation to update the Air Toxic Emissions Inventory. Mitigation Measure AQ-4 would be implemented, which requires records of all hazardous or toxic materials used during the operation of the project.

## Impact Summary

With the implementation of Mitigation Measures AQ-2 through AQ-5, the construction and operation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations, and the impact would be less than significant.

## Mitigation Measures

**Mitigation Measure AQ-2: Basic Construction Mitigation Measures**

**Mitigation Measure AQ-3: Diesel Equipment Compliance**

All mobile diesel equipment used shall be in compliance with state registration requirements. Portable and stationary diesel-powered equipment shall meet all federal, State, and local requirements, including the requirements of the State Air Toxic Control Measures for compression ignition engines. Additionally, the project applicant shall notify the Lake County Air Quality Management District before beginning construction activities and before engine use.

**Mitigation Measure AQ-4: Preparation of a Dust Control Plan**

Before obtaining the necessary permits and/or approvals for any phase of the project, the project applicant shall prepare and submit a Dust Control Plan to the Lake County Air Quality Management District. The following measures shall be included in the Dust Control Plan:

a) During construction, emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area, shall be controlled so that dust does not remain visible in the atmosphere beyond the boundary line of the emission source.

b) When wind speeds result in dust emissions crossing property lines, and despite the application of dust control measures, grading and earthmoving operations shall be suspended, and inactive disturbed surface areas shall be stabilized.

c) Fugitive dust generated by active operations, open storage piles, or from a disturbed surface area shall not result in such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as No. 2 on the Ringlemann Chart (or 40 percent opacity).

d) All exposed soils be watered as needed to prevent dust density as described above and to prevent dust from visibly exiting the property.

e) All haul trucks transporting soil, sand, or loose material off-site shall be covered.

f) All vehicle speeds on unpaved roads shall be limited to 25 mph.

g) During construction, the contractor shall, where feasible, utilize existing power sources (e.g., power poles) or clean fuel (i.e., gasoline, biodiesel, natural gas) generators rather than temporary diesel power generators.

h) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. Signs shall be posted in the designated

queuing areas of the construction site to remind off-road equipment operators that idling time is limited to a maximum of five minutes.

**Mitigation Measure AQ-5: Records of Hazardous and Toxic Materials**

The project applicant shall maintain records of all hazardous or toxic materials used, including a Material Safety Data Sheet (MSDS) for all volatile organic compounds utilized, including cleaning materials. Said information shall be made available upon request and/or the ability to provide the Lake County Air Quality Management District with such information to complete an updated Air Toxic Emissions Inventory.

*(4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

**Less than significant impact with mitigation.** As outlined under *Sensitive Receptors*, the closest existing sensitive receptor location to the project site is an existing residence located approximately 300 feet west of the project site. This is greater than the required 200-foot setback for off-site residences from commercial cannabis cultivation, as described in Article 27.3 of the Lake County Zoning Ordinance.

The existing cannabis cultivation facility currently implements an odor control plan that limits and controls the cannabis odor such that it is undetectable outside of the premises. As part of the Property Management Plan, required to be prepared under Mitigation Measure AQ-1, an Odor Control Program will be prepared. The Odor Control Program would identify equipment or activity that may cause or potentially cause the issuance of air contaminants including odors, and identify measures to be taken to reduce, control, or eliminate the issuance of air contaminants, including odors. With implementation of Mitigation Measure AQ-1, which requires preparation of a Property Management Plan and an Odor Control Program, the project would not result in other emissions adversely affecting a substantial number of people, and the impact would be less than significant.

### Mitigation Measure

**Mitigation Measure AQ-1: Preparation of a Property Management Plan**

## GREENHOUSE GAS EMISSIONS IMPACT ANALYSIS

*(1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

**Less than significant impact with mitigation.**

### Construction Emissions

Construction of the proposed project is anticipated to begin April of 2026 and be completed in October 2027. Construction GHG emission sources include construction equipment exhaust, on-road hauling trucks exhaust, vendor vehicle exhaust, and worker commuting vehicle exhaust. Construction GHG emissions were estimated using CalEEMod version 2022.1. The BAAQMD has not adopted thresholds of significance for construction-period GHG emissions. The project's estimated total and amortized short-

term construction GHG emissions are shown in Table 6, *Construction GHG Emissions*. The amortized construction GHG emissions are included with the operational GHG emissions, below.

**Table 6**
**CONSTRUCTION GHG EMISSIONS**

| Year | Emissions (MT $CO_2e$) |
|---|---|
| 2026 | 310 |
| 2027 | 294 |
| *Total* | ***604*** |
| *Amortized Construction Emissions (30 years)* | ***20*** |

Source: CalEEMod (output data is provided in Attachment B)

## Operational Emissions

As outlined in *Methodology and Assumptions*, operation the proposed project would involve the continued cultivation of flowering cannabis plants within the six outdoor mature cultivation areas and the new cultivation of immature plants within the proposed nursery building. The proposed project would increase the maximum number of employees from 15 to 20 workers at any given time. However, this increase in employees would be minimal and would not result in a significant increase in vehicle trips related to current facility operations. Operation of the proposed project would not require new backup generators. The total annual water use on-site would be 107.37 AFY under the proposed project; however, this is inclusive of the 58.86 AFY of water used under existing cultivation conditions. Water sourced from public utilities results in GHG emissions from the energy required to source, treat, and transport the water over long distances. The existing and proposed annual water supply would be sourced from the two existing wells on the project site. Therefore, the change in water use and electricity used by the proposed project would be minimal in comparison to current facility operations. Overall, the changes in project operational emissions would be negligible compared to operational emissions from the existing facility and project operational emissions were not quantified.

## Compliance with BAAQMD Performance Standard-Based Threshold A

As described under *Significance Criteria*, BAAQMD has adopted performance standard-based thresholds rather than quantitative GHG emissions thresholds. LCAQMD has not adopted thresholds of significance for GHG emissions; therefore, the significance of the project's GHG emissions is determined using the BAAQMD performance standard-based Threshold A described under *Significance Criteria*:

**A.1.a. No Natural Gas – The project will not include natural gas appliances or natural gas plumbing.**

The proposed project would not include natural gas appliances or natural gas plumbing. Therefore, the project would comply with A.1.a. No Natural Gas.

**A.1.b. Wasteful, Inefficient, Or Unnecessary Energy Usage – The project will not result in wastewater, inefficient, or unnecessary energy usage.**

The project would be required to comply with all applicable Couty and State green building measures, including the State Building Energy Efficiency Standards – Title 24, Part 6, and Part 11 (CEC 2022).

Additionally, unnecessary consumption of energy resources during construction would be avoided through restriction of vehicle idling times and proper maintenance of construction equipment, as required in Mitigation Measure AQ-2 and Mitigation Measure AQ-4. Therefore, the project would comply with A.1.b. Wasteful, Inefficient, or Unnecessary Energy Usage, with implementation of Mitigation Measure AQ-2 and AQ-4.

**A.2.a. VMT Reduction – Achieve a reduction in project-generated VMT below the regional average.**

According to the Governor's Office of Land Use and Climate Innovation (LCI), formerly the Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, small land use projects that would generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant impact related to VMT (LCI 2018). Construction of the proposed project would involve vehicle trips associated with construction equipment, materials, and workers to and from the project site. Additionally, construction would require heavy construction equipment that would be transported to and from the project site; however, it is expected that the majority of this equipment would remain on-site until construction is completed.

Operation of the proposed project would generate vehicle trips from employees and delivery/pickup vehicles entering and leaving the project site, similar to current operations. The proposed project would increase the maximum number of employees from 15 to 20 workers at any given time. However, this increase in employees would be minimal and would not result in a significant increase in vehicle trips related to facility operations.

As it is anticipated that the number of trips generated by the proposed project during construction and operation of the proposed project would be less than the 110 trips per day threshold established by OPR, the project would comply with A.2.a, VMT Reduction.

**A.2.b. Electric Vehicle Parking – Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2 standards.**

No new parking areas or spaces are proposed under the project. Therefore, the project would comply with A.2.b, Electric Vehicle Parking.

### Impact Summary

The proposed project would comply with the BAAQMD Threshold A performance standards with implementation of Mitigation Measure AQ-2 and AQ-4, and therefore would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. With implementation of Mitigation Measure AQ-2 and AQ-4, impact would be less than significant.

Mitigation Measure

**Mitigation Measure AQ-2: Basic Construction Mitigation Measures**

**Mitigation Measure AQ-4: Preparation of a Dust Control Plan**

*(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?*

**Less than significant impact.** There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State plan and policy is AB 32, the California Global Warming Solutions Act of 2006. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. SB 32 requires further reductions of 40 percent below 1990 levels by 2030. AB 1279 requires the State to achieve net zero GHG emissions no later than 2045. The mandates of AB 32, SB 32, and AB 1279 are implemented at the State level by the CARB's Scoping Plan. Because the proposed project's operational year is post-2020, the project aims to reach the quantitative goals set by SB 32 and AB 1279. Statewide plans and regulations such as GHG emissions standards for vehicles and transportation fuels, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the Statewide level; as such, compliance at the project level is not addressed. Therefore, the proposed project would not conflict with those plans and regulations.

Lake County has not adopted any specific GHG reduction strategies or climate action plans. As noted in question (1) above, the proposed project would comply with the BAAQMD Threshold A performance standards, and therefore would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. As a result, the proposed project would not conflict with the GHG reduction objectives of the State's Scoping Plan, including net zero GHG emissions by 2045, mandated by AB 1279. The impact would be less than significant.

## CONCLUSION

As described above, with the implementation of Mitigation Measure AQ-1 and Mitigation Measure AQ-2, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard during either construction or operation. Additionally, with implementation of Mitigation Measures AQ-2 through AQ-5, construction and operation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations, and the impact would be less than significant. As part of the Property Management Plan, required to be prepared under Mitigation Measure AQ-1, an Odor Control Program will be prepared. With implementation of Mitigation Measure AQ-1, which requires preparation of a Property Management Plan and an Odor Control Program, the project would not result in other emissions adversely affecting a substantial number of people. Air quality impacts would be less than significant with implementation of Mitigation Measures AQ-1 through AQ-5.

LCAQMD has not adopted thresholds of significance for GHG emissions; therefore, the significance of the project's GHG emissions is determined using the BAAQMD performance standard-based Threshold A. Additionally, Lake County has not adopted any specific GHG reduction strategies or climate action

plans. The proposed project would comply with the BAAQMD Threshold A performance standards, and therefore would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. As a result, the proposed project would not conflict with the GHG reduction objectives of the State's Scoping Plan, including net zero GHG emissions by 2045, mandated by AB 1279. GHG emission impacts would be less than significant with implementation of Mitigation Measure AQ-2 and AQ-4.

Sincerely,

Victor Ortiz
Senior Air Quality Specialist

Julia Pano
Environmental Project Manager

**Attachments:**

Attachment A: Figures
Attachment B: CalEEMod Output
Attachment C: Water Availability Analysis

## REFERENCES

Bay Area Air Quality Management District (BAAQMD). 2023. 2022 CEQA Air Quality Guidelines. April 20. Available at: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines.

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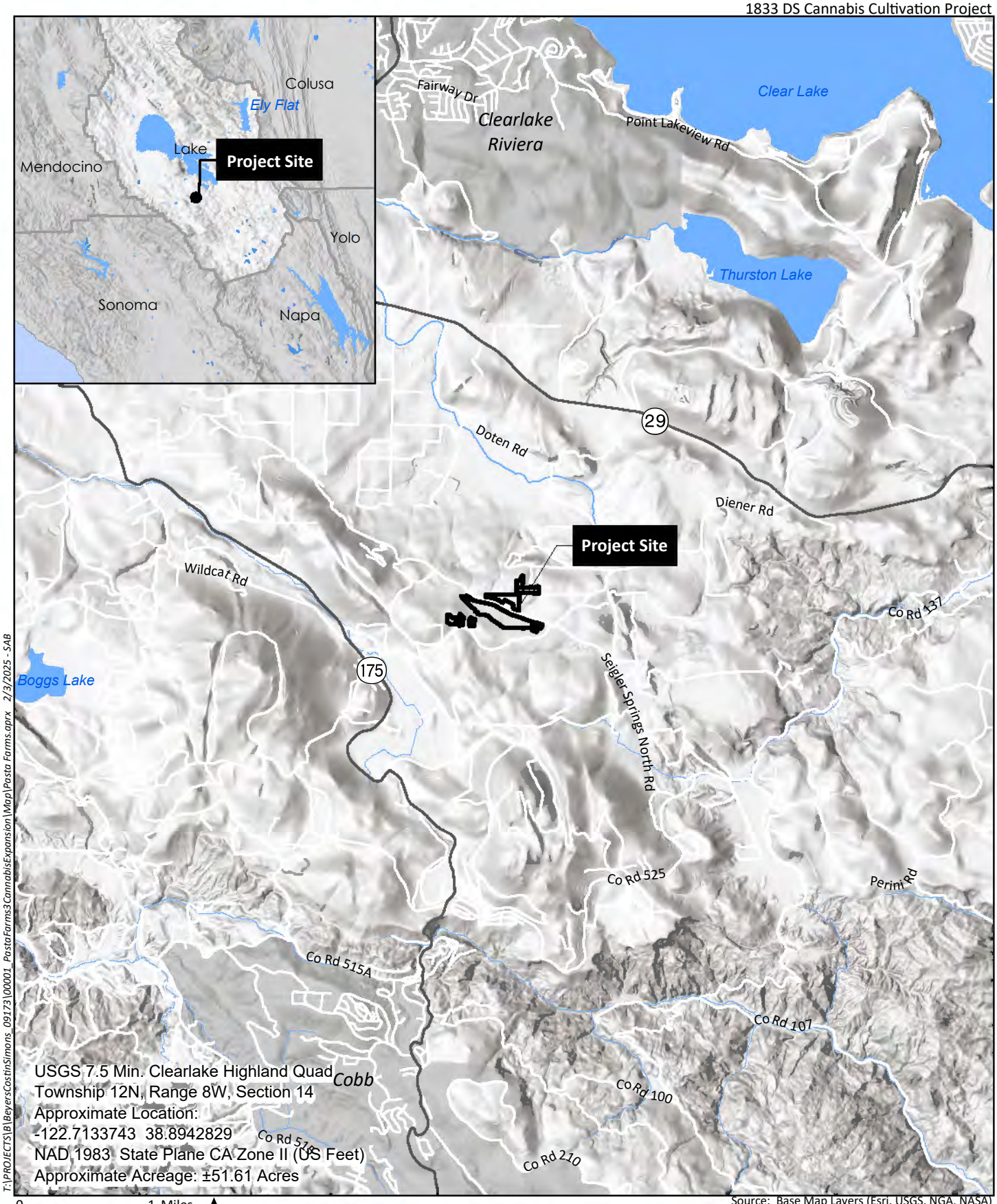
# Attachment A

Figures

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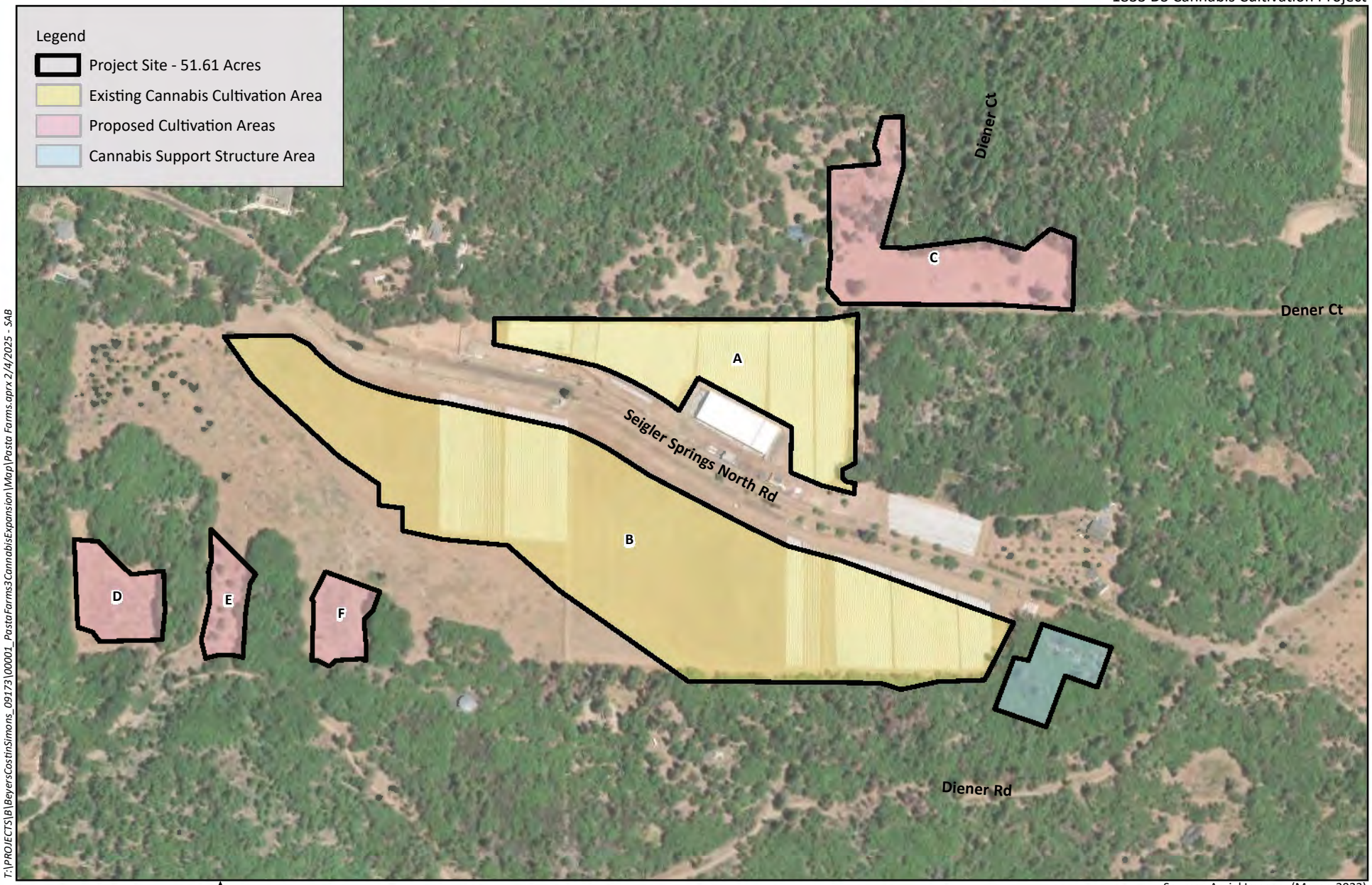
HELIX Environmental Planning

# Site and Vicinity Map

Figure 1

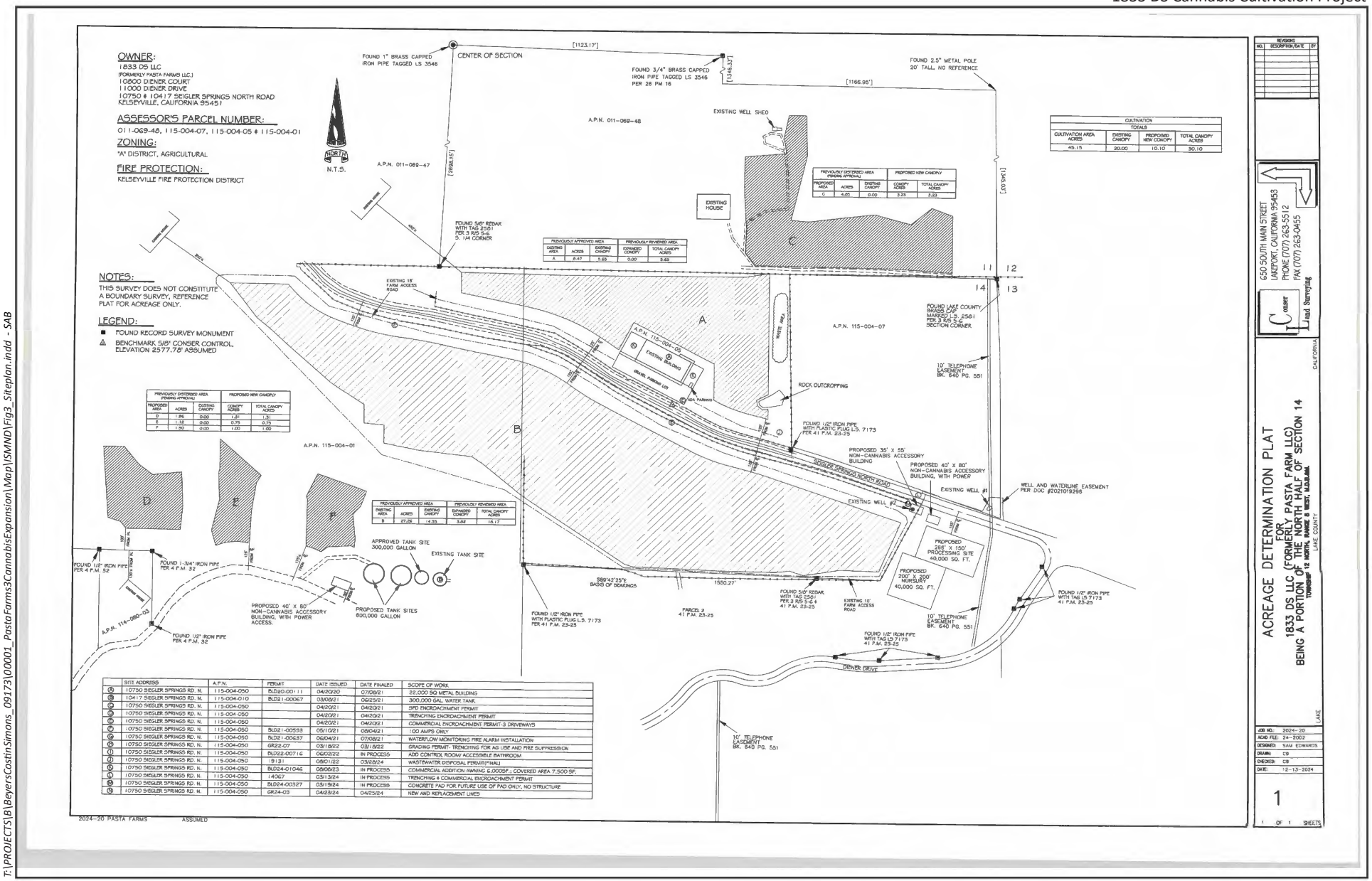



Source: Aerial Imagery (Maxar, 2023)

HELIX Environmental Planning

# Aerial Map

Figure 2




| | SITE ADDRESS | A.P.N. | PERMIT | DATE ISSUED | DATE FINALED | SCOPE OF WORK |
|---|---|---|---|---|---|---|
| A | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | BLD20-00111 | 04/20/20 | 07/06/21 | 22,000 SQ METAL BUILDING |
| B | 10417 SIEGLER SPRINGS RD. N. | 115-004-010 | BLD21-00067 | 03/06/21 | 06/25/21 | 300,000 GAL. WATER TANK |
| C | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | | 04/20/21 | 04/20/21 | SPD ENCROACHMENT PERMIT |
| D | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | | 04/20/21 | 04/20/21 | TRENCHING ENCROACHMENT PERMIT |
| E | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | | 04/20/21 | 04/20/21 | COMMERCIAL ENCROACHMENT PERMIT-3 DRIVEWAYS |
| F | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | BLD21-00593 | 05/10/21 | 08/04/21 | 100 AMPS ONLY |
| G | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | BLD21-00657 | 06/04/21 | 07/08/21 | WATERFLOW MONITORING FIRE ALARM INSTALLATION |
| H | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | GR22-07 | 03/18/22 | 03/15/22 | GRADING PERMIT- TRENCHING FOR AG USE AND FIRE SUPPRESSION |
| I | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | BLD22-00716 | 06/03/22 | IN PROCESS | ADD CONTROL ROOM/ ACCESSIBLE BATHROOM. |
| J | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | 19131 | 05/01/22 | 03/28/24 | WASTEWATER DISPOSAL PERMIT(FINAL) |
| K | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | BLD24-01046 | 08/06/23 | IN PROCESS | COMMERCIAL ADDITION AWNING 6,000SF.; COVERED AREA 7,500 SF. |
| L | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | 14067 | 03/13/24 | IN PROCESS | TRENCHING 4 COMMERCIAL ENCROACHMENT PERMIT |
| M | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | BLD24-00327 | 03/19/24 | IN PROCESS | CONCRETE PAD FOR FUTURE USE OF PAD ONLY, NO STRUCTURE |
| N | 10750 SIEGLER SPRINGS RD. N. | 115-004-050 | GR24-03 | 04/23/24 | 04/25/24 | NEW AND REPLACEMENT LINES |

T:\PROJECTS\B\BeyersCostinSimons_09173100001_PastaFarms3CannabisExpansion\Map\SMND\Fig3_Siteplan.indd - SAB

HELIX Environmental Planning

# Site Plan

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## CalEEMod Output

# Pasta Farm Detailed Report

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# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | Pasta Farm |
| Construction Start Date | 4/1/2026 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.20 |
| Precipitation (days) | 9.20 |
| Location | 10750 Seigler Springs Rd, Kelseyville, CA 95451, USA |
| County | Lake |
| City | Unincorporated |
| Air District | Lake County AQMD |
| Air Basin | Lake County |
| TAZ | 238 |
| EDFZ | 2 |
| Electric Utility | Pacific Gas & Electric Company |
| Gas Utility | Pacific Gas & Electric |
| App Version | 2022.1.1.29 |

## 1.2. Land Use Types

| Land Use Subtype | Size | Unit | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|---|---|---|---|---|---|---|---|---|
| Manufacturing | 80.0 | 1000sqft | 51.6 | 80,000 | 0.00 | — | — | — |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

# 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 3.72 | 31.8 | 33.1 | 0.07 | 1.33 | 164 | 165 | 1.23 | 16.4 | 16.7 | 8,145 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.32 | 10.5 | 15.1 | 0.03 | 0.38 | 164 | 165 | 0.35 | 16.4 | 16.8 | 2,999 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.89 | 7.41 | 8.85 | 0.02 | 0.29 | 95.3 | 95.5 | 0.27 | 9.53 | 9.71 | 1,871 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.16 | 1.35 | 1.61 | < 0.005 | 0.05 | 17.4 | 17.4 | 0.05 | 1.74 | 1.77 | 310 |

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| 2026 | 3.72 | 31.8 | 33.1 | 0.07 | 1.33 | 89.3 | 90.5 | 1.23 | 11.6 | 12.8 | 8,145 |
| 2027 | 1.26 | 10.0 | 15.1 | 0.03 | 0.34 | 164 | 165 | 0.31 | 16.4 | 16.7 | 2,997 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2026 | 1.32 | 10.5 | 15.1 | 0.03 | 0.38 | 164 | 165 | 0.35 | 16.4 | 16.8 | 2,999 |
| 2027 | 1.26 | 10.0 | 15.0 | 0.03 | 0.34 | 164 | 165 | 0.31 | 16.4 | 16.7 | 2,988 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — |
| 2026 | 0.89 | 7.41 | 8.75 | 0.02 | 0.29 | 46.3 | 46.6 | 0.27 | 4.98 | 5.25 | 1,871 |
| 2027 | 0.74 | 5.99 | 8.85 | 0.02 | 0.20 | 95.3 | 95.5 | 0.19 | 9.53 | 9.71 | 1,773 |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| 2026 | 0.16 | 1.35 | 1.60 | < 0.005 | 0.05 | 8.46 | 8.51 | 0.05 | 0.91 | 0.96 | 310 |
| 2027 | 0.14 | 1.09 | 1.61 | < 0.005 | 0.04 | 17.4 | 17.4 | 0.03 | 1.74 | 1.77 | 294 |

# 3. Construction Emissions Details

## 3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 3.59 | 31.7 | 31.8 | 0.06 | 1.33 | — | 1.33 | 1.23 | — | 1.23 | 6,654 |
| Dust From Material Movement | — | — | — | — | — | 7.67 | 7.67 | — | 3.94 | 3.94 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.29 | 2.61 | 2.61 | 0.01 | 0.11 | — | 0.11 | 0.10 | — | 0.10 | 547 |
| Dust From Material Movement | — | — | — | — | — | 0.63 | 0.63 | — | 0.32 | 0.32 | — |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.05 | 0.48 | 0.48 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | 90.5 |
| Dust From Material Movement | — | — | — | — | — | 0.11 | 0.11 | — | 0.06 | 0.06 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.13 | 0.09 | 1.31 | 0.00 | 0.00 | 76.2 | 76.2 | 0.00 | 7.62 | 7.62 | 165 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.09 | 0.00 | 0.00 | 6.11 | 6.11 | 0.00 | 0.61 | 0.61 | 12.7 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | 1.11 | 1.11 | 0.00 | 0.11 | 0.11 | 2.11 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.3. Grading (2026) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 3.49 | 29.8 | 30.5 | 0.07 | 1.21 | — | 1.21 | 1.11 | — | 1.11 | 7,959 |
| Dust From Material Movement | — | — | — | — | — | 3.59 | 3.59 | — | 1.42 | 1.42 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.29 | 2.45 | 2.51 | 0.01 | 0.10 | — | 0.10 | 0.09 | — | 0.09 | 654 |
| Dust From Material Movement | — | — | — | — | — | 0.30 | 0.30 | — | 0.12 | 0.12 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.05 | 0.45 | 0.46 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | 108 |
| Dust From Material Movement | — | — | — | — | — | 0.05 | 0.05 | — | 0.02 | 0.02 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.15 | 0.10 | 1.47 | 0.00 | 0.00 | 85.7 | 85.7 | 0.00 | 8.57 | 8.57 | 185 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.01 | 0.01 | 0.11 | 0.00 | 0.00 | 6.87 | 6.87 | 0.00 | 0.69 | 0.69 | 14.3 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | 1.25 | 1.25 | 0.00 | 0.13 | 0.13 | 2.37 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.07 | 9.85 | 13.0 | 0.02 | 0.38 | — | 0.38 | 0.35 | — | 0.35 | 2,405 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.19 | 1.77 | 2.33 | < 0.005 | 0.07 | — | 0.07 | 0.06 | — | 0.06 | 433 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.32 | 0.43 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | 71.7 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.23 | 0.15 | 2.02 | 0.00 | 0.00 | 128 | 128 | 0.00 | 12.8 | 12.8 | 269 |
| Vendor | 0.02 | 0.53 | 0.16 | < 0.005 | < 0.005 | 36.2 | 36.2 | < 0.005 | 3.63 | 3.63 | 325 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.04 | 0.03 | 0.35 | 0.00 | 0.00 | 22.5 | 22.5 | 0.00 | 2.25 | 2.25 | 46.8 |
| Vendor | < 0.005 | 0.10 | 0.03 | < 0.005 | < 0.005 | 6.36 | 6.36 | < 0.005 | 0.64 | 0.64 | 58.5 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.06 | 0.00 | 0.00 | 4.10 | 4.10 | 0.00 | 0.41 | 0.41 | 7.75 |
| Vendor | < 0.005 | 0.02 | 0.01 | < 0.005 | < 0.005 | 1.16 | 1.16 | < 0.005 | 0.12 | 0.12 | 9.68 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.03 | 9.39 | 12.9 | 0.02 | 0.34 | — | 0.34 | 0.31 | — | 0.31 | 2,405 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.03 | 9.39 | 12.9 | 0.02 | 0.34 | — | 0.34 | 0.31 | — | 0.31 | 2,405 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | 0.61 | 5.59 | 7.70 | 0.01 | 0.20 | — | 0.20 | 0.18 | — | 0.18 | 1,431 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.11 | 1.02 | 1.40 | < 0.005 | 0.04 | — | 0.04 | 0.03 | — | 0.03 | 237 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.22 | 0.14 | 2.02 | 0.00 | 0.00 | 128 | 128 | 0.00 | 12.8 | 12.8 | 272 |
| Vendor | 0.01 | 0.50 | 0.14 | < 0.005 | < 0.005 | 36.2 | 36.2 | < 0.005 | 3.63 | 3.63 | 320 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.22 | 0.14 | 1.87 | 0.00 | 0.00 | 128 | 128 | 0.00 | 12.8 | 12.8 | 264 |
| Vendor | 0.01 | 0.50 | 0.15 | < 0.005 | < 0.005 | 36.2 | 36.2 | < 0.005 | 3.63 | 3.63 | 319 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.12 | 0.09 | 1.06 | 0.00 | 0.00 | 74.3 | 74.3 | 0.00 | 7.42 | 7.42 | 152 |
| Vendor | 0.01 | 0.31 | 0.09 | < 0.005 | < 0.005 | 21.0 | 21.0 | < 0.005 | 2.10 | 2.11 | 190 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.19 | 0.00 | 0.00 | 13.6 | 13.6 | 0.00 | 1.35 | 1.35 | 25.2 |
| Vendor | < 0.005 | 0.06 | 0.02 | < 0.005 | < 0.005 | 3.83 | 3.84 | < 0.005 | 0.38 | 0.38 | 31.5 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.9. Underground Utilities (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.24 | 2.23 | 3.40 | < 0.005 | 0.07 | — | 0.07 | 0.06 | — | 0.06 | 499 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.05 | 0.43 | 0.66 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | 97.1 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.08 | 0.12 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 16.1 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.02 | 0.33 | 0.00 | 0.00 | 19.1 | 19.1 | 0.00 | 1.90 | 1.90 | 41.2 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.06 | 0.00 | 0.00 | 3.61 | 3.61 | 0.00 | 0.36 | 0.36 | 7.53 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | 0.66 | 0.66 | 0.00 | 0.07 | 0.07 | 1.25 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# 4. Operations Emissions Details

## 4.10. Soil Carbon Accumulation By Vegetation Type

### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — |

### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — |

## 4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — |

# 5. Activity Data

## 5.1. Construction Schedule

| Phase Name | Phase Type | Start Date | End Date | Days Per Week | Work Days per Phase | Phase Description |
|---|---|---|---|---|---|---|
| Site Preparation | Site Preparation | 4/1/2026 | 5/12/2026 | 5.00 | 30.0 | — |
| Grading | Grading | 5/13/2026 | 6/23/2026 | 5.00 | 30.0 | — |
| Building Construction | Building Construction | 10/1/2026 | 10/31/2027 | 5.00 | 282 | — |
| Underground Utilities | Trenching | 6/24/2026 | 9/30/2026 | 5.00 | 71.0 | — |

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | Diesel | Average | 3.00 | 8.00 | 367 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | Diesel | Average | 4.00 | 8.00 | 84.0 | 0.37 |
| Site Preparation | Off-Highway Trucks | Diesel | Average | 1.00 | 8.00 | 376 | 0.38 |
| Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Grading | Excavators | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Grading | Tractors/Loaders/Backhoes | Diesel | Average | 2.00 | 8.00 | 84.0 | 0.37 |
| Grading | Scrapers | Diesel | Average | 2.00 | 8.00 | 423 | 0.48 |
| Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| Grading | Off-Highway Trucks | Diesel | Average | 1.00 | 8.00 | 376 | 0.38 |
| Building Construction | Forklifts | Diesel | Average | 3.00 | 8.00 | 82.0 | 0.20 |
| Building Construction | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Building Construction | Cranes | Diesel | Average | 1.00 | 7.00 | 367 | 0.29 |
| Building Construction | Welders | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.45 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Building Construction | Tractors/Loaders/Back | Diesel | Average | 3.00 | 7.00 | 84.0 | 0.37 |
| Underground Utilities | Excavators | Diesel | Average | 1.00 | 8.00 | 40.0 | 0.50 |
| Underground Utilities | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 8.00 | 84.0 | 0.37 |

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|
| Site Preparation | — | — | — | — |
| Site Preparation | Worker | 20.0 | 10.1 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | — | 7.35 | HHDT,MHDT |
| Site Preparation | Hauling | 0.00 | 20.0 | HHDT |
| Site Preparation | Onsite truck | — | — | HHDT |
| Grading | — | — | — | — |
| Grading | Worker | 22.5 | 10.1 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 7.35 | HHDT,MHDT |
| Grading | Hauling | 0.00 | 20.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |
| Building Construction | Worker | 33.6 | 10.1 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 13.1 | 7.35 | HHDT,MHDT |
| Building Construction | Hauling | 0.00 | 20.0 | HHDT |
| Building Construction | Onsite truck | — | — | HHDT |
| Underground Utilities | — | — | — | — |
| Underground Utilities | Worker | 5.00 | 10.1 | LDA,LDT1,LDT2 |
| Underground Utilities | Vendor | — | 7.35 | HHDT,MHDT |
| Underground Utilities | Hauling | 0.00 | 20.0 | HHDT |
| Underground Utilities | Onsite truck | — | — | HHDT |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|---|

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name | Material Imported (cy) | Material Exported (cy) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|---|---|---|---|---|---|
| Site Preparation | — | — | 45.0 | 0.00 | — |
| Grading | — | — | 90.0 | 0.00 | — |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|---|---|---|---|
| Water Exposed Area | 2 | 61% | 61% |

## 5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|---|---|---|
| Manufacturing | 0.00 | 0% |

## 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|---|---|---|---|---|
| 2026 | 0.00 | 204 | 0.03 | < 0.005 |

| | | | | |
|---|---|---|---|---|
| 2027 | 0.00 | 204 | 0.03 | < 0.005 |

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|---|---|---|---|

### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

### 5.18.2. Sequestration

#### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

# 6. Climate Risk Detailed Report

## 6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

| Climate Hazard | Result for Project Location | Unit |
|---|---|---|
| Temperature and Extreme Heat | 17.6 | annual days of extreme heat |
| Extreme Precipitation | 21.1 | annual days with precipitation above 20 mm |
| Sea Level Rise | — | meters of inundation depth |
| Wildfire | 31.0 | annual hectares burned |

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

## 6.2. Initial Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | N/A | N/A | N/A | N/A |
| Extreme Precipitation | 3 | 0 | 0 | N/A |
| Sea Level Rise | N/A | N/A | N/A | N/A |
| Wildfire | 1 | 0 | 0 | N/A |
| Flooding | 0 | 0 | 0 | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | N/A | N/A | N/A | N/A |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

## 6.3. Adjusted Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | N/A | N/A | N/A | N/A |
| Extreme Precipitation | 3 | 1 | 1 | 3 |
| Sea Level Rise | N/A | N/A | N/A | N/A |

| | | | | |
|---|---|---|---|---|
| Wildfire | 1 | 1 | 1 | 2 |
| Flooding | 1 | 1 | 1 | 2 |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | N/A | N/A | N/A | N/A |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

### 6.4. Climate Risk Reduction Measures

# 7. Health and Equity Details

## 7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---|---|
| Exposure Indicators | — |
| AQ-Ozone | 16.8 |
| AQ-PM | 0.29 |
| AQ-DPM | 5.55 |
| Drinking Water | 56.2 |
| Lead Risk Housing | 11.2 |
| Pesticides | 66.5 |
| Toxic Releases | 0.00 |
| Traffic | 6.55 |
| Effect Indicators | — |
| CleanUp Sites | 83.0 |
| Groundwater | 42.6 |

| | |
|---|---|
| Haz Waste Facilities/Generators | 16.6 |
| Impaired Water Bodies | 23.9 |
| Solid Waste | 35.7 |
| Sensitive Population | — |
| Asthma | 76.7 |
| Cardio-vascular | 49.2 |
| Low Birth Weights | 16.2 |
| Socioeconomic Factor Indicators | — |
| Education | 32.9 |
| Housing | 33.2 |
| Linguistic | 0.00 |
| Poverty | 43.5 |
| Unemployment | 40.6 |

## 7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---|---|
| Economic | — |
| Above Poverty | 37.944309 |
| Employed | 8.417810856 |
| Median HI | 34.53098935 |
| Education | — |
| Bachelor's or higher | 34.23585269 |
| High school enrollment | 100 |
| Preschool enrollment | 50.64801745 |
| Transportation | — |
| Auto Access | 72.44963429 |
| Active commuting | 35.45489542 |

| | |
|---|---|
| Social | — |
| 2-parent households | 72.70627486 |
| Voting | 68.304889 |
| Neighborhood | — |
| Alcohol availability | 80.25150776 |
| Park access | 12.45989991 |
| Retail density | 5.171307584 |
| Supermarket access | 2.399589375 |
| Tree canopy | 96.72783267 |
| Housing | — |
| Homeownership | 73.93814962 |
| Housing habitability | 60.5800077 |
| Low-inc homeowner severe housing cost burden | 26.02335429 |
| Low-inc renter severe housing cost burden | 25.29192865 |
| Uncrowded housing | 86.21840113 |
| Health Outcomes | — |
| Insured adults | 38.07262928 |
| Arthritis | 0.0 |
| Asthma ER Admissions | 41.7 |
| High Blood Pressure | 0.0 |
| Cancer (excluding skin) | 0.0 |
| Asthma | 0.0 |
| Coronary Heart Disease | 0.0 |
| Chronic Obstructive Pulmonary Disease | 0.0 |
| Diagnosed Diabetes | 0.0 |
| Life Expectancy at Birth | 46.0 |
| Cognitively Disabled | 1.0 |
| Physically  Disabled | 4.8 |

| | |
|---|---|
| Heart Attack ER Admissions | 39.1 |
| Mental Health Not Good | 0.0 |
| Chronic Kidney Disease | 0.0 |
| Obesity | 0.0 |
| Pedestrian Injuries | 64.5 |
| Physical Health Not Good | 0.0 |
| Stroke | 0.0 |
| Health Risk Behaviors | — |
| Binge Drinking | 0.0 |
| Current Smoker | 0.0 |
| No Leisure Time for Physical Activity | 0.0 |
| Climate Change Exposures | — |
| Wildfire Risk | 90.3 |
| SLR Inundation Area | 0.0 |
| Children | 77.6 |
| Elderly | 4.6 |
| English Speaking | 77.5 |
| Foreign-born | 5.6 |
| Outdoor Workers | 29.9 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 95.4 |
| Traffic Density | 3.7 |
| Traffic Access | 0.0 |
| Other Indices | — |
| Hardship | 53.6 |
| Other Decision Support | — |
| 2016 Voting | 64.3 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 21.0 |
| Healthy Places Index Score for Project Location (b) | 43.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |
| Project Located in a Low-Income Community (Assembly Bill 1550) | No |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

## 7.4. Health & Equity Measures

No Health & Equity Measures selected.

## 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

## 7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

# 8. User Changes to Default Data

| Screen | Justification |
|---|---|
| Land Use | Lot acreage and building size based on information from project engineer and site plan. |
| Construction: Construction Phases | Per the project engineer, no demolition would occur and the proposed buildings would not be painted. |
| Construction: Off-Road Equipment | Off Highway Truck = Water Truck. Underground Utilities equipment based on similar project type. |

# Attachment C

## Water Availability Analysis

January 13, 2025

Mr. Samual Edwards
1833 DS LLC
10750 Seigler Springs Road
Kelseyville, CA 95451

**RE: WATER AVAILABILITY ANALYSIS**
**1833 DS LLC**
**10750 SEIGLER SPRINGS ROAD**
**KELSEYVILLE, CALIFORNIA 95451**
***EBA Job No. 24-3575***

Dear Mr. Edwards,

EBA Engineering (EBA) is pleased to present this Water Availability Analysis (WAA) for the 1833 DS LLC (1833 DS) cannabis operation located at 10750 Seigler Springs Road, in Kelseyville, Lake County, California, hereinafter referred to as the project site. Please refer to the provided Figure 1 – Location Map (Appendix A) for a depiction of the project site within the vicinity of Clear Lake and Lake County. The project site is located on a ridgetop along Seigler Springs Road, is approximately nine miles southeast of Kelseyville, and six miles west-southwest of Lower Lake. The site is accessed by Highway 29 between Lakeport and Lower Lake via Diener Drive or by Highway 175 between Middletown and Kelseyville via Seigler Spring Road from Loch Lomond.

The project site includes ten parcels with a total acreage of 602.48 acres (AC). The parcels include Lake County Assessor Parcel Numbers (APNs) 011-047-060; 011-069-480; 115-001-210 & 290; 115-004-010, 050, 070, & 080; 115-005-030, and 115-006-180. The primary address and the location of the main facility is 10750 Seigler Springs Road, Kelseyville, CA (APN 115-004-050). Please refer to Figure 2 – Overall Site Map (Appendix A) for a depiction of the parcels and the surrounding properties.

This WAA was prepared to assess groundwater availability based on increased groundwater demand for a proposed cannabis cultivation scenario, and to address assessment criteria as outlined in the County of Lake's Urgency Ordinance No. 3106 (*An Urgency Ordinance Requiring Land Use Applicants to Provide Enhanced Water Analysis During a Declared Drought Emergency*, County of Lake, 2021).

The purpose of this WAA is to determine whether there is sufficient groundwater supply to accommodate the proposed demand and to estimate the effects of aquifer pumping within the designated Cumulative Impact Area (CIA). This WAA was prepared to meet these objectives. Included is an overview of existing information, such as parcel data, geologic documents, Well Completion Reports (WCRs) identified in the hydrogeologic region, and efforts by previous consultants and water system contractors.

# 1.0 BACKGROUND INFORMATION

## *1.1 Project Description*

The project includes expanding the total permitted cannabis canopy area from 20.0 AC to 30.1 AC, increasing the number of full-time employees from 15 to 20, and a new 0.92-acre nursery for cultivating cannabis seedlings. Please note that the proposed actual cultivation area is 1.5 times greater than the proposed canopy area value per the Lake County Cannabis Ordinance to account for the space in between the plants. Please refer to the Acreage Determination Plat prepared by Conser Land Surveying, dated March 10, 2024 (Appendix B) for an illustration of the cultivation areas and additional information regarding the total acreages for each of the cultivation blocks. The cultivation blocks are also shown on Figure 2 (Appendix A).

Based on EBA's conversations with 1833 DS, the project includes the 0.92-AC nursery and 10.0 AC of light deprivation canopy for a period of 19 weeks starting during the week of March 5th and ending the week of July 9th. The outdoor cultivation will start with 20.1 AC during the weeks of June 25th through July 9th, and 30.1 AC thereafter. During the weeks of June 25th through July 9th there is overlap including 10 AC of light deprivation cultivation and 20.1 AC of outdoor cultivation to avoid exceeding the 30.1 AC limit. The outdoor crop is then harvested starting during the week of October 22nd. The harvest is proposed to be completed by the end of the week of October 29th.

## *1.2 Project Site Description*

Existing site features include the 20.0-acre cannabis farm, an approximately 32,000-square-foot warehouse, four residences, water treatment and distribution improvements, a 300,000-gallon water storage tank, two well houses, equipment, an irrigation manifold pad, and eight groundwater wells. Please note that the prior land use of the cannabis cultivation area was a vineyard and an orchard. As previously mentioned, the project site is comprised of ten parcels with a total area of 602.48 AC. Topography is characterized as hilly with elevations ranging from approximately 2,025 to 2,975 feet NAVD88.

The project-site parcels include the following zoning descriptions: rural land, rural residential land, and agricultural district land. Land use is predominantly woodland except for the cannabis farm area, residential areas, and dirt roads. A summary of parcel information and the distribution of project groundwater wells is provided on the following page in Table 1. The most recently purchased property by 1833 DS was APN 115-005-030, which was purchased in October 2023. This parcel has not yet been developed by 1833 DS but has added three additional groundwater wells to the 1833 DS well field (Wells 6, 7, and 8). These groundwater wells may be used for groundwater supply in the future, and as such, the CIA (described later in Section 3.0) was expanded to accommodate to include these potential sources of groundwater supply. Please be advised that aquifer hydraulics evaluations in connection with the pumping of Wells 6, 7, and 8 have been excluded from this analysis.

| TABLE 1<br>1833 DS PARCEL SUMMARY | | | | |
|---|---|---|---|---|
| ***Address*** | ***APN*** | ***Total Acres*** | ***No. of Wells*** | ***Well Description*** |
| 9864 Diener Drive | 115-001-210 | 20.13 | 0 | -- |
| 9954 Diener Drive | 115-001-290 | 6.26 | 0 | -- |
| 10145 Seigler Springs Road | 011-047-060 | 6.45 | 1 | Well 9 (Residential) |
| 10417 Seigler Springs Road | 115-004-010 | 133.40 | 0 | -- |
| 10833 Diener Drive | 115-004-080 | 64.06 | 1 | Well 5 (Residential) |
| 10750 Seigler Springs Road | 115-004-050 | 37.40 | 1 | Well 2 (Agricultural) |
| 10800 Deiner Court | 011-069-480 | 105.74 | 1 | Well 3 (Agricultural) |
| 11000 Diener Drive | 115-004-070 | 18.40 | 2 | Wells 1 & 4 (Agricultural & Residential) |
| 11000 Diener Drive | 115-006-180 | 17.26 | 0 | -- |
| 9954 Salmina Road | 115-005-030 | 193.38 | 3 | Wells 6, 7, & 8 (Residential & Public) |

## *1.3 Project Site Well Field Information*

Please refer to Table 2 below for a summary of the 1833 DS well field characteristics. Project site WCRs are provided in Appendix C.

| TABLE 2<br>1833 DS WELL FIELD SUMMARY | | | | | | |
|---|---|---|---|---|---|---|
| ***Well #*** | ***WCR #*** | ***Casing Diameter (inches)*** | ***Completion Depth (feet bgs)*** | ***Well Yield Estimate (gpm)*** | ***Static Water Level (feet bgs)*** | ***Pumping Water Level (feet bgs)*** |
| Well 1 | 713304 | 8.0 | 300 | 197* | 129* | 212* |
| Well 2 | WE-5410-AG | 14.0 | 305 | 275* | 151* | 161* |
| Well 3 | 486026 | 6.0 | 405 | 25* | 157* | 157* |
| Well 4 | 713384 | 4.5 | 200 | 150 | 125 | 200 |
| Well 5 | N/A | N/A | N/A | N/A | N/A | N/A |
| Well 6 | N/A | N/A | N/A | N/A | N/A | N/A |
| Well 7 | e0274148 | 6.0 | 494 | 60 | 302 | 478 |
| Well 8 | 756196 | 4.5 | 470 | 50 | 330 | 470 |
| Well 9 | 713358 | 4.5 | 410 | 80 | 260 | 410 |

*Data based on Pumping Tests by Jim's Pumps (Appendix D)
WCR: Well Completion Report
bgs: below ground surface
gpm: gallons per minute
N/A: Not Available

The information presented in Table 2 is based on data from the WCRs except for the well yield, static water level, and pumping water level data for Wells 1, 2, and 3 which are based on pumping tests included in Appendix D. The presented WCR number for Well 2 is given as the County of Lake permit number (WE-5410-AG) because the DWR has not yet assigned a WCR number for Well 2. Based on EBA's correspondence with DWR staff, the WCR number has not been assigned because the driller reportedly did not switch over to a required online system for WCR submissions. EBA is waiting for the WCR number to be provided by DWR as of the time of writing this WAA. Available pumping test data for the wells and groundwater reports by previous consultants are included as Appendix D.

## *1.4 Local Geology and Hydrogeology*

The project site is situated in the Coast Ranges geomorphic province which has northwest-trending ridges and valleys that run subparallel to the San Andreas Fault Zone. The project site is located approximately ten miles to the southeast of the Big Valley Groundwater Basin (Basin Number 5-015). The project site lies within the area of the United States Geological Survey's Kelseyville 15-minute by 15-minute quadrangle. EBA utilized the *Geologic Map and Structure of the Clear Lake Volcanics, Northern California - Map I1262* (USGS, B.C. Hearn. Jr., J.M. Donnelly-Nolan, and F.E. Goff, 1995) for geologic interpretation and review. Generally, the geology of the project site vicinity is made up principally of rocks associated with volcanic formations. The immediate vicinity of the project site has been mapped (Hearn et al., 1995) to consist of Andesite of Split Top Ridge (ast), Rhyodacite of Diener Drive (dd), Older dacite of Mount Hannah (doh), Andesite of Salmina Flat (asf), and Rhyodacite of Seigler Mountain (ds) underlain in some areas by Pyroclastic deposits (rbp) and further underlain by the bedrock units of Jurassic Serpentinite (Jsp) and Great Valley Sequence (KJgv). The Great Valley deposits are described as being composed of predominantly shale, siltstone, graywacke, conglomerate, greenstone, and chert, while the serpentinite is thought to have intruded in areas of faulting. Quaternary-aged alluvium (al) is mapped to the southwest of the project site within the CIA in the Salmina Flat area. A geologic map and corresponding cross section for the area are presented as Figure 4 (Appendix A). As shown on Figure 4, the surface geology in the location of the irrigation wells has been mapped as ast.

The project site lies within the Konocti Bay Fault System which is a series of northwest and southeast trending faults. These faults may either provide hydrogeologic boundary conditions or provide areas with rocks that can be more highly fractured. The interconnection of these fractures, joints, and weathered surfaces within the rhyodacite provide the primary aquifer at the project site. The underlying aquifer is thought to be unconfined based on the fracture flow dynamics of groundwater flow in volcanics. The geology observed during EBA's site visit was generally consistent with the USGS findings.

According to the Lake County Watershed Protection District's (LCWPD's) *Lake County Groundwater Management Plan*, dated March 31, 2006 (LCWPD, 2006), the project site is located in the Clear Lake Volcanics Groundwater Basin. Within this basin, groundwater yields to wells are highly variable due to nature of the volcanic fracture systems. Volcanic deposits can range from slight to moderate with specific yields ranging from zero to 15 percent. The underlying Great Valley Sequence materials, in turn, may provide small

quantities of groundwater and typically exhibit specific yield characteristics of less than 3 percent. No springs or ephemeral drainages were observed during EBA's site visit.

### *1.5 Local Climate*

Review of published data by the Parameter-Elevation Regressions on Independent Slopes Model (PRISM) Climate Group, indicates the 30-year (1991 – 2020) average annual rainfall in the vicinity of the project site (38.8946, -122.7082) is 52.35 inches per year utilizing the Time Series Values for Individual Locations system (Prism, 2024). The 30-year data was evaluated using the 4-kilometer spatial resolution and the interpolate grid cell values function.

Mean annual potential evapotranspiration (ETo), which represents both transpiration from plants and crops as well as evaporation, was estimated to be 50.94 inches per year based on reference ETo tables for Sanel Valley (Hopland, Mendocino County) provided in the California Irrigation Management Information System (CIMIS) Reference Evapotranspiration Website (CIMIS, 2024). Hopland is the nearest CIMIS station to the project site.

## 2.0 RESEARCH

The following subsections provide a summary of the scope of research performed and the corresponding findings used to implement the hydrogeologic assessment. Please note that references are made herein to the CIA for this WAA. A description of the CIA is presented in Section 3.0 of this WAA.

### *2.1 Site Reconnaissance*

EBA conducted a field reconnaissance at the project site on June 4, 2024. The purpose of the reconnaissance was to observe existing site features, site topography, local geology, and the locations of existing wells. The project properties are characterized by hilly terrain. At the time of the reconnaissance, the existing uses and features were found to be consistent with those described in Subsection 1.1. During the reconnaissance, EBA observed the location of Wells 1, 2, 3, 4, 6, 7, and 8. Wells 5 and 9 were not observed because the 1833 DS owner did not want to disturb his tenants in the residences adjacent to the well sites. Please refer to Subsection 1.3 for a description of the groundwater wells and to Figure 2 (Appendix A) for an illustration of their approximate locations. The reconnaissance also included observations of neighboring properties to establish the nature of nearby developments and property uses. Please be advised that due to the rural nature of the properties and limited public access, visual observations were limited to what could be seen from adjacent roadways. In general, most of the properties in all directions from the project site were comprised of either developed or undeveloped rural properties. The site reconnaissance was supplemented with a review of Google Earth aerial imagery for the area. Findings from this review were generally consistent with the above descriptions.

### *2.2 Well Completion Reports (WCRs)*

WCRs maintained by the DWR were reviewed to obtain pertinent information for the area

regarding water supply use, well completion depths, yields, reported lithology, and drawdown characteristics. The scope of the DWR research encompassed available records for wells located in the vicinity of the CIA which is defined in more detail in Section 3.0 of this WAA. EBA visited the Lake County Public Health Department in Lakeport on two occasions to obtain parcel-specific WCR information from County staff and worked with DWR staff in the Northern Region Office to obtain WCRs for parcels where no information was found during previous search efforts. The results of this research identified 53 off-site WCRs that EBA was able to locate based on the information provided. A summary of well yield characteristics for the identified WCRs is provided in Table 3 below.

**TABLE 3**
**SUMMARY OF WELL CHARACTERISTICS FOR IDENTIFIED WCRs**

| *Description* | *Quantity / Range of Values* | *Average Values* |
|---|---|---|
| Number of Water Supply Wells / Borings | 53 | - |
| Number of Dry Holes | 0 | 0 |
| Drilling Depths (feet bgs) | 95 to 760 | 275 |
| Static Groundwater Levels (feet bgs) | 5 to 550 | 162 |
| Reported Yields (gpm) | 2 to 1,530 | 84 |
| Specific Capacity (gpm/foot) | 0.02 to 83.1 | 2.50 |

WCRs: Well Completion Reports
bgs: below ground surface
gpm: gallons per minute
gpm/foot: gallons per minute per foot of drawdown

Please refer to Figure 5 (Appendix A) for a map of the WCR locations within the CIA. All aforementioned off-site WCRs are included as Appendix E.

### *2.3 Assessor's Parcel Maps*

EBA reviewed County of Lake assessor's parcel map data to identify property boundaries and addresses. This information, in turn, was used to establish the number of properties within the designated CIA (described in Section 3.0) used for this WAA. Findings from this exercise identified 159 properties (including the project site) ranging in size from approximately 0.07 to 456 AC. It should be noted that 57 of the 159 identified properties are only partially within the CIA.

## 3.0 CUMULATIVE IMPACT AREA

The "Cumulative Impact Area" as defined for this WAA corresponds to the change in a specific area resulting from the incremental impact of the project or future potential projects when added to other existing or potential future groundwater uses in the area. Based on this criterion, existing and potential future development characteristics for surrounding

properties were considered, coupled with the site hydrogeology and the nature of the proposed development to estimate the CIA for the proposed project.

An important consideration in establishing the CIA for this project is the local topography and hydrogeology. In this regard, the southern, western, and eastern boundaries of the CIA are delineated by topographic ridges that define the local watershed and inferred hydrogeologic boundary conditions. The northern boundary was delineated based on the assumed generalized regional direction of groundwater flow (from Cobb Mountain towards Clear Lake) and an arbitrary 500-foot buffer from the northernmost property lines. The southwest region of the CIA was delineated to include Salmina Flat. The area of the CIA was calculated to be 1,900.27 AC and is shown on Figures 3 through 5 (Appendix A).

# 4.0 SUMMARY OF EXISTING / PROJECTED GROUNDWATER USE

The following subsections provide an estimation of both the existing and future groundwater uses for the project site as well as the entirety of the 1,900.27-acre CIA. Please refer to Appendix F for weekly groundwater demand data provided by 1833 DS of existing and future groundwater use.

## *4.1 Existing Project Site Water Usage*

Existing project site water usage data using historical well meter information and use estimates was provided by 1833 DS (Appendix F). Based on this data for the 2024 growing season, the existing project water use is comprised of the following components:

- Cannabis irrigation based on 20 AC of outdoor cultivation;
- 2,000 gallons per week of water used for dust control from the week of June 10 through the week of October 21; and
- 1,575 gallons per week for 15 employees with an assumed 15 gallons per day per employee.

Based on EBA's conversations with 1833 DS, 1833 DS cannabis irrigation practices are reportedly optimized using advanced irrigation and management practices when compared to traditional outdoor cannabis operations. Typical hydrogeologic reports for the County of Lake assume a water demand of six gallons per day per plant. However, based on adjusted totalizer data provided by 1833 DS, water use was estimated to be approximately 0.88 gallons per day per plant. This reduced water demand is attributed to smaller plant sizes, optimized spacing, and efficient irrigation methods. In 2024, 1833 DS cultivated 9,000 plants per canopy acre, with each plant allocated 4.75 square feet (excluding row spacing). Drip irrigation and soil moisture sensors are reportedly employed to minimize water usage.

As a point of consideration, 1833 DS asserts that the total number of plants per acre does not directly determine the amount of water used in their operations. Instead, the determining factor is the total green biomass (the combined mass of leaves and stems produced by the

plants). The total water use would remain consistent as long as the total green biomass is the same, regardless of whether 5,000 or 10,000 plants are grown per acre.

1833 DS has identified that smaller plants are more cost effective for the following reasons:

- The shorter growth cycle reduces the cumulative amount of water required.
- Plants are managed to reach maximum canopy size just before harvest, aligning water use with the plant's growth needs and avoiding excess watering during extended growth periods that is required for larger-sized plants.

The tabular data provided by 1833 DS (Appendix F) for the existing groundwater use was used to generate Exhibit 1 below that depicts the historical weekly water demand over time. The existing project water use estimates generated by 1833 DS were based on totalizer data from a water meter that records the sum of flow rates from both Wells 1 and 2. Totalizer data was written on a daily hand irrigation log by 1833 DS staff. Then, the upper range of daily values for each week were used to generate the provided weekly estimates below. Please note that 1833 DS LLC believes that the provided existing water use estimates are conservative because the upper range of daily values were used.

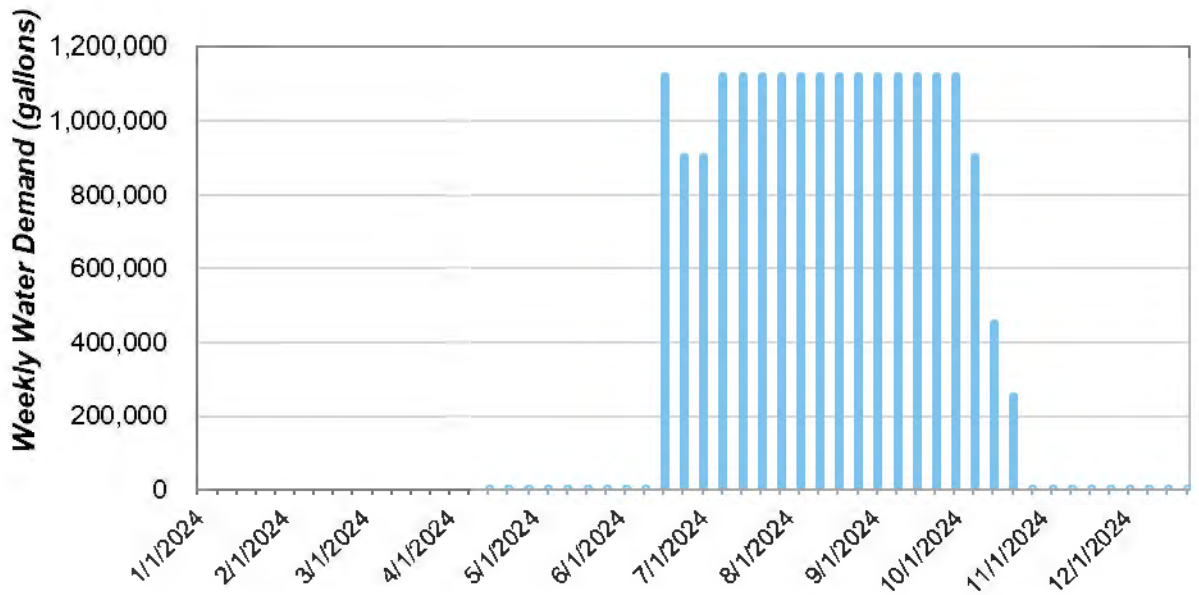



**Exhibit 1 – Historical 20 AC (2024) Weekly Water Demand**

The data shows that 1833 DS water use peaked from the week of June 18 through the week of October 8, with weekly irrigation demands of approximately 900,000 to 1,120,000 gallons.

Prior to the main growing season, water use was limited to 1,575 gallons per day for employees starting the week of April 15. Dust control water use began during the week of June 10 and was followed by the start of the growing season during the week of June 17. Please note that water use decreased during the weeks of June 24 and July 1 due to lower

temperature conditions during the 2024 growing year. The final three weeks of the growing season showed a tapering in water use in parallel with the harvest. Dust control water use ended with the end of the harvest, and employee water use continued through the end of the calendar year.

Based on the values provided by 1833 DS, the total existing annual water use was 19,178,275 gallons per year, or 58.86 AF per year (AFY).

## *4.2 Future Project Site Water Use*

Projected future water use for the operation includes nursery irrigation, cultivation irrigation (outdoor and light deprivation), dust control, and worker water demands. Please refer to the tabular data provided by 1833 DS in Appendix F for additional information.

*Nursery Irrigation*
Nursery irrigation begins at 5,000 gallons per week for the first eight weeks of the calendar year. This increases to 10,000 gallons per week from the week of March 26 through the week of April 30 and peaks at 25,000 gallons per week from the week of May 7 through the week of July 2. The demand then returns to 5,000 gallons per week for the remainder of the year. Based on EBA's conversations with 1833 DS, EBA understands that the nursery will be a fully enclosed facility, maintaining high internal humidity levels, which significantly lowers the vapor pressure deficit. This reduction minimizes plant transpiration, meaning the plants lose less water to the air and therefore require less irrigation. These controlled conditions, combined with the small size of the nursery plants, result in lower water use than outdoor growing.

*Light Deprivation Cultivation*
Light deprivation cultivation begins the week of March 5 and continues until the week of July 9. Based on EBA's conversations with 1833 DS, EBA understands that the light deprivation cultivation area will be 10 acres and operations will be conducted in covered structures that limit light exposure and create a controlled environment. Weekly water use estimates for light deprivation cultivation peak at 500,000 gallons from the week of April 30 through the week of July 9 which aligns with the final growth stages before harvest. The controlled environment within the light deprivation area reduces vapor pressure deficit, which significantly lowers plant transpiration and overall water demand. Once the light deprivation cycle concludes in the week of July 9, the 10 acres transition to outdoor cultivation, contributing to the expansion of the outdoor area from 20.1 acres to 30.1 acres. Plant spacing and irrigation practices in the light deprivation were described by 1833 DS to be consistent with that of outdoor cultivation practices.

*Outdoor Cultivation*
Outdoor cultivation begins the week of June 25 and continues until the week of October 29, 2024. The area initially starts at 20.1 acres during the early growing season (during the weeks of June 25 to July 2). By the week of July 9, the total outdoor cultivation area expands to 30.1 acres. This increase occurs as the 10 acres of light deprivation cultivation completes its cycle, allowing those acres to transition to outdoor use. The outdoor cultivation area remains at 30.1 acres until the week of October 15. After this, it decreases back to 20.1 acres during the week of October 22 as harvesting begins. By the week of

October 29, the outdoor cultivation area further reduces to 10 acres and is eventually phased out completely after all crops are harvested.

Weekly water use for outdoor cultivation peaks during the height of the growing season, reaching 1,690,600 gallons per week from the week of July 16 to the week of October 15.

*Dust Control*
Water use for dust control is seasonal and ranges from 2,000 gallons per week during cooler months to 3,000 gallons per week during the drier summer and fall months.

*Employee Water Use*
Water demand for 20 employees remains steady at 2,100 gallons per week throughout the year. This estimate assumes each worker requires 15 gallons per day.

Weekly water use estimates provided by 1833 DS for the future project site water use is presented in Exhibit 2 below. These values were based on the aforementioned existing water use estimates and 1833 DS experiments in a test nursery.

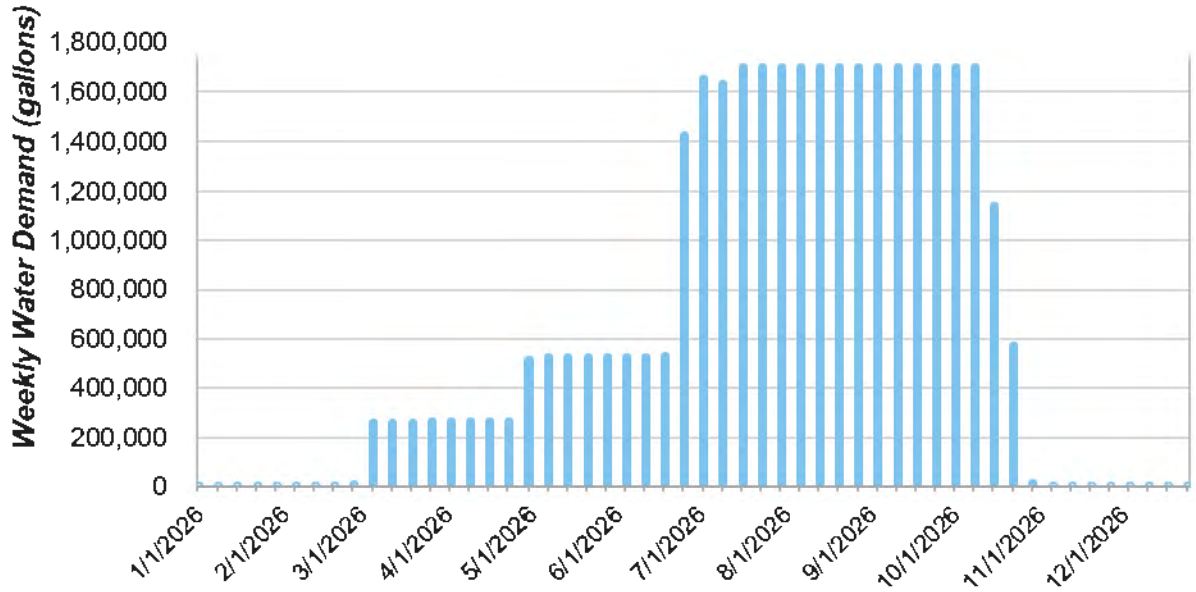



**Exhibit 2 – Future Project Site Weekly Water Demand**

The future project site use involves groundwater pumping throughout the entire calendar year. Groundwater use steps up throughout the year to provide water supply for the nursery, the light deprivation cultivation area, and the outdoor cultivation area. Once the outdoor growing season begins, the initial weekly water demands are lower in the first three weeks since only 20.1 AC of outdoor cultivation area is proposed during this time due to overlap with the light deprivation cultivation area of 10 AC.

Based on the total values provided by 1833 DS, the total proposed annual water use was estimated to be 34,987,600 gallons per year, or 107.37 AFY.

### *4.3 CIA Existing and Future Non-Project Groundwater Use*

The CIA established for this project encompasses 159 properties (including the project site parcels). Identified uses on these properties include single-family dwellings, agriculture, and undeveloped land with no associated existing water use. As previously discussed, a combination of review of title records and aerial imagery was utilized to determine property development characteristics. Residential water use was estimated using a unit rate use factor of 0.25 AFY per bedroom plus an incidental use factor of 0.25 AFY per residence to account for additional water uses such as landscaping. Locations of residences within the CIA were established based on a Google Earth search performed by EBA staff. Once the residences were located, the number of rooms within each residence was identified using ParcelQuest, Zillow, and Redfin internet searches. Where no data was available, the residence was assumed to have three bedrooms. Residence locations and labels describing the number of bedrooms estimated are presented for reference on Figure 3 (Appendix A). In total, 83 residences were identified during the exploration. Of the 83 identified residences, two residences had 5 bedrooms, four residences had 4 bedrooms, 53 residences had 3 bedrooms, 17 residences had 2 bedrooms, and 7 residences had 1 bedroom. Additionally, future water use estimations for 3-bedroom residences were conservatively assumed for the remaining 19 undeveloped properties with residential zoning to account for potential future groundwater use. This assumption brought the total number of residences to 102 for the potential future off-site non-project groundwater use estimate.

Based on the methodology described above, existing non-project groundwater use within the CIA was estimated to be 77.25, and future non-project groundwater use was estimated to be 96.25 AFY.

## 5.0 GROUNDWATER AVAILABILITY ANALYSIS

As outlined in the introduction of this WAA, the primary objectives were to evaluate whether there is adequate groundwater supply to accommodate the proposed project water demand and to estimate the effects of groundwater pumping of the project irrigation wells within the designated CIA. The following subsections address these issues.

### 5.1 *Groundwater Storage Capacity*

The groundwater storage capacity immediately beneath the project site was estimated by multiplying the volume of the aquifer by its specific yield. In this regard, the aquifer area was estimated based on the size of the project site (602.48 AC) and WCR information. The aquifer thickness, in turn, was based on the average static groundwater level in the units based on measurements taken during the site reconnaissance and the aquifer depth, which was set at the deepest producing water supply well identified. Finally, the aquifer's specific yield or secondary porosity volume was conservatively estimated based on documented literature values for fractured volcanic rocks. For example, a study performed by others on 90 independent volcanic tuff samples revealed a specific yield with an arithmetic mean of 21 percent (Weight and Sonderegger, 2000; Anderson and Woessner, 1992). Furthermore, as previously mentioned, the LCWPD estimates the specific yield of the Clear Lake Volcanics to be between zero and 15 percent (LCWPD, 2006). Based on this information, EBA chose

a conservative value of 7 percent for the estimated specific yield. The storage capacity was then calculated by multiplying the respective variables. The following provides a breakdown of the calculations:

*Project Site Groundwater Storage Capacity: Clear Lake Volcanics*

- Project Site Area: 602.48 AC
- Average Static Groundwater Level: 171.66 feet bgs
- Average Aquifer Depth: 328.00 feet bgs
- Average Aquifer Thickness: 156.34 feet
- Specific Yield: 7 percent
- Estimated Volume of Groundwater in Storage: 6,593 AF

Based on the calculations on the previous page, the total estimated volume of groundwater in storage within the area of the aquifer immediately beneath the project site equates to approximately 6,593 AF. The values for average static groundwater level and average aquifer depth were derived based on information from seven on-site groundwater wells where WCRs were identified.

As presented in Subsection 4.2, the annual total water demand for the project is 107.37 AFY. This annual proposed water demand is estimated to be 1.6 percent of the groundwater in storage underlying the project site.

Next, the estimated groundwater in storage was estimated for the entire CIA. Please note that the typical specific yield literature value for volcanics of 0.07 was used for the entire CIA, because the geology is primarily made up of volcanics and all wells that were drilled into the alluvium formation underlying Salmina Flat are only screened in volcanics underlying the alluvium. The following provides a breakdown of the calculations for the entire CIA:

*CIA Groundwater Storage Capacity: Clear Lake Volcanics*

- CIA Area: 1,900.27 AC
- Average Static Groundwater Level: 167.85 feet bgs
- Average Aquifer Depth: 282.30 feet bgs
- Average Aquifer Thickness: 114.45 feet
- Specific Yield: 7 percent
- Estimated Volume of Groundwater in Storage: 15,224 AF

Based on the above calculations, the total estimated volume of groundwater in storage within the area of the aquifer beneath the CIA equates to approximately 15,224 AF. The values for average static groundwater level and average aquifer depth were derived based on information from seven on-site groundwater wells where WCRs were identified and the 53 off-site WCRs identified in Subsection 2.2.

As mentioned previously, the annual total water demand for the proposed project is 107.37 AFY. This annual proposed water demand was estimated to be less than one percent of the groundwater in storage underlying the CIA. Further, the total estimated future non-project

groundwater usage for the entire CIA was 96.25. This value plus the annual total water demand for the project is 203.62 AFY. This combined future annual water demand was estimated to be approximately 1.3 percent of the groundwater in storage underlying the CIA. It is important to note that due to the interaction between groundwater and subsurface geology in the vicinity of the project site, it is not likely that the entire amount of groundwater in storage can be efficiently extracted.

## *5.2 Project Site Groundwater Recharge Analysis*

EBA prepared an estimate of the project site's groundwater recharge potential under the proposed future use scenario by comparing estimated inflows and outflows from the aquifer. The volume available for recharge was estimated based on precipitation as the principal source of inflow while outflows were estimated based on run-off, evapotranspiration, canopy interception, and spring losses. While secondary sources of inflow (such as upgradient boundary flow), and secondary sources of outflow (such as downgradient boundary flow, and surface-water-groundwater interaction) potentially contribute to the groundwater budget, they are assumed to generally be equal and accordingly result in no net gain or loss. Based on this approach, the following equation was used to calculate potential volume of water available for recharge:

$$\textit{Volume of Water Available for Recharge} = P - (R + ET_a + E_{CI} + S)$$

where "P" is equal to precipitation (in AFY), "R" is equal to run-off (in AFY), "$ET_a$" is equal to actual evapotranspiration (in AFY), "$E_{CI}$" is equal to evaporative losses related to canopy interception (in AFY) and "S" is equal to spring flow (in AFY). The groundwater recharge analysis was performed during average rainfall years and during drought conditions assuming 60 percent of average rainfall. Project specific groundwater recharge potential was then calculated. The methodology used to calculate each of these variables is described below.

*Precipitation (P)*

The total volume of precipitation that falls within the area of the project site was calculated by multiplying the annual precipitation rate of 52.35 inches per year (see Subsection 1.5) by the combined aquifer area of the project site parcel (602.48 AC). The total annual precipitation over this area corresponds to 2,628.32 AFY during average precipitation years and 1,576.99 AFY during the assumed drought scenario.

*Run-off (R)*

The percentage of the total precipitation that results as outflow (i.e., run-off) was estimated using the rational method by comparing the ground slopes within the area of the project site parcel to type curves for various surfaces (Oregon Department of Transportation [ODOT Manual], 2014). AutoCAD Civil3D was used in conjunction with publicly available topography data to evaluate slope characteristics. Land coverage type was estimated based on review of aerial imagery. All areas were conservatively assumed to be "hilly" as defined in the 2014 ODOT manual. These areas, in turn, were further separated by the

types of settings. The following provides a breakdown of the setting types and range of runoff coefficients (RCs) used in the analysis:

- Light Residential: 5.00 AC (RC = 0.45)
- Woodland / Forest(1): 567.38 AC (RC = 0.20)
- Cultivated Land: 30.10 AC (RC = 0.60)

The annual run-off volume for each area was calculated by multiplying the respective areas by the annual precipitation volume, followed by multiplying the corresponding products by the applicable run-off coefficient. The summation of all the area run-off volumes equate to the total estimated annual run-off volume for the project site. The average annual run-off volume was calculated to be approximately 583.64 AFY during average precipitation years and 350.18 AFY during the assumed drought scenario.

*Actual Evapotranspiration ($ET_a$)*

Actual Evapotranspiration ($ET_a$) was calculated using the Water Use Classification of Landscape Species (WUCOLS) site specific model as described in *A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California* (UC Cooperative Extension, 2000). Species factors ($K_S$) and density factors ($K_D$) as outlined in the WUCOLS Guidance Documentation were determined based on observations made during the site visit and review of aerial photography. A microclimate factor ($K_{MC}$) of 1 was selected based upon review of available climate data. Resulting landscape coefficients ($K_L$) were then multiplied by respective unit areas to determine an estimated $ET_a$ for these native vegetation types within the project site parcels. Monthly ETo values from reference ETo tables for Sanel Valley (Hopland) provided in the CIMIS Reference Evapotranspiration Website (CIMIS, 2024) were used to estimate actual evapotranspiration. The $ET_a$ calculations are based on the project schedule including 10 acres of light deprivation for the months of February through April and the 30.1 acres of outdoor cultivation from June through October to provide a conservative estimate for $ET_a$.

The total $ET_a$ within the project site was calculated to be approximately 416.85 AFY. While it is acknowledged that $ET_a$ generally decreases during drought conditions, for the purpose of the following recharge calculations the estimation of $ET_a$ for average precipitation years was also applied to the assumed drought scenario. As such, the estimated $ET_a$ for the drought scenario should be considered conservative in nature.

*Canopy Interception ($EC_I$)*

Canopy interception corresponds to the fraction of rainfall that is intercepted by the canopy of trees and shrubs and subsequently lost to evaporation. This fraction was estimated using equations developed by Helvey and Patric (Helvey & Patric, 1965) that utilize gross rainfall, throughput (i.e., rainfall that reaches the ground through spaces in the vegetative canopy and as drip from leaves, twigs and stems), and stemflow (i.e., rainfall that is caught on the canopy and reaches the ground by running down stems). The calculation excluded grassland, access roads, and greenhouse area as the fraction of canopy interception for these areas is assumed to be negligible or not applicable. All other areas within the project site were subjected to canopy interception losses. Canopy interception loses were

calculated to be approximately 153.76 AFY during average precipitation years and 92.26 AFY during the assumed drought scenario.

*Springs*

Published data regarding spring flow discharges in the area were not available. In the absence of such information, EBA conservatively assumed that 10 percent of annual precipitation is lost through spring discharge. However, it should be noted that no springs were observed during EBA's site inspection. Spring discharge was estimated to represent approximately 262.83 AFY during average precipitation years and approximately 157.70 AFY during the assumed drought scenario.

*Water Budget Results*

A summary of the groundwater recharge calculations under average precipitation years as well as the assumed drought scenario is provided in Table 4 on the following page.

**TABLE 4**
**PROJECT SITE GROUNDWATER RECHARGE CALCULATIONS**
**AVERAGE RAINFALL AND DROUGHT SCENARIOS**

| ***Description*** | ***Inflow/Outflow*** | ***Volume (AFY) Average Rainfall*** | ***Volume (AFY) Drought Scenario*** |
|---|---|---|---|
| Precipitation | Inflow | +2,628.32 | +1,576.99 |
| Run-off | Outflow | -583.64 | -350.18 |
| Actual Evapotranspiration | Outflow | -416.85 | -416.85 |
| Canopy Interception | Outflow | -153.76 | -92.26 |
| Springs | Outflow | -262.83 | -157.70 |
| **TOTALS** | **--** | ***+1,211.24*** | ***+560.00*** |

Using each of the calculated variables in the groundwater recharge equation, the corresponding estimated volume of water available for groundwater recharge in the vicinity of the project site during average precipitation years is approximately 1,211.24 AFY. Annual recharge potential during the assumed drought scenario (60 percent of average precipitation) was calculated to be approximately 560.00 AFY.

The annual total water demand for the project is 107.37 AFY. This was estimated to be approximately 8.9 percent of the average recharge volume and approximately 19.2 percent of the drought recharge volume. As such, a positive water budget exists for the project in both average precipitation years and assumed drought scenarios.

## *5.3 CIA Groundwater Recharge Analysis*

An estimate of groundwater recharge potential for the entirety of the CIA was also developed under the proposed future use scenario. The estimate of groundwater recharge

potential for the CIA was performed using the same procedures and methodologies as described above in Subsection 5.2.

Please note that EBA has included a required Drought Management Plan for the project as Appendix G to address requirements as outlined in the County of Lake's Urgency Ordinance No. 3106 (*An Urgency Ordinance Requiring Land Use Applicants to Provide Enhanced Water Analysis During a Declared Drought Emergency*, County of Lake, 2021).

*Run-off (R) in CIA*

Run-off for the CIA was calculated using the same methodologies presented for the previous run-off calculations for the project site. Again, all areas were conservatively assumed to be "hilly" as defined in the 2014 ODOT manual. These areas, in turn, were further separated by the types of settings. The breakdown on the following shows the setting types and range of runoff coefficients (RCs) used in the analysis:

- Meadows / Pasture Land: 142.84 AC (RC = 0.35)
- Light Residential: 22.57 AC (RC = 0.45)
- Woodland / Forest: 1,638.37 AC (RC = 0.20)
- Cultivated Land: 96.49 AC (RC = 0.60)

The "Cultivated Land" total area of 96.49 AC is comprised of 33.72 AC of cannabis, 54.54 AC of vineyards, and 8.23 AC of orchards. These areas and land use types were also used to compute the evapotranspiration calculations described below.

*Actual Evapotranspiration ($ET_a$) in CIA*

The $ET_a$ calculations for the CIA were again based on the project crop schedule including 10 AC of light deprivation for the months of February through July and the 30.1 AC of outdoor cultivation from July through October, as well as an additional 3.26 AC of off-site outdoor cultivation by others that was conservative assumed to be planted from March through October. The off-site orchard area of 8.23 AC, the off-site vineyard area of 54.54 AC, and the total forested area of 1,638.27 AC were also included in the CIA $ET_a$ calculations.

Proposed vineyard $ET_c$ (Crop Evapotranspiration) was calculated in general accordance with methodologies described in the *California Crop and Soil Evapotranspiration for Water Balances and Irrigation Scheduling/Design* (DWR, 2003). A vineyard crop density of 60 percent cover was assumed. The reference crop evapotranspiration value for this crop type, crop cover, and region is 27.23 inches per year during typical years per Table 5, Zone 8 of the aforementioned DWR publication.

The evapotranspiration demand is provided by the evapotranspiration from effective precipitation in addition to evapotranspiration from applied water. As such, the amount of applied water reported for the vineyard (0.50 AFY per AC), was subtracted from the reference crop evapotranspiration value (DWR, 2003) to yield a unit crop evapotranspiration value due to effective precipitation alone (unit $ET_c$). Please note the unit $ET_c$ equates to the

volume of precipitation across the vineyard area that will be lost by evapotranspiration and not available for groundwater recharge. $ET_a$ for existing vineyard was calculated by multiplying the unit $ET_c$ by the associated acreage of vineyard. These calculations for vineyard $ET_a$ were performed during average precipitation years. While it is acknowledged that $ET_a$ generally decreases during drought conditions, for the purpose of the following recharge calculations the estimation of $ET_a$ for average precipitation years was also applied to the assumed drought scenario. As such, the estimated $ET_a$ for the CIA drought scenario should again be considered conservative in nature.

*Water Budget Results for CIA*

Table 5 on the following page tabulates the groundwater recharge calculations performed for the CIA.

**TABLE 5**
**CIA GROUNDWATER RECHARGE CALCULATIONS**
**AVERAGE RAINFALL AND DROUGHT SCENARIOS**

| ***Description*** | ***Inflow/Outflow*** | ***Volume (AFY) Average Rainfall*** | ***Volume (AFY) Drought Scenario*** |
|---|---|---|---|
| Precipitation | Inflow | +8,289.93 | +4,973.96 |
| Run-off | Outflow | -1,944.45 | -1,166.67 |
| Actual Evapotranspiration | Outflow | -1,128.00 | -1,128.00 |
| Canopy Interception | Outflow | -434.37 | -260.62 |
| Springs | Outflow | -828.99 | -497.40 |
| **TOTALS** | **--** | ***+3,954.12*** | ***+1,921.27*** |

As mentioned previously, the annual total water demand for the project is 107.37 AFY. The proposed water demand was estimated to be 2.7 percent of average-rainfall groundwater recharge and 5.6 percent of drought-year groundwater recharge. Further, including the total estimated future non-project groundwater usage for the entire CIA of 96.25 increases the future total annual CIA water demand to 203.62 AFY. This combined future annual water demand was estimated to be 5.2 percent of the average rainfall-year groundwater recharge and 10.6 percent of the drought-year groundwater recharge.

## 5.4 *Maximum Daily Demand, Pumping Duration, and Recovery Data*

Maximum daily demand (MDD) for groundwater use was estimated using the weekly groundwater use data provided by 1833 DS (Appendix F). The maximum weekly water demand for the project was estimated to be 1,700,700 gallons. Based on EBA's conversations with 1833 DS, the weekly water demand will be partitioned throughout the week equally for each day. As such, the weekly water demand values for the project were divided by seven days per week to yield the MDD value of 242,957 gallons per day (gpd).

Based on the well yield of 197 gpm for Well 1 (2020) and 275 gpm for Well 2 (2021) for a combined pumping rate of 472 gpm, the MDD for the project corresponds to approximately

515 minutes of pumping per day, assuming that both wells are pumping at the same time. This pumping rate would require both wells to be operated for 8.58 hours at their recommended pumping rates.

Based on the pumping test data provided in Appendix D, Wells 1 and 2 recovered 95 percent and 100 percent, respectively, within 15 minutes of pump shutoff. As such, EBA assumes that the wells will recover 95 percent during the approximately 15-hour shutoff period.

### *5.5 Distance Drawdown Modeling*

EBA developed an aquifer hydraulics model to estimate the radius of influence from the projected groundwater pumping rate based on a distance-drawdown model developed in Microsoft® Excel. The distance-drawdown model uses methodology described by Theis (1935) (Equation 1 below).

$$s = \frac{Q}{4\pi T}\int_u^\infty \frac{e^{-u}}{u}du \ , \ u = \frac{r^2 S}{4Tt}, \ \int_u^\infty \frac{e^{-u}}{u}du \ = w(u) \qquad \text{(Equation 1)}$$

where $s$ = drawdown (feet)
$Q$ = flow rate (cubic feet per day)
$T$ = transmissivity (square feet per day)
$t$ = time (days)
$S$ = storativity
$r$ = radial distance from extraction well (feet)
$w$ = the well function
$u$ = the Boltzman variable

The well function is approximated using a Taylor Series expansion per the methodology presented by Cooper and Jacob (1946) (Equation 2).

$$w(u) = \ -0.5772 + \ln(u) + u - \frac{u^2}{2*2!} + \frac{u^3}{3*3!} - \cdots \qquad \text{(Equation 2)}$$

The following assumptions are inherent in the Theis methodology: the aquifer is infinite in extents, horizontal, confined, homogeneous, isotropic, the well diameter is negligible, and groundwater flow is horizontal.

Aquifer transmissivity and storativity values related to Well 1 were estimated based on an 8-hour pumping test performed by Jim's Welding & Pumps on February 13, 2020. This data is provided on page 18 of Appendix D. The pumping test used Well 4 as a sentinel well and Well 1 as a pumping well with a flow rate of 197 gpm. Depth to water measurements indicated that there was 3.97 feet of drawdown in Well 4 (located approximately 137 feet away from Well 1) after a pumping duration of 479 minutes from 9:15 AM until 5:14 PM. Drawdown at Well 1 was measured to be approximately 83 feet during the pumping test. Estimates of transmissivity and storativity values of 3,080 gpd per foot and $1.49 \times 10^{-2}$, respectively, were estimated for the hydrogeologic formation in the vicinity of Well 1 using a sum of the square residuals (SSR) optimization by varying transmissivity and storativity values in conjunction with each other to match both the 83-foot drawdown at Well 1 and

the drawdown at Well 4 of 3.97 feet. This was facilitated using the Solver function in Microsoft Excel. The optimization problem used in this routine is presented on the following page (Equation 3).

$$\min z = \sum_{i=3}^{n} \left(h_{o,i} - h_{m,i}\right)^2 \qquad \text{(Equation 3)}$$

where $z$ = the objective function

$i$ = an index number for all pump test data in series $n$

$h_{o,i}$ = observed hydraulic head (feet)

$h_{m,i}$ = modeled hydraulic head (feet)

Aquifer transmissivity and storativity values related to Well 2 were estimated based on an 4-hour pumping test performed by Jim's Welding & Pumps on July 30, 2021. This data is provided on page 22 of Appendix D. During the pumping test, there was ten feet of drawdown measured after 30 minutes of pumping at a flow rate of 275 gpm. The drawdown reportedly remained unchanged after the initial 30 minutes of pumping until the end of the pumping test. Using the aforementioned Theis equation, EBA estimated transmissivity and storativity values of 34,484 gpd per foot and $1.53 \times 10^{-2}$, respectively, for the hydrogeologic formation in the vicinity of Well 2 using a flow rate of 275 gpm and a drawdown of ten feet after 30 minutes of pumping.

Individual aquifer transmissivity values for Wells 1 and 2 were also estimated to be 4,747 gpd per foot and 55,000 gpd per foot, respectively, utilizing the methods presented by Driscoll (1986) for a confined aquifer (Equation 4).

$$T = \frac{2{,}000\,Q}{s} \qquad \text{(Equation 4)}$$

Please note that the difference in transmissivity between Wells 1 and 2 may be attributed to well construction (i.e., Well 1 has a smaller casing diameter than Well 2) and efficiency differences more than heterogeneity of the aquifer in the vicinity between the wells. Further, drawdown amounts in Well 1 as demonstrated by transducer data does not exhibit 83 feet of drawdown during pumping, but rather approximately 20 feet of drawdown. With that being said, EBA has used a lower transmissivity for Well 1 and as such the radius of influence estimates should be considered conservative.

The radius of influence with a pumping rate of 197 gpm for a duration of 515 minutes was estimated for Well 1 to be approximately 230 feet based on the transmissivity and storativity estimates for Well 1. The radius of influence with a pumping rate of 275 gpm for a duration of 515 minutes was estimated for Well 2 to be approximately 330 feet based on the transmissivity and storativity estimates for Well 2. These values represent where the modeled cone of depression from groundwater extraction reaches a point where the drawdown was estimated to be equal to one foot, which was selected on the basis that groundwater level measurements to a tolerance of under one foot are influenced by variability in barometric pressure, by other groundwater pumping in the CIA, and by recharge patterns. Furthermore, a drawdown of less than one foot is considered by EBA to be a negligible effect on well interference and a de-minimis condition.

In an effort to model cumulative effects of pumping Wells 1 and 2 at the same time, the radius of influence estimates were superimposed onto each other by adding their individual

values. As such, the total radius of influence for pumping Wells 1 and 2 at the same time was estimated to be 560 feet.

Based on the available data and the distance drawdown evaluation described herein, including the associated assumptions for both the drawdown model and the well characteristics implied from the pumping test, the pumping regiment associated with the proposed project appears unlikely to result in appreciable drawdown in off-site water supply wells because the total radius of influence for pumping Wells 1 and 2 at the same time was estimated to be 560 feet, and there are no identified off-site wells within this radius. Please note that the analysis assumes 95 percent recharge in the respective wells before initiating the next pumping cycle.

### *5.6 Pumping Well Hydrograph Data*

Groundwater elevations fluctuate seasonally based on aquifer budget components (variability in recharge from precipitation, recharge or discharge from adjacent hydrogeologic formations, boundary conditions such as streams or lakes, and evapotranspirative losses) and from groundwater production.

Routine monitoring of groundwater levels provides the necessary data to characterize these fluctuations and provides water managers with valuable information for groundwater management. In general, groundwater levels are considered “sustainable” if they rebound seasonally after pumping occurs. This is traditionally considered an indication that an aquifer has sufficient inflows to recharge groundwater in storage. As such, this would typically mean that overdraft conditions are not expected to be present.

1833 DS began collecting groundwater elevation data for Well 1 on June 27, 2024 and for Well 2 on June 17, 2024. EBA was provided this data through the date of December 24, 2024 with measurements taken every 15 minutes.

The hydrograph representing the groundwater elevation over time in Well 1 is presented on the following page as Exhibit 3. The ground surface shown corresponds to 2,567 feet NAVD88 at the approximate well head elevation, and the bottom of the well is 300 feet deeper at an elevation of 2,267 feet NAVD88.

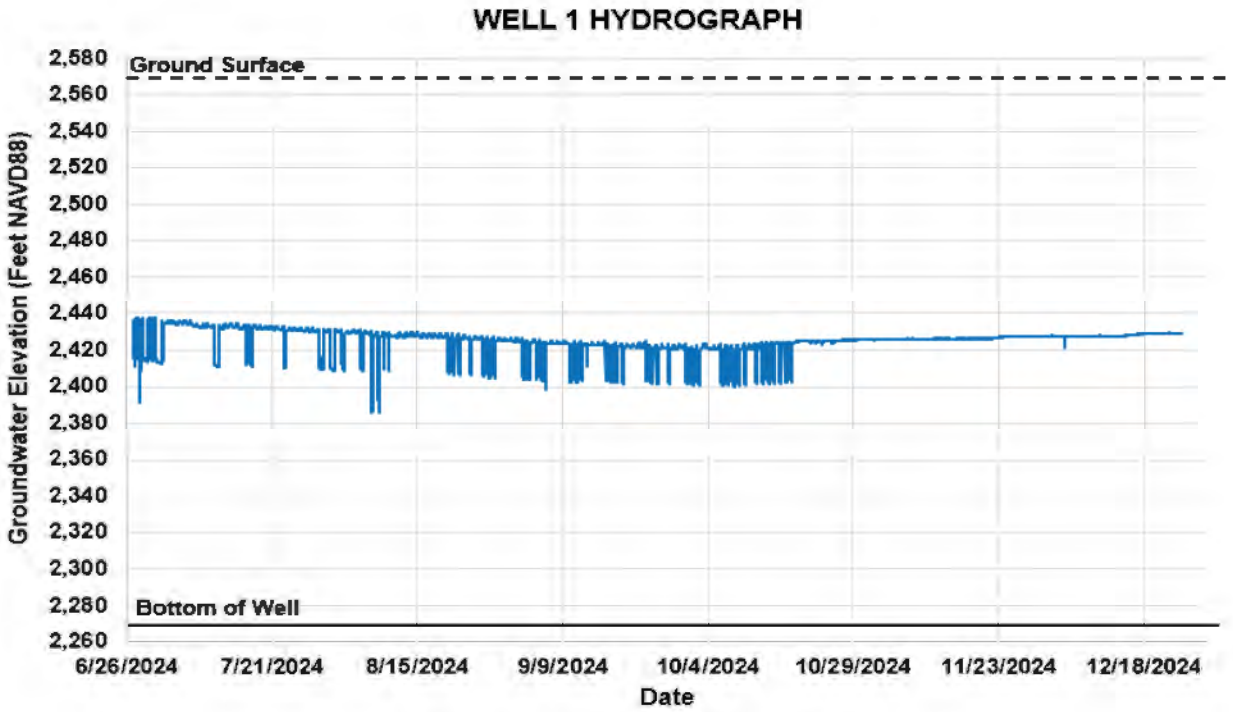



**Exhibit 3 – Well 1 Hydrograph**

The groundwater elevations exhibited in the Well 1 Hydrograph ranged from approximately 2,437 feet NAVD88 in June to lows of approximately 2,420 feet NAVD88 in October during pump shutoff. This indicates that there was a decline in groundwater levels at Well 1 of approximately 17 feet between June and October 2024. This decline can be attributed to seasonal fluctuations, regional groundwater pumping, and project site groundwater pumping to provide water supply for the 20-AC cannabis farm. Drawdown values during pumping were approximately 20 feet and groundwater levels generally rebounded back to pre-pumping levels within 15 minutes of cessation of pumping. As previously mentioned, the drawdown fluctuations shown on the hydrograph are not consistent with the drawdown shown on the 8-hour pumping test performed by Jim's Welding & Pumps on February 13, 2020 of 83 feet.

During the remainder of the data series, groundwater levels gained during precipitation events in October, November, and December 2024 by approximately 9 feet to an average value of 2,429 feet NAVD88 by the end of the data set.

The hydrograph representing the groundwater elevation over time in Well 2 is presented on the following page as Exhibit 4. The ground surface shown corresponds to 2,562 feet NAVD88 at the approximate well head elevation, and the bottom of the well is 305 feet deeper at an elevation of 2,257 feet NAVD88.

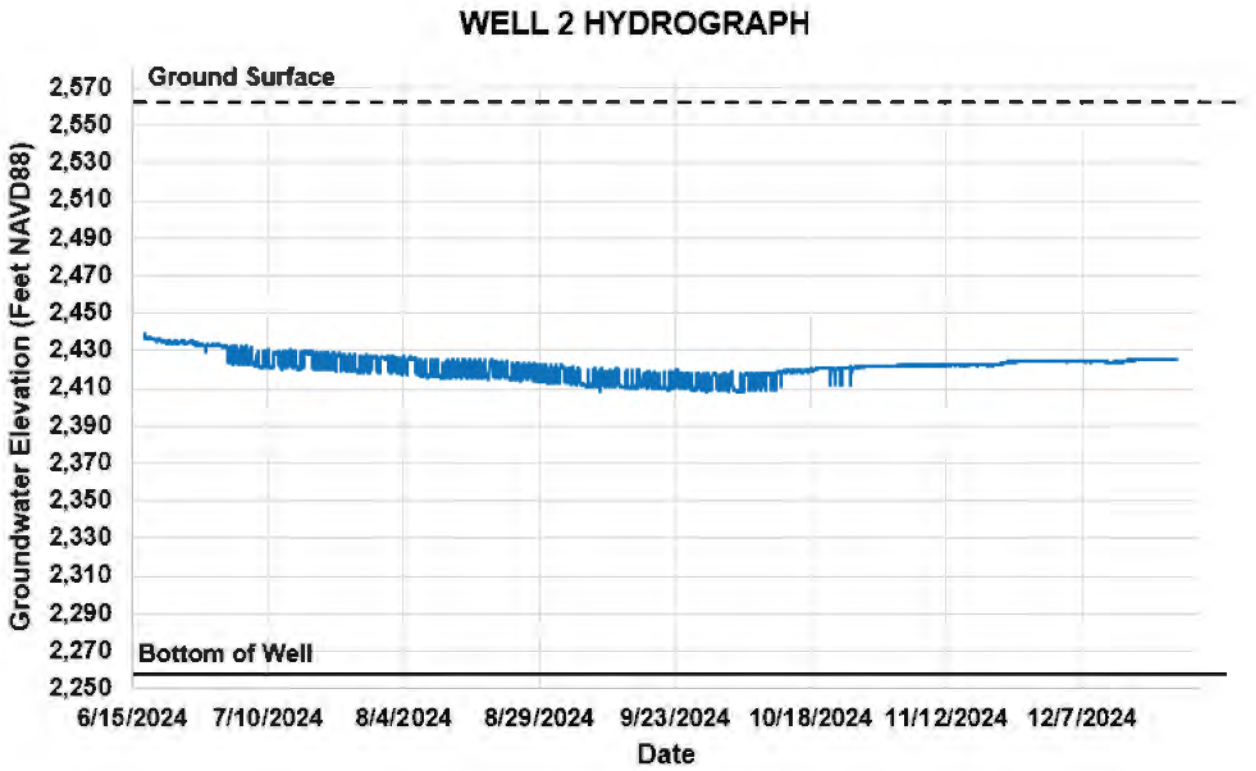



**Exhibit 4 – Well 2 Hydrograph**

The groundwater elevations exhibited in the Well 2 Hydrograph ranged from approximately 2,437 feet NAVD88 in June to lows of approximately 2,416 feet NAVD88 in October during pump shutoff. This indicates that there was a decline in groundwater levels at Well 2 of approximately 21 feet between June and October 2024. This decline can be attributed to seasonal fluctuations, regional groundwater pumping, and project site groundwater pumping to provide water supply for the 20-AC cannabis farm. Drawdown values during pumping were approximately 10 feet and groundwater levels generally rebounded back to pre-pumping levels within 60 minutes of cessation of pumping. During the remainder of the data series, groundwater levels gained during precipitation events in October, November, and December 2024 by approximately 10 feet to an average value of 2,426 feet NAVD88 by the end of the data set.

## 6.0 CONCLUSIONS

The results of the study have indicated that:

- The existing annual water demand provided by 1833 DS was 58.86 AFY, and the annual total water demand for the proposed project was estimated to be 107.37 AFY. Existing non-project groundwater usage within the CIA was estimated to be 77.25, and future non-project groundwater usage was estimated to be approximately 96.25 AFY. As such, the future total annual CIA water demand including the proposed project is approximately 203.62 AFY.

- The total volume of groundwater in storage within the area of the aquifer immediately beneath the project site was estimated to be approximately 6,593 AF. The annual total water demand for the project was estimated to be approximately 1.6 percent of the groundwater in storage underlying the project site. It is important to note that due to the interaction between groundwater and subsurface geology in the vicinity of the project site, it is not likely that the entire amount of groundwater in storage can be efficiently extracted.

- Total volume of groundwater in storage within the area of the aquifer beneath the CIA was estimated to be approximately 15,224 AF. The annual total water demand for the project was estimated to be less than one percent of the groundwater in storage underlying the CIA. The future total annual CIA water demand including the project was estimated to be approximately 1.3 percent of the groundwater in storage underlying the CIA.

- The annual total water demand for the project was estimated to be approximately 2.7 percent of average-rainfall CIA groundwater recharge and approximately 5.6 percent of drought-year CIA groundwater recharge. The future total annual CIA water demand including the project was estimated to be approximately 1.3 percent of the groundwater in storage underlying the CIA. The future total annual CIA water demand including the project was estimated to be approximately 5.2 percent of the average rainfall-year groundwater recharge, and approximately 10.6 percent of the drought-year groundwater recharge.

- Based on the available data and the distance drawdown evaluation described herein, including the associated assumptions for both the drawdown model and the well characteristics implied from the pumping test, the pumping regimen under the MDD scenario appears to be unlikely to result in appreciable drawdown in off-site water supply wells.

- Groundwater elevations in Well 1 and Well 2 declined approximately 17 and 21 feet, respectively, from June through October, and gained back approximately 9 and 10 feet, respectively from October through December under non-pumping conditions.

## 7.0 LIMITATIONS

This WAA was prepared in accordance with generally accepted standards of professional hydrogeologic and civil engineering principles and practices at the place and time this study was performed. This warranty is in lieu of all other warranties, either expressed or implied. The conclusions presented herein are based on information made available to EBA by others, and include professional interpretations based on limited research and data. Based on these circumstances, the decision to conduct additional investigative work, including a longer duration pumping test to further support the findings and conclusions presented herein is the sole responsibility of 1833 DS. The results of this WAA and the conclusions contained herein are dependent upon the accuracy of the estimated future water usage for the project which was developed based upon information provided by others. No guarantee

is made that groundwater of sufficient quantity or quality will be found in any specific depth or interval nor that pumping will not affect quality nor quantity of water found. This WAA has been prepared solely for 1833 DS and any reliance on this WAA by third parties shall be at such party's sole risk.

## 8.0 CLOSING

EBA appreciates the opportunity to be of service to you on this project. If you should have any questions regarding the information contained herein, please do not hesitate to contact our office at (707) 544-0784.

Sincerely,

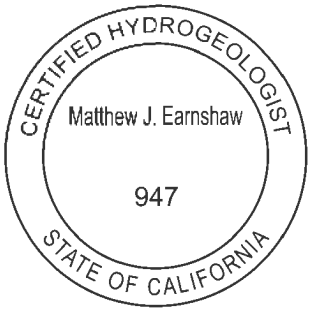
**EBA ENGINEERING**




Brian M. Wallace, PE, MS, MBA, QSD
Project Engineer

Matthew Earnshaw

Digitally signed by Matthew Earnshaw
Date: 2025.01.13 17:41:27 -08'00'




Matthew J. Earnshaw, PG, CHg, CEG, QSD
Vice President – Senior Hydrogeologist

**APPENDICES**

**Appendix A – Figures**
**Appendix B – Acreage Determination Plat (Prepared by Conser Land Surveying)**
**Appendix C – Project Site Well Completion Reports**
**Appendix D – Pumping Test Data and Reports**
**Appendix E – Off-Site Well Completion Reports**
**Appendix F – Weekly Groundwater Demand Data (Prepared by 1833 DS)**
**Appendix G – Drought Management Plan**

## 9.0 REFERENCES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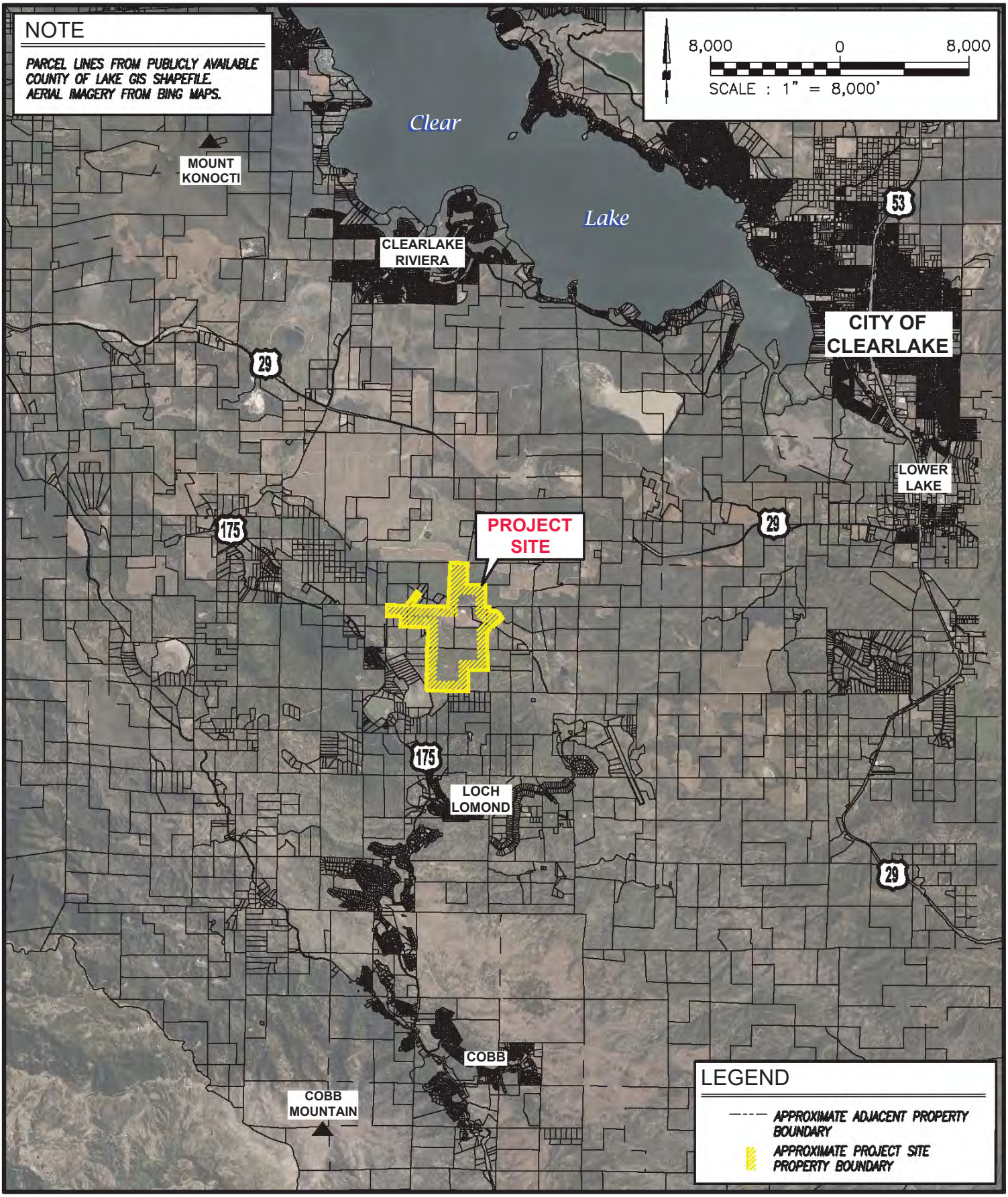
# APPENDIX A

# FIGURES

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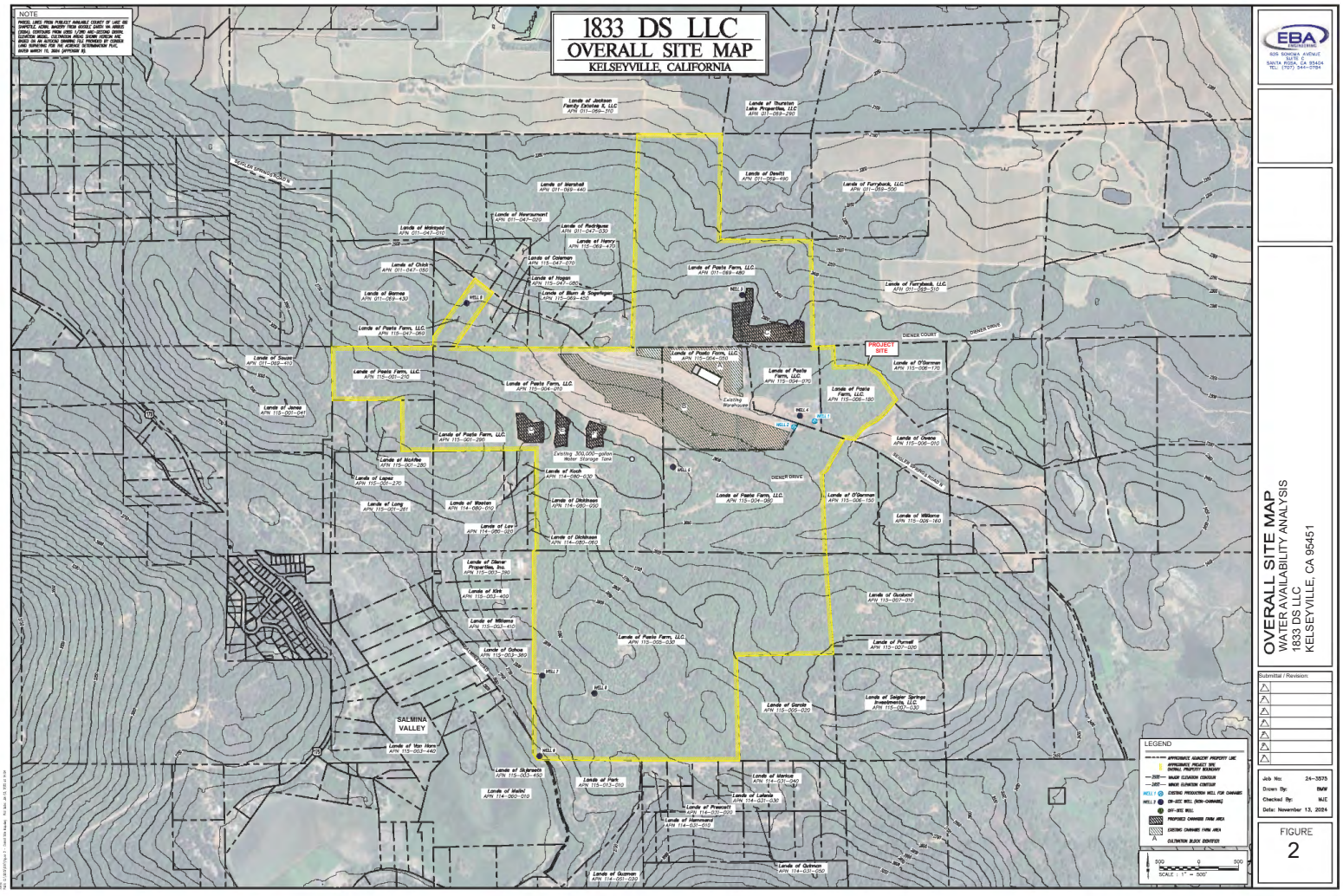
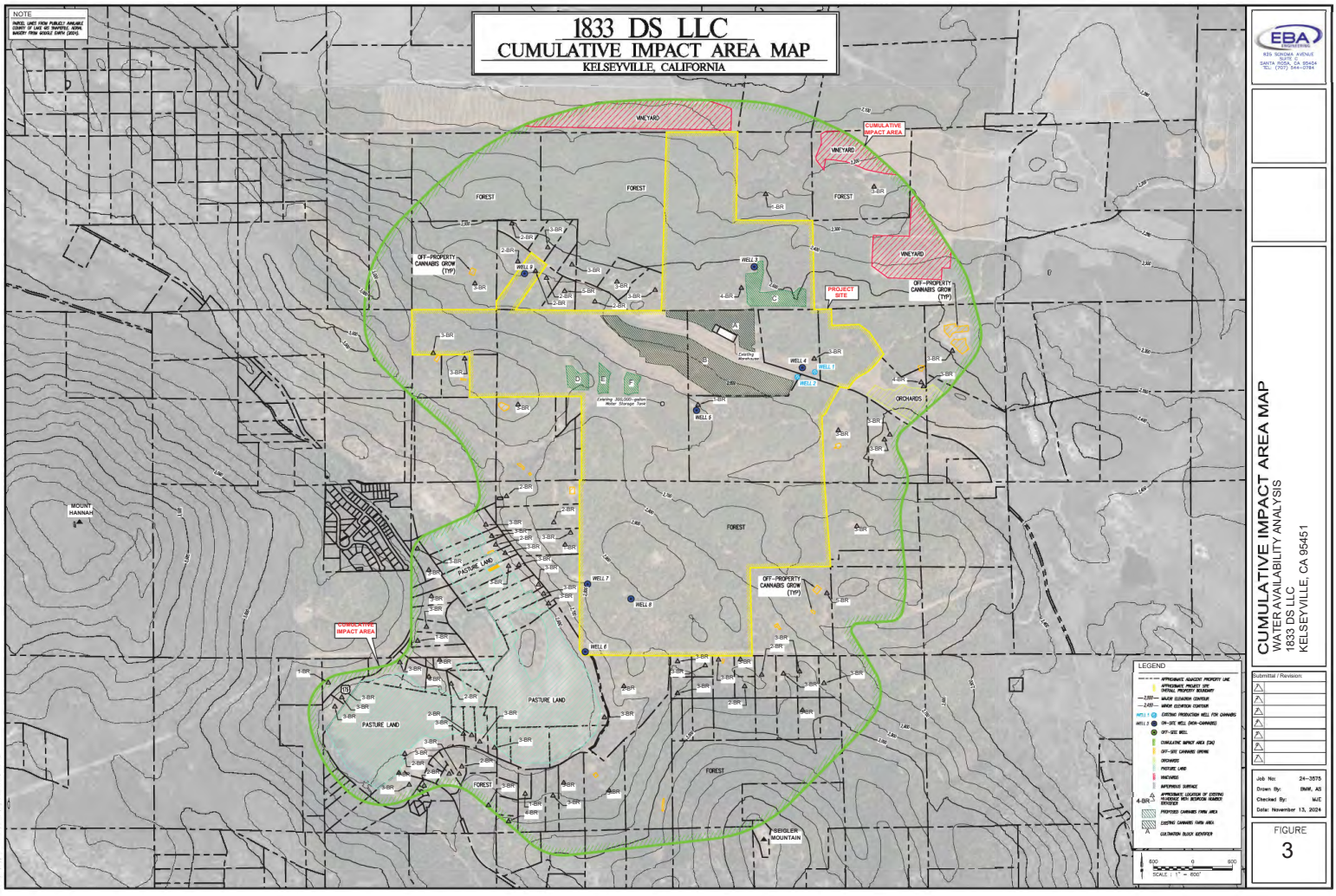
# LOCATION MAP

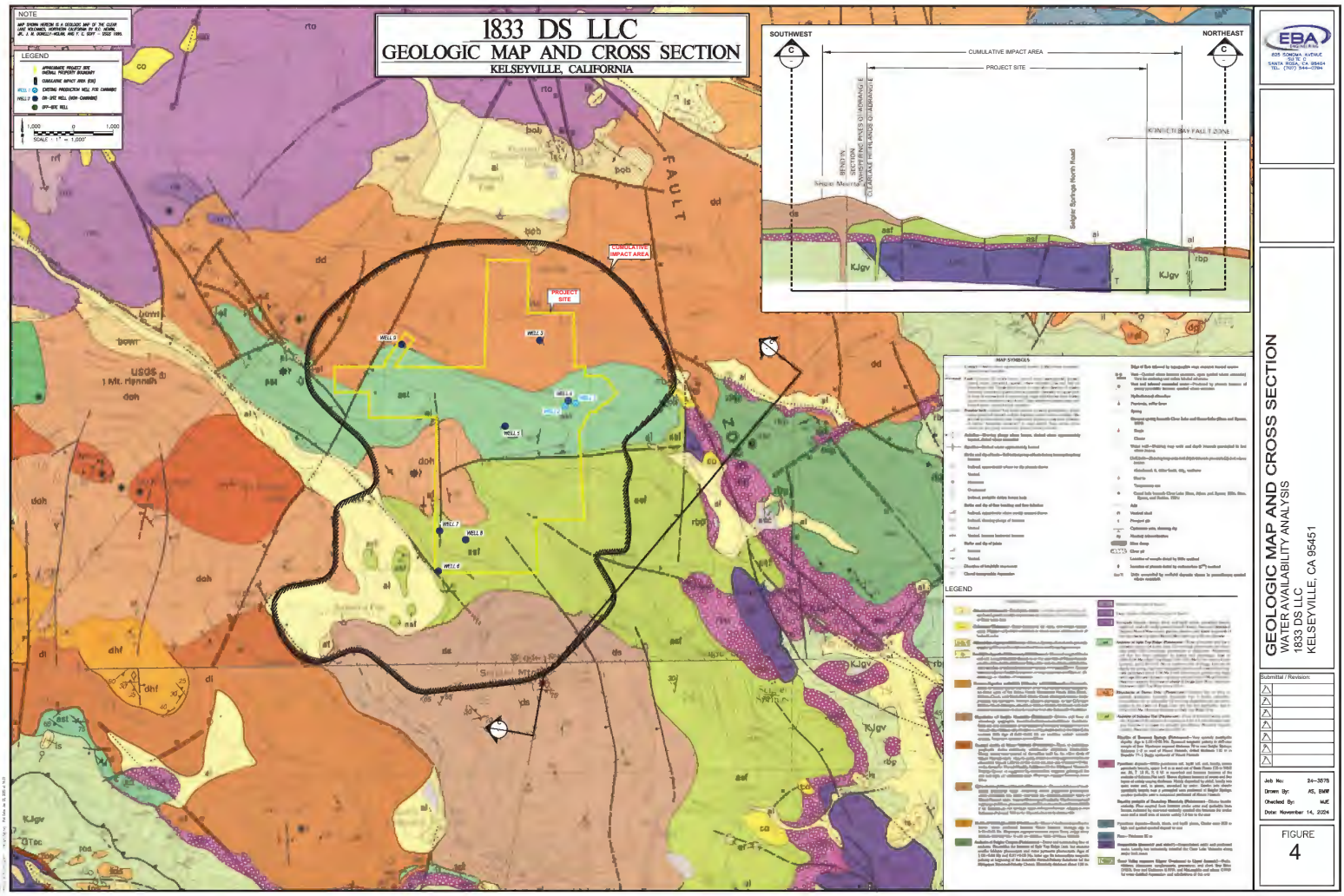
WATER AVAILABILITY ANALYSIS
1833 DS LLC
KELSEYVILLE, CA 95451

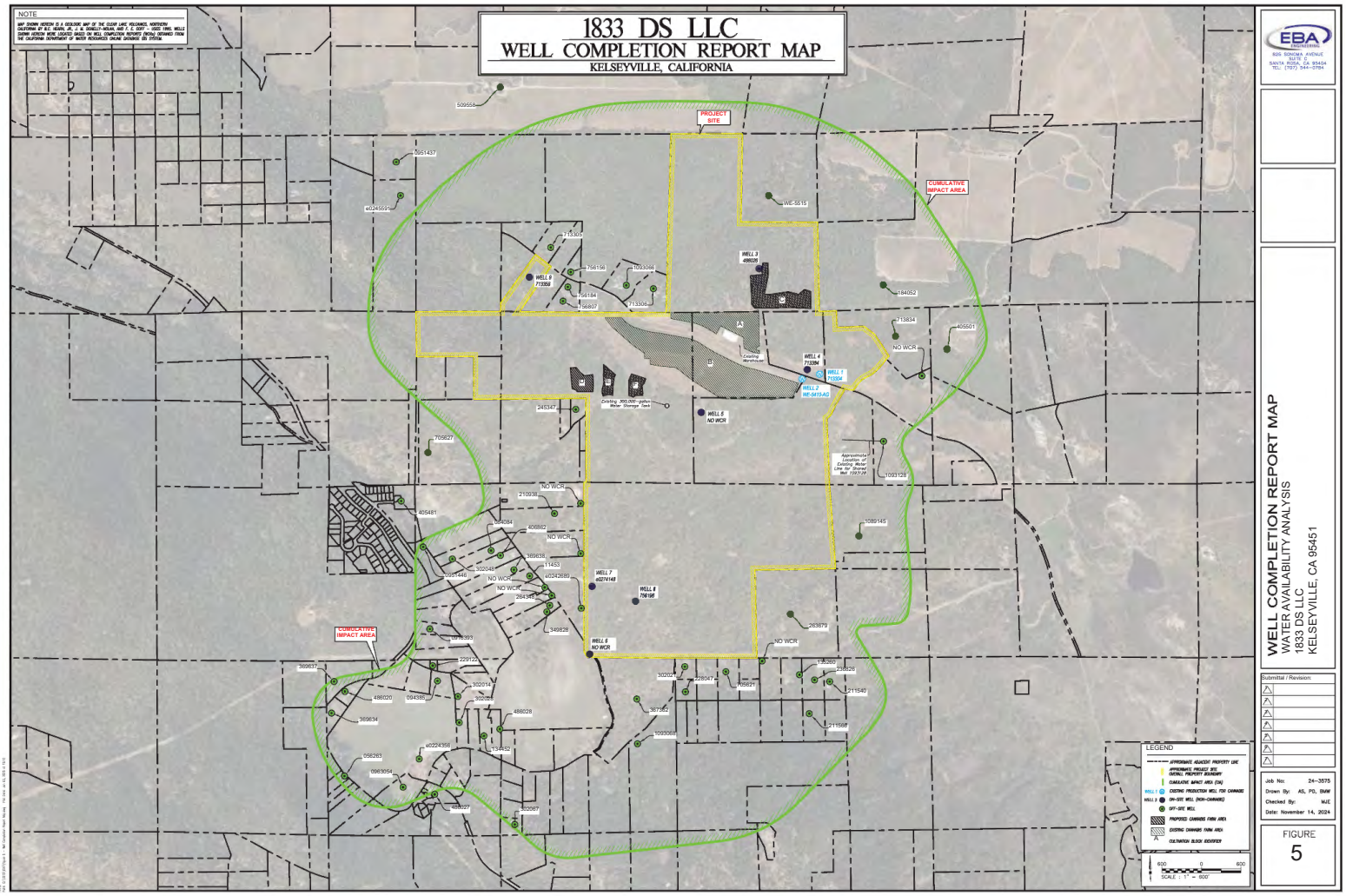
FIGURE
1
24-3575


1833 DS LLC
OVERALL SITE MAP
KELSEYVILLE, CALIFORNIA
NOTE
PROJECT LINES FROM PUBLICLY AVAILABLE COUNTY OF LAKE GIS SHAPEFILE, AERIAL IMAGERY FROM GOOGLE EARTH VIA ARBIS (2024), CONTOURS FROM USGS 1/3RD ARC-SECOND DIGITAL ELEVATION MODEL, CULTIVATION AREAS, DRAINS SCREEN, ETC. MAPPED ON AN AUTOCAD DRAWING FILE PROVIDED BY CEDARS ENVIRONMENTAL, INC. AND/OR BY DRAWN INFORMATION PLUS, DATED MARCH 11, 2024 (APPENDIX D).
PROJECT SITE
Existing Warehouses
Existing 300,000-gallon Water Storage Tank
DIENER COURT
DIENER DRIVE
CHANEY DRIVE
WHISLER GRADE ROAD N
WHISLER GRADE ROAD S
SALMINA VALLEY
Lands of Jackson Family Estates II, LLC APN 011-056-110
Lands of Thurston Lake Properties, LLC APN 011-069-290
Lands of Marshall APN 011-069-440
Lands of Deuitt APN 011-069-490
Lands of Furrybuck, LLC APN 011-069-500
Lands of Newsumont APN 011-047-020
Lands of Rodrigues APN 011-047-030
Lands of Henry APN 115-069-470
Lands of Mobrand APN 011-047-010
Lands of Coleman APN 115-047-070
Lands of Hogan APN 115-047-080
Lands of Chick APN 011-047-180
Lands of Pesta Farm, LLC APN 011-069-480
Lands of Furrybuck, LLC APN 011-069-510
Lands of Barnes APN 011-069-430
Lands of Born & Segerberg APN 115-069-450
Lands of Pesta Farm, LLC APN 115-047-060
Lands of Pesta Farm, LLC APN 115-054-050
Lands of Pesta Farm, LLC APN 115-054-070
Lands of O'Gorman APN 115-006-170
Lands of Pesta Farm, LLC APN 115-006-180
Lands of Souza APN 011-068-410
Lands of Pesta Farm, LLC APN 115-301-210
Lands of Pesta Farm, LLC APN 115-054-070
Lands of Jones APN 115-301-041
Lands of Pesta Farm, LLC APN 115-301-290
Lands of Deeke APN 115-006-010
Lands of McAfee APN 115-301-280
Lands of Lopez APN 115-301-270
Lands of Long APN 115-301-241
Lands of Weston APN 114-080-010
Lands of Lee APN 114-080-050
Lands of Dickinson APN 114-080-020
Lands of Dickinson APN 114-080-060
Lands of Pesta Farm, LLC APN 115-054-060
Lands of O'Gorman APN 115-336-150
Lands of Williams APN 115-006-160
Lands of Glenn Properties, Inc. APN 115-007-260
Lands of Kirk APN 115-053-400
Lands of Williams APN 115-053-410
Lands of Oshoa APN 115-053-360
Lands of Gusiumi APN 115-007-010
Lands of Pesta Farm, LLC APN 115-006-030
Lands of Purnell APN 115-007-020
Lands of Van Horn APN 115-053-440
Lands of Gorski APN 115-055-020
Lands of Geiger Springs Investments, LLC APN 115-007-030
Lands of Schroeth APN 115-053-450
Lands of Jack APN 115-013-070
Lands of Mahlini APN 114-060-010
Lands of Prescott APN 114-013-020
Lands of Hammond APN 114-031-010
Lands of Martin APN 114-031-040
Lands of Lahaie APN 114-031-030
Lands of Gutman APN 114-031-020
Lands of Gutman APN 114-031-050
LEGEND
APPROXIMATE AGRICULTURE PROPERTY LINE
APPROXIMATE PROJECT SITE OVERALL PROPERTY BOUNDARY
MAJOR ELEVATION CONTOUR
MINOR ELEVATION CONTOUR
EXISTING PRODUCTION WELL FOR CANNABIS
ON-SITE WELL (NON-CANNABIS)
OFF-SITE WELL
PROPOSED CANNABIS FARM AREA
EXISTING CANNABIS FARM AREA
CULTIVATION BLOCK IDENTIFIER
500 0 500
SCALE: 1" = 500'
EBA ENGINEERING
826 SONOMA AVENUE
SUITE 101
SANTA ROSA, CA 95404
TEL: (707) 544-0784
OVERALL SITE MAP
WATER AVAILABILITY ANALYSIS
1833 DS LLC
KELSEYVILLE, CA 95451
Submittal / Revision:
Job No: 24-3575
Drawn By: RMW
Checked By: MJE
Date: November 13, 2024
FIGURE
2



1833 DS LLC
CUMULATIVE IMPACT AREA MAP
KELSEYVILLE, CALIFORNIA
NOTE
PARCEL LINES FROM PUBLICLY AVAILABLE COUNTY OF LAKE GIS TRANSFER, NOVA, MAGERY FROM GOOGLE EARTH (2024).
VINEYARD
CUMULATIVE IMPACT AREA
FOREST
OFF-PROPERTY CANNABIS GROW (TYP)
PROJECT SITE
ORCHARDS
MOUNT HANNAH
PASTURE LAND
SEIGLER MOUNTAIN
WELL 1
WELL 2
WELL 3
WELL 4
WELL 5
WELL 6
WELL 7
WELL 8
WELL 9
LEGEND
APPROXIMATE ADJACENT PROPERTY LINE
APPROXIMATE PROJECT SITE (INITIAL PROPERTY BOUNDARY)
MAJOR ELEVATION CONTOUR
MINOR ELEVATION CONTOUR
EXISTING PRODUCTION WELL FOR CANNABIS
ON-SITE WELL (NON-CANNABIS)
OFF-SITE WELL
CUMULATIVE IMPACT AREA (3A)
OFF-SITE CANNABIS GROWS
ORCHARDS
PASTURE LAND
VINEYARDS
IMPERVIOUS SURFACE
APPROXIMATE LOCATION OF EXISTING HARDENED NON-BEDROCK NUMBER DENSITIES
PROPOSED CANNABIS FARM AREA
EXISTING CANNABIS FARM AREA
CULTIVATION BLOCK IDENTIFIER
SCALE : 1" = 600'
EBA ENGINEERING
835 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544-0784
CUMULATIVE IMPACT AREA MAP
WATER AVAILABILITY ANALYSIS
1833 DS LLC
KELSEYVILLE, CA 95451
Submittal / Revision:
Job No: 24-3575
Drawn By: BMW, AS
Checked By: MJE
Date: November 13, 2024
FIGURE
3


1833 DS LLC
GEOLOGIC MAP AND CROSS SECTION
KELSEYVILLE, CALIFORNIA
NOTE
LEGEND
SCALE : 1" = 1,000'
CUMULATIVE IMPACT AREA
PROJECT SITE
WELL 9
WELL 8
WELL 7
WELL 6
WELL 5
FAULT
SOUTHWEST
NORTHEAST
CUMULATIVE IMPACT AREA
PROJECT SITE
KONOCTI BAY FAULT ZONE
Seigler Springs North Road
MAP SYMBOLS
LEGEND
EBA ENGINEERING
625 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544-0794
GEOLOGIC MAP AND CROSS SECTION
WATER AVAILABILITY ANALYSIS
1833 DS LLC
KELSEYVILLE, CA 95451
Submittal / Revision:
Job No: 24-3578
Drawn By: AS, BMW
Checked By: MJE
Date: November 14, 2024
FIGURE
4




EBA ENGINEERING
609 SONOMA AVENUE
SUITE E
SANTA ROSA, CA 95404
TEL: (707) 544-0784

**WELL COMPLETION REPORT MAP**
WATER AVAILABILITY ANALYSIS
1833 DS LLC
KELSEYVILLE, CA 95451

Submittal / Revision:

Job No: 24-3575
Drawn By: AS, PD, BMW
Checked By: MJE
Date: November 14, 2024

FIGURE
5

# APPENDIX B

# ACREAGE DETERMINATION PLAT
# (PREPARED BY CONSER LAND SURVEYING)

# ACREAGE DETERMINATION PLAT

FOR

1833 DS LLC (FORMERLY PASTA FARM LLC)

BEING A PORTION OF THE NORTH HALF OF SECTION 14

Township 12 NORTH, RANGE 9 WEST, M.D.B.&M.


650 SOUTH MAIN STREET
LAKEPORT, CALIFORNIA 95453
PHONE (707) 263-5512
FAX (707) 263-0455

# APPENDIX C

# Project Site Well Completion Reports

ORIGINAL
File with DWR

Page ___ of ___

Owner's Well No. ___

Date Work Began 1-18-01 Ended 2-19-01

Local Permit Agency Health Dept.

Permit No. WE 2048 Permit Date 1-17-01

APR 04 2002

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 713304

DWR USE ONLY — DO NOT FILL IN
12N / 08W-14
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Well 1

## GEOLOGIC LOG

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

DRILLING METHOD Mud Rotary FLUID Bentonite

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 120 | Red Volanics |
| 120 | 230 | Basalt |
| 230 | 300 | Red, Black Basalt |

TOTAL DEPTH OF BORING 300 (Feet)

TOTAL DEPTH OF COMPLETED WELL 300 (Feet)

## WELL LOCATION

Address 10750 Siegler Springs Rd.N.

City Kelseyville

County Lake

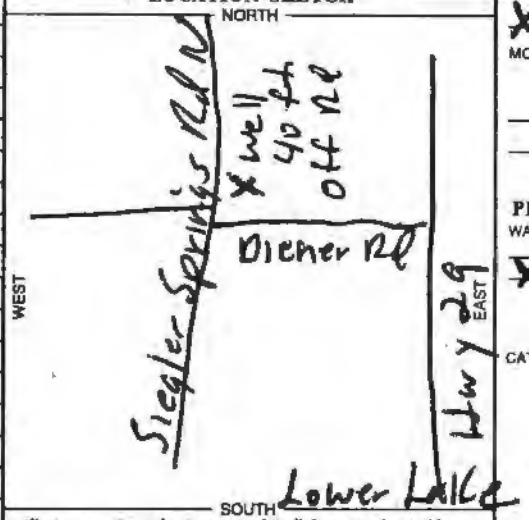
APN Book 115 Page 004 Parcel 02

Township 12N Range 8W Section 14

Latitude ___ DEG. ___ MIN. ___ SEC. NORTH

Longitude ___ DEG. ___ MIN. ___ SEC. WEST

## LOCATION SKETCH




*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 (✓)

X NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

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

## PLANNED USES (✓)

WATER SUPPLY
X Domestic ___ Public
X 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 160 (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 120 (Ft.) & DATE MEASURED 3-01-01

ESTIMATED YIELD 275 (GPM) & TEST TYPE air lift

TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)

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

| DEPTH FROM SURFACE Ft. | to Ft. | BORE-HOLE DIA. (Inches) | CASING (S) TYPE (✓) BLANK | SCREEN | CONDUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 245 | 12¼ | X | | | | PVC | 8" | 200 | |
| 245 | 300 | " | | X | | | " | " | " | 1/8 |

| DEPTH FROM SURFACE Ft. | to Ft. | ANNULAR MATERIAL TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 300 | | | | 5/16 Pea |

APR 04 2002

## 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 13011 Hwy 29 CITY Lower Lake STATE Ca ZIP 95457

Signed Larry Herman (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 3-16-01

C-57 LICENSE NUMBER 465091

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

Original with DWR

Well 2

State of California

# Well Completion Report

Refer to Instruction Pamphlet

No. xxxxxxx

DWR Use Only – Do Not Fill In

State Well Number/Site Number

Latitude / Longitude

APN/TRS/Other

Page 1 of 1

Owner's Well Number 1

Date Work Began 3-29-21 Date Work Ended 4-6-21

Local Permit Agency Lake County Environmental Health

Permit Number WE-5410-AG Permit Date 2-16-2020

## Geologic Log

Orientation ● Vertical ○ Horizontal ○ Angle Specify

Drilling Method Air Rotary Drilling Fluid

| Depth from Surface Feet | to Feet | Description Describe material, grain size, color, etc |
|---|---|---|
| 0 | 30 | Red clay with boulders |
| 30 | 200 | Black basalt |
| 200 | 260 | Red volcanics |
| 260 | 300 | Black basalt |

Total Depth of Boring 305 Feet

Total Depth of Completed Well 305 Feet

## Well Owner

Name Tom Larson

Mailing Address 23355 Millerrick Rd.

City Sonoma State CA Zip 95478

## Well Location

Address 19750 Seiglerspringsnorth Rd.

City Kelseyville County LAKE

Latitude ___ Deg. ___ Min. ___ Sec. N Longitude ___ Deg. ___ Min. ___ Sec. W

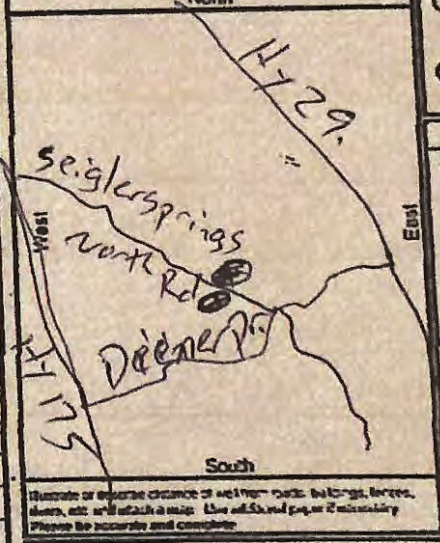
Datum ___ Dec. Lat. ___ Dec. Long. ___

APN Book 115 Page 004 Parcel 05

Township ___ Range ___ Section ___

## Location Sketch

(Sketch must be drawn by hand after form is printed.)




Illustrate or describe distance of well from roads, buildings, fences, rivers, etc.; attach a map. Use additional paper if necessary. Please be accurate and complete.

## Activity

● New Well
○ Modification/Repair
○ Deepen
○ Other ___
○ Destroy
Describe procedures and materials under "Other"

## Planned Uses

● Water Supply
■ Domestic ☐ Public
■ Irrigation ☐ Industrial
○ Cathodic Protection
○ Dewatering
○ Heat Exchange
○ Injection
○ Monitoring
○ Remediation
○ Sparging
○ Test Well
○ Vapor Extraction
○ Other ___

## Water Level and Yield of Completed Well

Depth to first water 200 (Feet below surface)

Depth to Static Water Level 200 (Feet) Date Measured 4-5-21

Estimated Yield* 400+ (GPM) Test Type Air-lift

Test Length 2 HRS (Hours) Total Drawdown ___ (Feet)

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

## Casings

| Depth from Surface Feet | to Feet | Borehole Diameter (Inches) | Type | Material | Wall Thickness (Inches) | Outside Diameter (Inches) | Screen Type | Slot Size If Any (Inches) |
|---|---|---|---|---|---|---|---|---|
| 0 | 30 | 20" | | steel | ¼" | 14" | — | — |
| 0 | 200 | | | steel | ¼" | 10¾" | — | — |
| 200 | 300 | | | steel | ¼" | 10¾" | perf. | .250" |

## Annular Material

| Depth from Surface Feet | to Feet | Fill | Description |
|---|---|---|---|
| 0 | 25 | Cement | seal |
| 25 | 300 | — | — |

## Attachments

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

Attach additional information, if needed.

## Certification Statement

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

Name Will Peterson Well Drilling

Person, Firm or Corporation P.O. Box 69 Kelseyville CA 95451

Address City State Zip

Signed [signature] 4-7-21 1009053

C-57 Licensed Water Well Contractor Date Signed C-57 License Number

DWR 188 REV 1/2004

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

RECEIVED
JAN 29 1993
DWR

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 486026

DWR USE ONLY — DO NOT FILL IN
12N/8W-11M
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page ___ of ___
Owner's Well No. ___
Date Work Began 9-3-92 Ended 9-18-92
Local Permit Agency Lake County Environmental Health
Permit No. WE 770 Permit Date 9-3-92

Well 3

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER 360' (Ft.) BELOW SURFACE

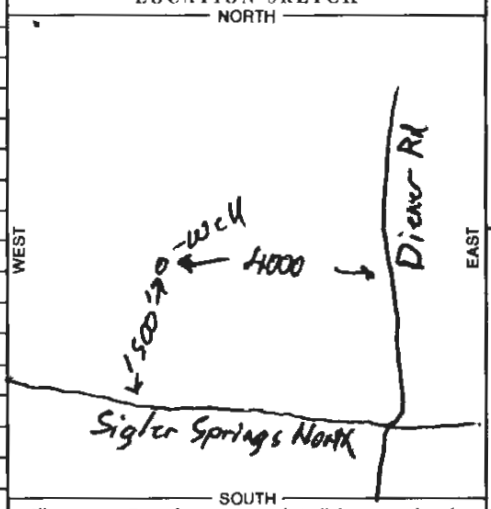
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 2 | Brn. Soil |
| 2 | 10 | Red Clay |
| 10 | 15 | Red Clay + Vol. Boulders |
| 15 | 80 | Black + Brn Vol. Boulders |
| 80 | 360 | Black + Brn, red Vol. Rock |
| 360 | 405 | Black, Green, White, Pink, Vol. Rock |

TOTAL DEPTH OF BORING 405 (Feet)
TOTAL DEPTH OF COMPLETED WELL 405 (Feet)

## WELL LOCATION

Address 10800 Dieser Court
City Lower Lake
County Lake
APN Book 11 Page 008 Parcel 90
or Township 12N Range 08W Section 11
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 (✓)

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

### PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
X Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD Air Rotary FLUID Air

### WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 264' (Ft.) & DATE MEASURED 9-16-92
ESTIMATED YIELD* 30 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN — (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 | 25 | 10 5/8 | X | | | | PVC 125 | 6" | 125 | |
| 0 | 305 | 10 5/8 / 6 1/4 | X | | | | PVC F480 | 4" | 200 | |
| 305 | 405 | 6 1/4 | | X | | | PVC F480 | 4" | 200 | 2X 1/8 |

### ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 15 | X | | | |
| 15 | 23 | X | | | |
| 23 | 25 | | X | | |
| 40 | 405 | | | X | Pea 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 Dan Mc Mullen Well Drilling '603
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

1487 Old Long Valley Rd. Clearlake Oaks CA 95423
ADDRESS CITY STATE ZIP

Signed Dan Mc Mullen 9-21-92 533152
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page ___ of ___

APR 04 2002

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 713384

DWR USE ONLY — DO NOT FILL IN
12N/08W-14
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. ___
Date Work Began 12-29-99 Ended 12-29-99
Local Permit Agency Health Dept
Permit No. WE-1820 Permit Date 12-7-99

Well 4

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD air rotary FLUID ___

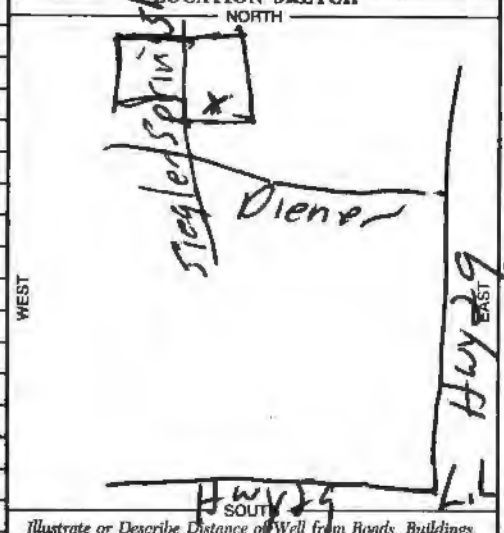
| DEPTH FROM SURFACE Ft. to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|
| 0 10 | Red Ash |
| 10 50 | Basalt in Ash |
| 50 210 | Broken Red & Black Basalt |
| | Pump setting 168' - 90 gpm |

TOTAL DEPTH OF BORING 210 (Feet)
TOTAL DEPTH OF COMPLETED WELL 200 (Feet)

## WELL LOCATION

Address 10750 Siegler Springs North
City Kelseyville
County Lake
APN Book 115 Page 004 Parcel 02
Township 12N Range 08W Section 14
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH




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

PLANNED USES (✓)
WATER SUPPLY
X Domestic ___ Public
X 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 140 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 125 (Ft.) & DATE MEASURED 12-27-99
ESTIMATED YIELD 160 (GPM) & TEST TYPE air lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 20 | 9" | X | | | | PVC | 4½ | 160 | |
| 20 140 | 7" | X | | | | " | " | " | |
| 140 200 | 5" | | X | | | " | " | " | 1/8" saw cut |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE: CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 24 | X | | | |
| 24 200 | | | | 5/16 Pea |

APR 17 2002

## 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 13011 Hwy 29 CITY Lower Lake STATE Ca ZIP 95457
Signed Larry Herman (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 12-29-99
C-57 LICENSE NUMBER 465071

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

DUPLICATE
Driller's Copy

Page 1 of 1

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. e0274148

Well 7

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 6/15/2015, Ended 6/26/2015
Local Permit Agency Lake County Environmental
Permit No. WE 4553 Permit Date 4/21/2015

## 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 – 12 | Sandy tan silt with gravel |
| 12 – 38 | Reddish tan ash and gravel |
| 38 – 42 | Cobble/boulder (gray) |
| 42 – 48 | Sticky tan clay |
| 48 – 63 | Gray, pink and multi-colored volcanic cobbles and gravel |
| 63 – 113 | Red and black crushed volcanic rock |
| 113 – 137 | Yellow and gray volcanic rock |
| 137 – 154 | Green and gray volcanic rock |
| 154 – 173 | Pink and gray volcanic rock |
| 173 – 213 | Highly fractured gray volcanic rock |
| 213 – 493 | Red, black, gray and multi-colored volcanic rock |
| 493 – 500 | Serpentine |

TOTAL DEPTH OF BORING 500 (Feet)
TOTAL DEPTH OF COMPLETED WELL 494 (Feet)

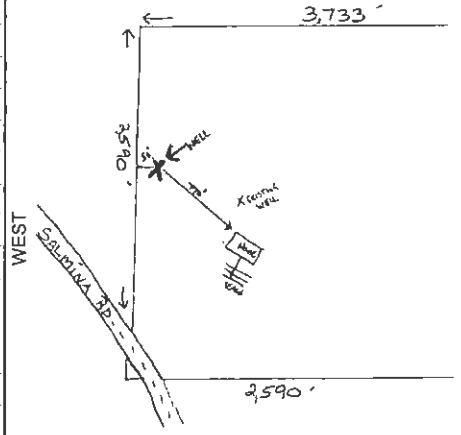
## WELL OWNER

Name Flora Krasnovski
Mailing Address 9954 Salmina Road
Kelseyville CA
CITY STATE ZIP

## WELL LOCATION

Address 9954 Salmina Road
City Kelseyville CA
County Lake
APN Book 115 Page 005 Parcel 03
Township Range Section
Latitude 38 DEG. 53 MIN. 102 SEC. N
122 DEG. 43 MIN. 159 SEC. W

## LOCATION SKETCH




*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
DEPTH OF STATIC WATER LEVEL 302 (Ft.) & DATE MEASURED 6/25/2015
ESTIMATED YIELD 60 (GPM) & TEST TYPE Air Developed
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN 478 (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 | 14 | | | | | | | | |
| 50 – 500 | 10 | | | | | | | | |
| +2 – 394 | | ✓ | | | | PVC | 6 | SDR21 | |
| 394 – 494 | | | ✓ | | | PVC | 6 | SDR21 | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 – 52 | ✓ | | | |
| 52 – 56 | | ✓ | | |
| 56 – 494 | | | ✓ | 3/8 Pea Gravel |

## 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] 07/08/15
WELL DRILLER/AUTHORIZED REPRESENTATIVE 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 ___ of ___

APR 2 . 2004

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 756196

DWR USE ONLY — DO NOT FILL IN
12N/08W-14H
STATE WELL NO./STATION NO
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. ___
Date Work Began 3-24-03 Ended 4-6-03
Local Permit Agency Health Dept.
Permit No. WE-3311 Permit Date 4-23-03

Well 8

## GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD air rotary FLUID ___

| DEPTH FROM SURFACE Ft | to Ft | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 25 | Red Top soil |
| 25 | 160 | Tan Vol. Ash |
| 160 | 300 | Red, Blue, Gray Porous Volanic |
| 300 | 470 | Gray soft Porous Volanic |

TOTAL DEPTH OF BORING 470 Feet
TOTAL DEPTH OF COMPLETED WELL 470 Feet

## WELL LOCATION

Address 9954 Soloma Rd
City Kelseyville
County Lake
APN Book 115 Page 005 Parcel 03
Township 12N Range 08W Section 14
Latitude ___ DEG ___ MIN ___ SEC NORTH Longitude ___ DEG ___ MIN ___ SEC WEST

## LOCATION SKETCH

NORTH
400ft. from House
Well
House
WEST
EAST
Soloma Rd
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 350 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 330 (Ft.) & DATE MEASURED 4-4-03
ESTIMATED YIELD * 50 (GPM) & TEST TYPE air lift
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
* *May not be representative of a well's long-term yield.*

| DEPTH FROM SURFACE Ft | to Ft | BORE-HOLE DIA. (Inches) | CASING(S) TYPE (✓) BLANK | SCREEN | CONDUCTOR | FILL PIPE | MATERIAL GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 9 | ✓ | | | | PVC | 4½ | 160 | |
| 20 | 420 | 7 | ✓ | | | | " | " | " | |
| 420 | 470 | 7 | | ✓ | | | " | " | " | 1/8 |

| DEPTH FROM SURFACE Ft | to Ft | ANNULAR MATERIAL TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | ✓ | | | |
| 20 | 470 | | | | 5/16 Pea |

JUN 18

## 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 13011 Hwy 29 CITY Lower Lake STATE Ca ZIP 95457
Signed ___ (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 4-6-03
C-57 LICENSE NUMBER 465071

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page ___ of ___

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 713358

DWR USE ONLY — DO NOT FILL IN

12N/08W-11

STATE WELL NO./STATION NO.

LATITUDE ___ LONGITUDE ___

APN/TRS/OTHER

Owner's Well No. ___

Date Work Began 7-20-04 Ended 7-28-04

Local Permit Agency Health Dept.

Permit No. 3484 Permit Date 7-20-04

Well 9

## GEOLOGIC LOG

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

DRILLING METHOD air rotary FLUID ___

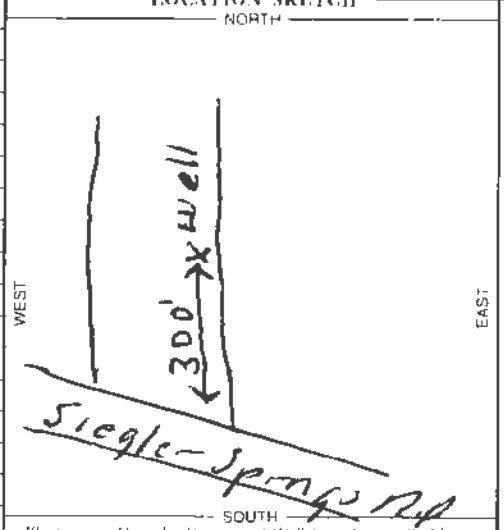
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION (Describe material, grain size, color, etc.) |
|---|---|---|
| 0 | 20 | Red Top Soil |
| 20 | 40 | Ash w/ Small Rock |
| 40 | 115 | Broken Basalt |
| 115 | 150 | Hard Gray & Pink Vol. |
| 150 | 220 | Med. Hard Gray & Pink Vol. |
| 220 | 340 | Brown & Gray Vol. |
| 340 | 360 | Brown & Green Vol. |
| 360 | 420 | Green, Blue, Gray Vole Broken |

TOTAL DEPTH OF BORING 420 Feet

TOTAL DEPTH OF COMPLETED WELL 410 Feet

Address 10145 Siegler Springs Rd.
City Kelseyville
County Lake
APN Book 044 Page 047 Parcel 06
Township 12N Range 8W Section 11
Latitude ___ DEG ___ MIN ___ SEC NORTH
Longitude ___ DEG ___ MIN ___ SEC WEST

## LOCATION SKETCH




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 (✓)

X NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

___ DESTROY (Describe Procedures and Materials Under GEOLOGIC LOG)

## PLANNED USES (✓)

WATER SUPPLY
X 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 340 (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 260 (Ft.) & DATE MEASURED 7-22-04

ESTIMATED YIELD * 80 (GPM) & TEST TYPE air lift

TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | 20 | 9 | X | | | | PVC | 4½ | 160 | |
| 20 | 370 | 7 | X | | | | " | " | " | |
| 370 | 410 | 7 | | X | | | " | " | 200 | .030 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 410 | | | | 5/16 Pea |

## 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 Larry Herman Drilling (PERSON, FIRM OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 13011 Hwy 29 CITY Lower Lake STATE Ca ZIP 95457

Signed [signature] (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED ___

C-57 LICENSE NUMBER 465021

WCR 188A (REV. 11/98) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

# APPENDIX D

# PUMPING TEST DATA AND REPORTS

# TECHNICAL MEMORANDUM

To: Art Deicke
Environmental Pollution Solutions
2513 Deep Harbor Lane
Santa Rosa 95407

From: Christina Kennedy P.G
CKG Environmental, Inc.
P.O. Box 246.
St. Helena, CA 94574

(707) 363-5740 cell.
(707) 967-8080 (office and fax)

Date: January 10, 2020

**Subject: Opinion Regarding Adequacy of Water Well Yield, DiCesare Vineyards, 10750 Siegler Springs Road, Kelseyville, CA**

CKG Environmental Inc., (CKG) has reviewed the data and information provided by Environmental Pollution Solutions (EPS) from the well yield test performed on December 11, 2019 and the original well log prepared by Larry Herman Drilling on December 20, 1999, both attached). CKG also worked with EPS to develop the scope of work and coordinate with Jim's Pump of Upper Lake, California to do the pumping test.

On December 11, 2019 Jim's Pump measured the depth to static water at the well to be 129 feet below the top of casing. Starting at 10:30 a.m. Jim's pump used the existing pump to pump the well. Initially the pumping rate was 206 gallons per minute (gpm.). As the water elevation dropped the pumping rate also dropped until approximately 11:10 a.m. when the pumping rate was 192 gpm., which was sustained until 1:10 p.m. when the test was terminated. Unfortunately, it was not possible to measure the depth to water during the pump test because there was an obstruction in the well just below 129 feet from the top of casing that prevented the water meter from advancing down the well. Based on the 1999 well log the pump was placed at a depth of 168 feet below the top of casing therefore the depth to water could not have been more than 168 feet. After the pump test the water in the well recharged for approximately half an hour to reach the initial water elevation. Based on these observations Jim's Pump concluded that the well was capable of producing 180 gpm.

EPS was able to measure depth to water in an observation well located approximately 127 feet west on bearing 290 degrees from the pumping well. Prior to starting the pump test the depth to groundwater in the observation well was 128.7 feet below the top of casing. After 2.5 hours of pumping the water at the observation well dropped 2.5 feet to 131 feet below the top of casing. Observation well notes are attached.

CKG could not quantify the well yield because there was no water elevation data available from the pumped well however, qualitatively, the behavior documented by Jim's Pump supports their conclusion that the well can produce at least 180 gpm. In the space of the 3.5 hour test the well produced approximately 40,320 gallons of water, using the 192 gpm. pumping rate).

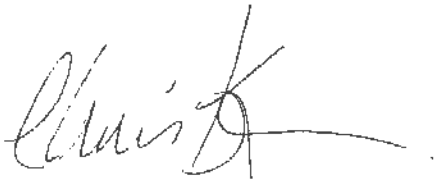
Presently there are approximately 20-22 acres of vines planted. The water use to irrigate the vines has not been measured but conservatively CKG estimates that they require one acre-foot of water per acre annually. Cannabis has not been planted yet at the property, but the owners are planning for a maximum of nine acres of cannabis that also will require one acre-foot per acre annually, (conservatively). At a maximum the water use at the property could be as high as 39-acre-feet per year.

One acre-foot of water is 325,851 gallons which means that projected maximum water usage would be 10,101,381 gallons per year or 27,675 gallons per day. Water usage will not be the same all year round so we should assume that there will be no usage in the winter and probably at least twice as much as the average during the summer (conservatively 60,000 gallons per day). If the well produces 180 gpm. /10,800 gallons per hour, it would take about 5.5 hours to pump the required water. Based on the well yield test completed by Jim's pump on December 11, 2019. The well should readily provide sufficient water.

CKG acknowledges that the well yield test was completed in the winter and that at the driest part of the year (September or October) the yield could be less, but irrigation demand, from the grapes in particular, should be less as well. To assure a reliable water supply, and to manage variations in water availability CKG suggests that the owner install water storage to provide at least a few days buffer in the event of drought. CKG understands that the owner is planning to provide such storage.

CKG is pleased to provide the above option regarding adequacy of the existing irrigation well to provide sufficient water for vineyard and cannabis cultivation as described above based on the information provided by EPS. If you have questions or would like to discuss these findings further please feel free to contact me at (707 ) 363 5740 or ckennedy@geologist.com.

Sincerely
CKG ENVIRONMENTAL, INC.






Christina J. Kennedy
Professional Geologist 5077

Attachments:

# NOTES ON WATER WELL TEST

Note Date: December 20, 2019

Well Test Date: December 11, 2019

Test Conducted by: Jim's Welding & Pumps
PO Box 474
Upper Lake, Lake County, Ca 95485
CA License # 993066

TEST WELL

Well Location: 10750 Seigler Springs Road N
Kelseyville, Lake County
Well Data: 8-inch diameter irrigation well
Well Install Date: Report certified March 11, 2001
Well Depth: 300 feet
Screen Interval: 245 to 300 feet, 1/8-inch slot

INTERFERENCE WELL

Well Location: 10750 Seigler Springs Road N
Kelseyville, Lake County (see note 1)
Distance/direction: Approximately 137 feet west (290 deg) of test well
Well Data: 4.5-inch diameter domestic/irrigation well
Well Install Date: Report certified December 29, 1999
Well Depth: 200 feet
Screen Interval: 140 to 200 feet, 1/8-inch slot

INTERFERENCE WELL TEST DATA

| | Time | Depth to water (feet btoc) |
|---|---|---|
| | 0955 | 128.7 |
| Test begins | 1030 | -- |
| | 1054 | 129.8 |
| | 1115 | 130.3 |
| | 1201 | 130.8 |
| | 1300 | 131.0 |
| Test ends | 1310 | -- |
| | 1315 | 130.8 |

Note 1: Interference well was located on 10750 Seigler Springs Road N, Kelseyville at time of installation, but due to parcel split, address is now 11000 Diener Drive, Kelseyville.

ATTACHMENTS

Well Completion Reports for both Test and Interference wells
Jim's Welding & Pumps Well Test Report dated December 11, 2019

# JIM'S WELDING & PUMPS

P.O. Box 474
Upper Lake, CA 95485
Telephone 707-349-2277
Jose Fernandez Jr.
CA# 993066


# WELL TEST REPORT

JOB E.P.S / Hankerson / Hanson Family Vineyard SIZE TURBINE 3"

LOCATION 1750 Seigler Springs Rd N Kelseyville SETTING unknown

WELL DEPTH 360' CASING SIZE 8" STATIC LEVEL 129'

DATE STARTED 12-11-19 DATE COMPLETED 12-11-19

| DATE | TIME A.M. | TIME P.M. | OPERATOR | G.P.M. | DRAWDOWN | WATER COLOR |
|---|---|---|---|---|---|---|
| 12-11-19 | 10:30 | | | 206 | 129' | Clear |
| | 10:40 | | | 199 | unknown | |
| | 11:10 | | | 192 | unknown | |
| | 11:40 | | | 192 | unknown | |
| | | 12:16 | | 192 | | |
| | | 12:40 | | 192 | | |
| | | 1:10 | | 192 | | |
| | | end test | | 192 | | |
| | | Recovery time | | | ↓ | ↓ |
| | | 1:40 | | 0 | 130' | |

COMMENTS: At this time we feel this well is capable of (180 gpm) Note: All results are subject to change depending on time of year + weather conditions.

Jim's Pu[illegible]
P.O. Box [illegible]
Upper Lake, CA 95485

# Contractors Invoice

| TO: | WORK PERFORMED AT: |
|---|---|
| E.P.S / Larson Family Vinyard | 1750 Seigler Springs Rd North<br>Kelseyville CA |

| DATE | YOUR WORK ORDER NO. | OUR BID NO. |
|---|---|---|
| 12-11-19 | | |

**DESCRIPTION OF WORK PERFORMED**

Perform Well test on Ag well

At this time we feel this well is capable of (180 gpm)
Note: All results are subject to change depending on time of year + weather conditions. [signature]

total $1033

paid ch #1860
[signature]

All Material is guaranteed to be as specified, and the above work was performed in accordance with the drawings and specifications provided for the above work and was completed in a substantial workmanlike manner for the agreed sum of _____ Dollars ($_____).

This is a ☐ Partial ☐ Full invoice due and payable by: _____ Month _____ Day _____ Year

in accordance with our ☐ Agreement ☐ Proposal No. _____ Dated _____ Month _____ Day _____ Year

adams TC8122 11-12

#APN 115-004-02

**QUADRUPLICATE**
**For Local Requirements**

Page ___ of ___

Owner's Well No. ___

Date Work Began 1-18-01 Ended 2-19-01

Local Permit Agency Health Dept

Permit No. WE 2048 Permit Date 1-17-01

STATE OF CALIFORNIA

# WELL COMPLETION REPORT

*Refer to Instruction Pamphlet*

No. **713304**

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

## GEOLOGIC LOG

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

DRILLING METHOD Mud Rotary FLUID Bentonite

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 120 | Red Volcanics |
| 120 | 230 | Basalt |
| 230 | 300 | Red, Black Basalt |

RECEIVED
OCT 31 2003
LAKE COUNTY
ENVIRONMENTAL HEALTH

CONFIDENTIAL

TOTAL DEPTH OF BORING 300 (Feet)

TOTAL DEPTH OF COMPLETED WELL 300 (Feet)

## WELL OWNER

Name J [illegible]

Mailing Address 8075 [illegible] Rd

CITY Santa Rosa Ca 95404 STATE ZIP

## WELL LOCATION

Address 10750 Siegler Springs Rd N

City Kelseyville

County Lake

APN Book 115 Page 004 Parcel 02

Township 12N Range 8W Section 14

Latitude ___ NORTH DEG. MIN. SEC. Longitude ___ WEST DEG. MIN. SEC.

## LOCATION SKETCH




*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 (✓)

X NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

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

## PLANNED USES (✓)

WATER SUPPLY
___ Domestic ___ Public
X 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 160 (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 120 (Ft.) & DATE MEASURED 3-01-01

ESTIMATED YIELD * 275 (GPM) & TEST TYPE air lift

TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 245 | 12 1/4 | X | | | | PVC | 8" | 200 | |
| 245 | 300 | " | | X | | | " | " | " | 1/8 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CE-MENT (✓) | BEN-TONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 300 | | | | 5/16 Pea |

## 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 [illegible] Drilling
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

[illegible] Ca 95457
ADDRESS CITY STATE ZIP

Signed [illegible] 3-[illegible] 165271
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

115-004-02

**QUADRUPLICATE**
**For Local Requirements**

Page ___ of ___
Owner's Well No. _____
Date Work Began 12-2-99 Ended 12-7-99
Local Permit Agency Lake County
Permit No. 99-1150 Permit Date 12-2-99

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*
No. 713384

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

## GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Air Rotary FLUID _____

| DEPTH FROM SURFACE Ft. to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|
| 0 10 | Red Ash |
| 10 50 | Basalt Ash Red & Black |
| | Water @ 140 |
| | 0-2 Sealing |
| | 16" - 90 gpm |

CONFIDENTIAL
RECEIVED
DEC 3 1999

TOTAL DEPTH OF BORING 300 (Feet)
TOTAL DEPTH OF COMPLETED WELL 300 (Feet)

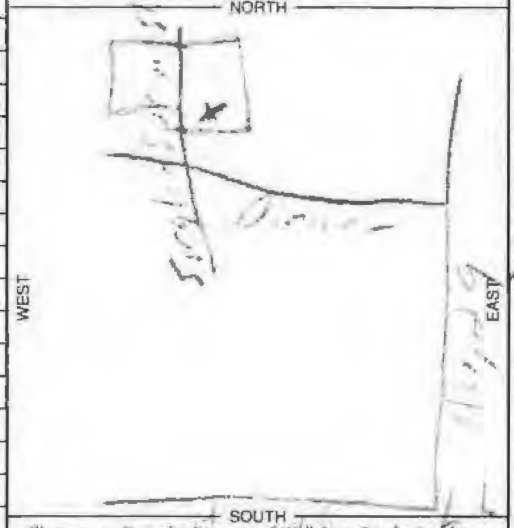
## WELL OWNER

Name _____
Mailing Address _____
CITY STATE ZIP

## WELL LOCATION

Address 10750 Siegler Springs Road
City Kelseyville
County Lake
APN Book 115 Page 004 Parcel 02
Township _____ Range _____ Section _____
Latitude ___ ___ ___ NORTH Longitude ___ ___ ___ WEST
DEG. MIN. SEC. DEG. MIN. SEC.

## LOCATION SKETCH




*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 - APPLY
✓ 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 140 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 125 (Ft.) & DATE MEASURED 12-27-99
ESTIMATED YIELD * 150 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN _____ (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 to 20 | 8 | ✓ | | | | PVC | 4½ | 160 | |
| 20 to 140 | 8 | ✓ | | | | " | " | " | |
| 140 to 300 | 8 | | ✓ | | | " | " | " | 40 Slot cut |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE: CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 to 24 | ✓ | | | |
| 24 to 300 | | | | 5/16 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 [illegible] (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 12211 Hwy 59 CITY Arcata STATE CA ZIP 95521
Signed _____ (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 12-29-99 C-57 LICENSE NUMBER 485271

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

**JIM'S PUMPS**
P.O. Box 474
Upper Lake, CA 95485
Telephone 707-349-2277
Jose Fernandez Jr.
CA# 993066

# WELL TEST REPORT

JOB Pasta Farms SIZE TURBINE 30Hp
LOCATION 10750 Seigler Sprgs. N APN: 115-004-05 SETTING 295 ft
WELL DEPTH 300 ft CASING SIZE 8 in. STATIC LEVEL 151 ft
DATE STARTED 7-30-2021 DATE COMPLETED 7-30-2021

| DATE | TIME | | OPERATOR | G.P.M. | DRAWDOWN | WATER COLOR |
|---|---|---|---|---|---|---|
| | A.M. | P.M. | | | | |
| 7-30-21 | 10:30 | | Ben | 275 | 151 ft | Cloudy |
| | 10:45 | | | 275 | 158 ft | ↓ |
| | 11:00 | | | 275 | 161 ft | ↓ |
| | 11:15 | | | 275 | 161 ft | Clear |
| | 11:30 | | | 275 | 161 ft | ↓ |
| | | 12:00 | | 275 | 161 ft | ↓ |
| | | 12:30 | | 275 | 161 ft | ↓ |
| | | 1:00 | | 275 | 161 ft | ↓ |
| | | 1:30 | | 275 | 161 ft | ↓ |
| | | 2:00 | | 275 | 161 ft | ↓ |
| | | 2:30 | | 275 | 161 ft | ↓ |
| | | | End Test | | | |
| | | 2:30 | Start Recovery | @ | 161 ft | |
| | | 2:45 | End Recovery | @ | 151 ft | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

COMMENTS: At this time We feel this well is capable of (275 GPM). Note: All results are subject to change depending on time of year or Weather Conditions.

VANDERWALL ENGINEERING

# Hydrology Report to Determine Area of Influence for Cultivation Irrigation Wells

for

Pasta Farm, LLC

APN: 115-004-01 & 115-004-05

10750 Springs Road N
Kelseyville, CA 95451

August 11, 2021




Prepared for:

Lake County
Community Development Department
255 North Forbes Street
Lakeport, CA 95453

VANDERWALL
ENGINEERING

## INTRODUCTION

The purpose of this study is to determine the area of influence of 3 existing wells that will continue to be used for residential domestic supply and irrigation for proposed commercial cannabis. The "Project" is currently proposing 11 acres of outdoor cultivation, some of which will be converted to uses that demand less water. This report assumes the highest and most impactful water use of any stage or phase of the Project - 11.0 acres of outdoor cultivation, Currently the project has an existing 9.0 acres of canopy that is permitted for early activation.

The parcels on which the Project is located are owned by Pasta Farm, LLC. The former use of the Property was a 20.0 acre irrigated vineyard and approximately 40 acres of walnuts.

This report estimates the amount of water available and recharge rate during a drought year from the existing wells. In addition, this report estimates the zone of influence to the surrounding and to estimate the cumulative impacts where interference is with existing wells.

## STUDY LIMITATIONS

The yield of wells cannot be estimated with precision because of all the uncertainty with the aquifer and the amount of rain percentage of rainfall that percolates through the ground. Therefore, conservative estimates and assumptions are used in this report.

This study is based on the following information and assumptions.

- Cooper - Jacob well equation
- Well Completion Report by Lake County Environmental Health.
- Well Yield Test and Drillers Reports by Jim's Pumps
- Rainfall for a drought year is 20% of annual precipitation (6.8 inches)
- Aquifer is uniform throughout the area of well influence



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3745 E. Main Street • Kelseyville, CA 95451 • (707) 279-4887
www.vdwengr.com • contact@vdwengr.com

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# WELL

There are 3 wells that are proposed to be used in this project and 1 neighboring residential well calculated as follows:

## WELL #1

- Southeast vicinity of APN: 115-004-07.
- Well is offsite, however, the owner has deeded rights to the well (See Appendix E)
- Total drill depth of 300 feet below the surface.
- The capacity of the well is at least 197 gpm. (See Appendix A - 2/13/2020)
- Use: Commercial Cannabis Irrigation

## WELL #2

- Eastern vicinity of APN: 115-004-05.
- Located 380 feet southwest from Well #1
- The total drill depth of 300 feet (Appendix A - 7/30/2021)
- The pump is located at 256.5 feet depth.
- The capacity is at least 275 gpm.
- Use: Commercial Cannabis Irrigation

## WELL #3

- Center vicinity of APN: 011-069-48.
- Estimated total drill depth of 300 feet (Appendix A - 7/15/2021)
- Capacity of at least 25 gpm.
- Use: Future Commercial Cannabis Irrigation

## WELL #4 (NEAREST NEIGHBOR'S WELL)

- Eastern vicinity of APN: 115-004-07
- Total drill depth of 200 feet (Appendix A - 2/13/2020)
- Located 137 feet west of Well #1
- Use: Residential

Per the well completion report (See appendix A - 3/29/21) the aquifer has a top red clay with boulders layer from 0-30' depth and is therefore confined. The confined aquafer's depth was estimated to be the bottom of the well depth of 300 feet for wells #1, #2, and #3, and 200 feet for well #4.



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## WELL RADIUS OF INFLUENCE

The well radius of influence (cumulative impact) is estimated by the Cooper-Jacob equation:

$$R_{(well)} = \sqrt{\frac{2.24584Tt}{S}}$$

Where,

$R_{(well)}$ = Radius of Influence (m)
t = time (days)
T = transmissivity ($m^2$ / day)
S = water storage capacity (%) unitless

$$T = K * b$$

Where,

K = 2.0 E-4 m/s for Basalt porosity
b = (Total Drill Depth of Well) – (pump depth below clay layer in Well Driller's Report in Appendix A)
t = 1 day
S = 0.15

Therefore;

$R_{(1)}$ => 148 m = 472 feet
$R_{(2)}$ => 148 m = 472 feet
$R_{(3)}$ => 148 m = 472 feet
$R_{(4)}$ => 117 m = 374 feet

Based on the locations and the calculated Radius of Influences, Wells #1 and #2 influence each other and influence the neighbor's well (Well #4). Well #1 is not on the project's property, however it is a shared well with APN: 115-004-07 and project owner has full legal rights to it (See Appendix E)



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## WELLS IN SURROUNDING AREA

Data from existing wells in the area was obtained through the California Department of Water Resources. The next closest well to the subject wells is located at APN: 115-006-15 approximately 550 feet from Well #1's Radius of influence (See appendix B).

# WATER USAGE

The proposed project has a total proposed canopy of 11 acres (479,160 sf) with a Processing Building that has an employee bathroom for 15 employees. There is a 3 BR residence that is serviced by Well #3, and a 3 BR Residence that is serviced by Well #4 that is included with the Total Water Usage Calculation below. For the purposes of this analysis, in an abundance of caution, we have assumed a canopy of double the proposed amount (total 22 acres of canopy).

### WATER USAGE FROM WELLS #1 AND #2

The total water usage of the canopy area is estimated by the square footage of the canopy multiplied by the in/year needed for a singe cannabis plant. The in/yr is estimated to be similar to a tomato plant, which is 20in/year.

$$W_{Irrigation} = A * (ft/yr)$$

$W_{Irrigation}$ = (22.0 acres) * (43,560 sf/acres) * (1.66 ft/year) * (7.48 gal/cf)
$W_{Irrigation}$ = 11,899,267 gal/year

Wells #1 will be servicing the Processing Building Located on APN: 115-004-07

$W_{Processing\ Building}$ = (15 employees) * (15 gals/employee/day) * (0.7 days/week used) * (365 days/year)
$W_{Processing\ Building}$ = 57,487 gal/year

### WATER USAGE FROM WELL #3

$W_{Residence\ 1}$ = (3 br) * (1.5 person/br) * (50 gal/person/day) * (365 days/year)



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$W_{Residence\ 1}$ = 82,125 gal/year

### WATER USAGE FROM WELL #4

$W_{Residence\ 2}$ = 82,125 gal/year

Total Water Usage = $W_{Irrigation} + W_{Proccessing\ Building} + W_{Residence\ 1} + W_{Residence\ 2}$
Total Water Usage = 12,121,004 gal/year

## AQUIFER RECHARGE

The proposed project has an estimated total annual water usage of 12,121,004 gallons per year.

Calculation of Aquifer Recharge is based on the tributary area to the radius of influence of Well #1, #2, and #4, and tributary area to the radius of influence of Well #3. Per map shown in Appendix D, the area is 3,139,904 sf for Tributary A, and for Tributary B, with a total combined area of 1,849,173 sf.

Given: Annual Precipitation, P = 34 inches per year, assume a drought year is 20% of the annual precipitation, yields 6.8" (0.566ft) of rainfall. (Note: Rainfall of 2021 was 9" per NOAA)

Volume of water for recharge = Area x Drought Precipitation x Coefficient of Seepage.

V = (3,139,904 + 1,849,173 sf) x (0.566 ft/yr) x (7.48 gal/cf) x (0.7)

V = 14,785,508 gal/year

14,785,508 > 12,121,004 therefore the well is more than adequate to handle the 22.0 acres of cultivation even in a drought year. The maximum area of canopy this project can grow during a drought year is 27 acres of cultivation,



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unless Pasta Farms LLC develops another well on the property that does not influence other neighboring wells and is not in the recharge area.

## CONCLUSION

Per our calculations and assumptions, the project does have a more than adequate water supply for at least double the proposed irrigation use. Even in a drought year, our estimates show that the well has the capacity to handle more than double the proposed water irrigation needs of the project, without impacting the surrounding neighbor's wells.



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# Appendix

Well Completion & Test Results (A)

Well Area of Influence Map (B)

Surrounding Aerial Map (C)

Well Recharge Area (D)

Well #1 Deed (E)

# Appendix

# A

# REPORT ON WATER WELL TEST

Report Date: February 13, 2020

Well Test Date: February 11 – 12, 2020

Test Conducted by: Jim's Welding & Pumps
PO Box 474
Upper Lake, Lake County, Ca 95485
CA License # 993066

TEST WELL

Well Location: 10750 Seigler Springs Road N
Kelseyville, Lake County
Well Data: 8-inch diameter irrigation well
Well Install Date: Report certified March 11, 2001
Well Depth: 300 feet
Screen Interval: 245 to 300 feet, 1/8-inch slot

INTERFERENCE WELL

Well Location: 10750 Seigler Springs Road N
Kelseyville, Lake County (see note 1)
Distance/direction: Approximately 137 feet west (290 deg) of test well
Well Data: 4.5-inch diameter domestic/irrigation well
Well Install Date: Report certified December 29, 1999
Well Depth: 200 feet
Screen Interval: 140 to 200 feet, 1/8-inch slot

INTERFERENCE WELL TEST DATA

Well #4

| | Date | Time | Depth to water (feet btoc) |
|---|---|---|---|
| | 2-11-20 | 0855 | 129.9 |
| Test begins | | 0915 | 129.83 |
| | | 1054 | 132.5 |
| | | 1215 | 133.7 |
| Test ends | | 1714 | 133.8 |
| | 2-12-20 | 0809 | 130.93 |
| | | 1715 | No access |

Note 1: Interference well was located on 10750 Seigler Springs Road N, Kelseyville at time of installation, but due to parcel split, address is now 11000 Diener Drive, Kelseyville.
Note 2: Well Sounder 2010 Pro was used for water depth measurements for test well, while tape measure used for interference well.

ATTACHMENTS

Jim's Welding & Pumps Well Test Report dated February 11, 2020

Well # 1

**JIM'S PUMPS**
P.O. Box 474
Upper Lake, CA 95485
Telephone 707-349-2277
Jose Fernandez Jr.
CA# 993066

# WELL TEST REPORT

JOB DiCesare Vineyards SIZE TURBINE 25hp 150S250-12

LOCATION 10750 Siegler Springs Rd Kelseyville SETTING uphill

WELL DEPTH 300 Ft CASING SIZE 8in STATIC LEVEL 129 Ft

DATE STARTED 2-11-2020 DATE COMPLETED 2-11-2020

| DATE | TIME A.M. | TIME P.M. | OPERATOR | G.P.M. | DRAWDOWN | WATER COLOR |
|---|---|---|---|---|---|---|
| 2-11-2020 | 9:15 | | Joe | 206 | 129' | Light Brown |
| | 9:30 | | | 206 | 206' | Light Brown |
| | 9:45 | | | 206 | 209' | Light Brown |
| | 10:00 | | | 200 | 210' | Clear |
| | 10:30 | | | 200 | 212' | Clear |
| | 11:00 | | | 200 | 212' | Clear |
| | 11:30 | | | 197 | 211' | Clear |
| | | 12:00 | | 197 | 212' | Clear |
| | | 1:00 | | 197 | 213' | Clear |
| | | 2:00 | | 197 | 212' | Clear |
| | | 3:00 | | 197 | 212' | Clear |
| | | 4:00 | | 197 | 212' | Clear |
| | | 5:00 | | 197 | 212' | Clear |
| | | 5:15 | end run time | 197 | 212' | Clear |
| | | | recovery time | 0 | | |
| | | 5:30 | | 0 | 133' | |
| 2-12-2020 | | 5:15 | | 0 | 130' | |
| | | | | | | |

COMMENTS: At this time We feel this well is capable of (197 gpm) Note: All results are subject to change depending on time of year and weather conditions.

Well #3

**JIM'S PUMPS**
P.O. Box 474
Upper Lake, CA 95485
Telephone 707-349-2277
Jose Fernandez Jr.
CA# 993066

# WELL TEST REPORT

JOB Pasta farms SIZE TURBINE 3 Hp
LOCATION 10800 Diener Ct. Kelseyville SETTING Unknown
WELL DEPTH Unknown CASING SIZE 6" STATIC LEVEL 157 ft
DATE STARTED 7-15-2021 DATE COMPLETED 7-15-2021

| DATE | TIME A.M. | TIME P.M. | OPERATOR | G.P.M. | DRAWDOWN | WATER COLOR |
|---|---|---|---|---|---|---|
| 7-15-21 | 8:00 | | Ben | 17.6 | 157' | Clear |
| | 8:15 | | | 25 | 157' | |
| | 8:30 | | | 25 | 157' | |
| | 8:45 | | | 25 | 157' | |
| | 9:00 | | | 25 | 157' | |
| | 9:30 | | | 25 | 157' | |
| | 10:00 | | | 25 | 157' | |
| | 10:30 | | | 25 | 157' | |
| | 11:00 | | | 25 | 157' | |
| | 11:30 | | | 25 | 157' | |
| | | 12:00 | | 25 | 157' | |
| | | | End Test | | | |

COMMENTS: At this time we feel this well is capable of (25 gpm) Note: All results are subject to change depending on time of year and weather conditions

# Contractors Invoice

TO: Pasta Farms

WORK PERFORMED AT:
10800 Diener Court
Kelseyville, CA

| DATE | YOUR WORK ORDER NO. | OUR BID NO. |
|---|---|---|
| 7/15/21 | 707-888-2437 | |

**DESCRIPTION OF WORK PERFORMED**

Performed well test. Took water sample for testing at Alpha Labs.

At this time we feel this well is capable of (25 gpm). Note: All results are subject to change depending on time of year and weather conditions.

Static: 157'
Setting: Unknown
Total depth: Unknown

Well test: $650
Ag suitability: $300
Potability: $65
Total: $1,015

Payed w/ check # 1277

Send Labs to. Sam @ Pastafarm.com

All Material is guaranteed to be as specified, and the above work was performed in accordance with the drawings and specifications provided for the above work and was completed in a substantial workmanlike manner for the agreed sum of _____ Dollars ($_____).

This is a ☐Partial ☐Full invoice due and payable by: _____ (Month) _____ (Day) _____ (Year)

In accordance with our ☐Agreement ☐Proposal No. _____ Dated _____ (Month) _____ (Day) _____ (Year)

adams TC8122 11-12

Well # 2

**JIM'S PUMPS**
P.O. Box 474
Upper Lake, CA 95485
Telephone 707-349-2277
Jose Fernandez Jr.
CA# 993066

# WELL TEST REPORT

JOB Pasta Farms SIZE TURBINE 30Hp
LOCATION 10750 Seigler Spgs. N APN: 115-004-05 SETTING 295 ft
WELL DEPTH 300 ft CASING SIZE 8 in. STATIC LEVEL 151 ft
DATE STARTED 7-30-2021 DATE COMPLETED 7-30-2021

| DATE | TIME A.M. | TIME P.M. | OPERATOR | G.P.M. | DRAWDOWN | WATER COLOR |
|---|---|---|---|---|---|---|
| 7-30-21 | 10:30 | | Ben | 275 | 151 ft | Cloudy |
| | 10:45 | | | 275 | 158 ft | ↓ |
| | 11:00 | | | 275 | 161 ft | ↓ |
| | 11:15 | | | 275 | 161 ft | Clear |
| | 11:30 | | | 275 | 161 ft | ↓ |
| | | 12:00 | | 275 | 161 ft | ↓ |
| | | 12:30 | | 275 | 161 ft | ↓ |
| | | 1:00 | | 275 | 161 ft | ↓ |
| | | 1:30 | | 275 | 161 ft | ↓ |
| | | 2:00 | | 275 | 161 ft | ↓ |
| | | 2:30 | | 275 | 161 ft | ↓ |
| | | | End Test | | | |
| | | 2:30 | Start Recovery | 0 | 161 ft | |
| | | 2:45 | End Recovery | 0 | 151 ft | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

COMMENTS: At this time we feel this well is capable of (275 GPM). Note: All results are subject to change depending on time of year or Weather Conditions.

# APPENDIX E

# OFF-SITE WELL COMPLETION REPORTS

**ORIGINAL**

**File with DWR**

Notice of Intent No. _____

Local Permit No. or Date _____

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

12N/8W-14

*Do not fill in*

No. 11453

State W[illegible] CONFIDENTIAL LOG

Other W[illegible] Code Sec. 13752

115-03-32

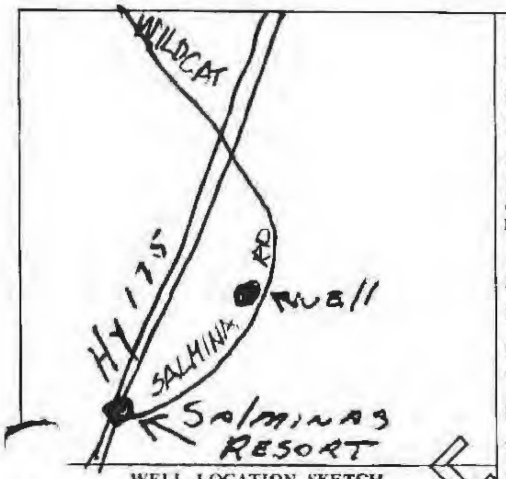
**(2) LOCATION OF WELL** (See instructions):

County LAKE - Owner's Well Number _____

Well address if different from above Wild Cat Rd & Hy 175

Township 12N Range 8W Section 14

Distance from cities, roads, railroads, fences, etc. 9637 SALMINA RD




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 [illegible]
Diameter of bore 10" +
Packed from 20 to 150 ft.

**(7) CASING INSTALLED:**

Steel ☒ Plastic ☐ Concrete ☐

**(8) PERFORATIONS:** Mill Cut

Type of perforation or size of screen

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| Top | 150 | 6 5/8 | 12 | 70 | 90 | 18x4 |
| | | | | 135 | 145 | 19x4 |

**(9) WELL SEAL:**

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.

Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.

Method of sealing 100% CEMENT -

**(10) WATER LEVELS:**

Depth of first water, if known 70 ft.

Standing level after well completion 60 ft.

**(11) WELL TESTS:**

Was well test made? Yes ☒ No ☐ If yes, by whom? Driller

Type of test Pump ☐ Bailer ☒ Air lift ☐

Depth to water at start of test 60 ft. At end of test _____ ft

Discharge 1000 gal. after 35 min. Water temperature _____

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 150 ft. Depth of completed well 150 ft.

from ft. to ft. Formation (Describe by color, character, size or material)

Top To 30' Red Top Soil Sum Bolders
30 To 60' White Alkali with Lite Rock
60 To 90' Hard Rock Gray
90 - 105' Volcanic Rock
Gray Hardness of Sand Stone -
105 - 150 Volcanic Red Rock

Work started Nov 31 1976 Completed Dec 7 1976

**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 Eugene Louisone (Well Driller)

NAME EUGENE LOUISONE (Person, firm, or corporation) (Typed or printed)

Address PO Box 65

City Lower Lake Zip 95457

License No. 196290 Date of this report 12-9-76

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

188 (REV. 7-76) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 43515-950 7-76 50M QUAD ①T OSP

12N/8W-15

**ORIGINAL**

**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

*Do not fill in*

No. 056263

State Well No.

Other Well No.

Notice of Intent No.

Local Permit No. or Date

**(2) LOCATION OF WELL** (See instructions):

County Lake Owner's Well Number

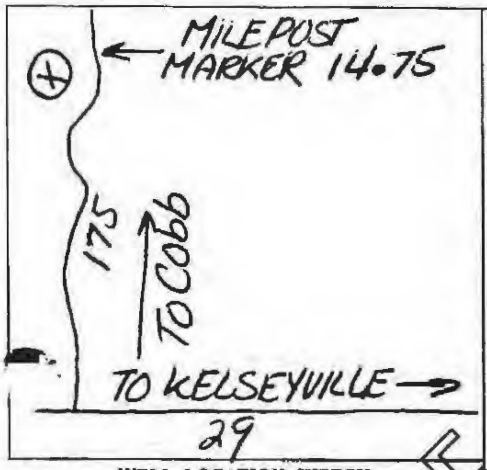
Well address if different from above

Township Range Section

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

Mile Post 14, Hiway 175

Cobb Mountain




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 pea

Diameter of bore 10 5/8, 7 7/8"

Packed from 20' to 200' ft.

**(7) CASING INSTALLED:**

Steel ☐ Plastic ■ Concrete ☐

**(8) PERFORATIONS:**

Type of perforation or size of screen sawn

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 203 | 5" | 160PVC | 100 | 120 | |
| | | | | 140 | 200 | 1/8x3" |

**(9) WELL SEAL:**

Was surface sanitary seal provided? Yes ■ No ☐ If yes, to depth 20' ft.

Were strata sealed against pollution? Yes ☐ No ■ Interval ft.

Method of sealing cement on gravel pack

**(10) WATER LEVELS:**

Depth of first water, if known ft.

Standing level after well completion 23' 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 23' ft. At end of test 185' ft

Discharge 15 gal/min after 1 1/2 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 200 ft. Depth of completed well 200 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 3 | Brown sandy clay |
| 3 | 18 | White ash and clay |
| 18 | 26 | Brown sandy clay |
| 26 | 52 | Cemented gravel |
| 52 | 58 | Brown fractured rock and clay |
| 58 | 65 | Brown clay |
| 65 | 80 | Fractured brown rock |
| 80 | 112 | Fractured volcanic rock |
| 112 | 128 | Red ash and clay |
| 128 | 200 | Fractured volcanic rock |

Work started Nov. 12, 19 79 Completed Nov. 14, 19 79

**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 Thompson By: Mary E. Thompson (Well Driller)

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

Address P.O. Box 176

City Sebastopol, California Zip 95472

License No. C57-177681 Date of this report November 19, 1979

Mary E. Thompson

CONFIDENTIAL NOT FOR PUBLIC USE WATER CODE SEC. 13752

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

12N/8W-15

**ORIGINAL**

**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

*Do not fill in*

No. 084084

of Intent No.

Local Permit No. or Date

State Well No.

Other Well No.

(2) LOCATION OF WELL (See instructions):

County ~~Sonoma~~ Lake Owner's Well Number

Well address if different from above A.P. # 115-0036

Township Kelseyville Range Section 115-03-36 ?

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

Salaminas Rd.

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 3/8
Diameter of bore
Packed from 20 ft. to 210 ft.

(7) CASING INSTALLED:

Steel ☐ Plastic ☒ Concrete ☐

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 210 | 5" | c160 psi |

(8) PERFORATIONS:

Type of perforation or size of screen

| From ft. | To ft. | Slot size |
|---|---|---|
| 170 | 210 | 1/8 |

(9) WELL SEAL:

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing cement

(10) WATER LEVELS:

Depth of first water, if known ft.
Standing level after well completion 90 ft.

(11) WELL TESTS:

Was well test made? Yes ☒ No ☐ If yes, by whom? driller
Type of test Pump ☐ Bailer ☒ Air lift ☐
Depth to water at start of test 90 ft. At end of test 180 ft.
Yield 25 gal/min after 2 hours Water temperature
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 ft. Depth of completed well 13752 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 150 | sand and boulders |
| 150 | 185 | clay |
| 185 | 210 | volcanic |

Work started 10-4 19 79 Completed 10-20 19 79

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 LARRY HERMAN by kathy read (Well Driller)

NAME Easch-Herman Drilling (Person, firm, or corporation) (Typed or printed)

Address 5001 Gravenstein Hwy. N.

City Sebastopol, Calif. Zip 95472

License No. 304138 Date of this report 11-16-79

DO NOT FILL IN
FOR PUBLIC USE
WATER CODE SEC. 13752

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

12N-8W-~~15~~ B or 22

22

**ORIGINAL**

**File with DWR.**

Intent No. 174628

Unit No. or Date —

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

*Do not fill in*

No. 094385

State Well No. CONFIDENTIAL LOG

Other Well No. Water Code Sec. 13752

(1)

Add

City

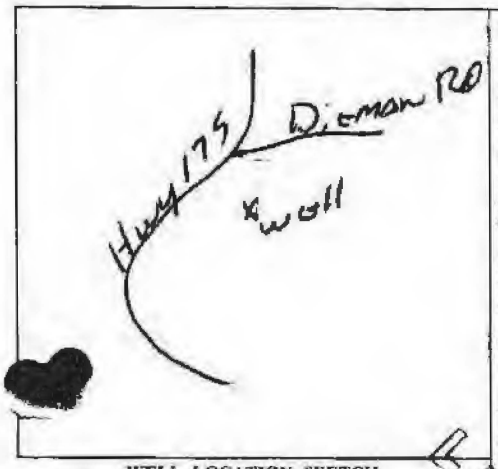
(2) LOCATION OF WELL (See instructions):

County Lake Owner's Well Number

Well address if different from above 16168 Hwy 175 Kelseyville

Township AP #115 12N Range 009-05 8W Section 15

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




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 3/8 Pea

Diameter of bore 8" 6" 40 180

Packed from 100 to 180 ft.

(7) CASING INSTALLED:

Steel ☑ Plastic ☐ Concrete ☐

(8) PERFORATIONS: Sawed

Type of perforation or size of screen

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 40 | 6 5/8 | 156 | 118 | 128 | |
| 0 | 178 | 4 1/2 | 125 | 138 | 148 | 8 x 3 |
| | | | | 158 | 178 | |

(9) WELL SEAL:

Was surface sanitary seal provided? Yes ☑ No ☐ If yes, to depth 40 ft.

Were strata sealed against pollution? Yes ☑ No ☐ Interval 70-100 ft.

Method of sealing Cement

(10) WATER LEVELS:

Depth of first water, if known 72 ft.

Standing level after well completion 65 ft.

(11) WELL TESTS:

Was well test made? Yes ☑ No ☐ If yes, by whom? Driller

Type of test Pump ☐ Bailer ☑ Air lift ☐

Depth to water at start of test 65 ft. At end of test 110 ft

Discharge 15 gal/min after 1 hours Water temperature

Was well 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 180 ft. Depth of completed well 178 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 2 | Boulders |
| 2 | 17 | White Vol Ash (Some Boulders) |
| 17 | 25 | Boulders |
| 25 | 34 | Red Vol Ash |
| 34 | 72 | Lava Rock |
| 72 | 87 | Broken Lava Rock, "Pink Lenes" |
| 87 | 118 | Lava Rock |
| 118 | 121 | Broken Lava Rock |
| 121 | 142 | Lava Rock |
| 142 | 146 | Broken Lava Rock |
| 146 | 160 | Lava Rock |
| 160 | 174 | Hard Lava Rock "Some Broken Lenes" |
| 174 | | Hard Lava Rock |

Work started 7-27 1981 Completed 8-12 1981

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 [signature] (Well Driller)

NAME Irwin Well Drilling (Person, firm, or corporation) (Typed or printed)

Address 3801 Bisordi Ln

City Fulton, Calif Zip 95439

License No. 199831 Date of this report 8-18-81

CONFIDENTIAL NOT FOR PUBLIC WATER CODE SEC. 13752

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

12N08W23

~~TON/RW~~ 23

**ORIGINAL**

**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

115-09-11

Do not fill in

No. 134452

State Well No.

Other Well No.

Notice of Intent No.

Permit No. or Date

Water Code ... 13752

## (2) LOCATION OF WELL (See instructions):

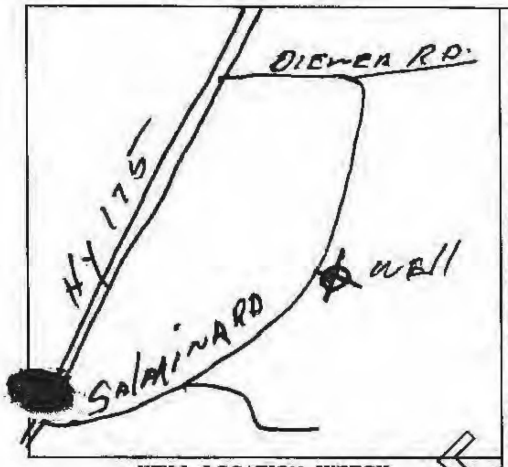
County Lake Owner's Well Number

Well address if different from above

Township ~~[illegible]~~ 10N Range 9W Section ~~23~~

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

Salmina Rd 3/4 mi From Hy 175




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 8"
Diameter of bore 40"
Packed from 20 to 150 ft.

## (7) CASING INSTALLED:

Steel ☒ Plastic ☐ Concrete ☐

## (8) PERFORATIONS:

Type of perforation or size of screen

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| Top | 150 | 8 | .156 | 100 | 145 | 18 x 4" |

## (9) WELL SEAL:

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.

Were strata sealed against pollution? Yes ☐ No ☐ Interval ft.

Method of sealing Cement.

## (10) WATER LEVELS:

Depth of first water, if known 95 ft.

Standing level after well completion 95 ft.

## (11) WELL TESTS:

Was well test made? Yes ☒ No ☐ If yes, by whom? Driller

Type of test Pump ☐ Bailer ☒ Air lift ☐

Depth to water at start of test 95 ft. At end of test 150 ft

Discharge 10 gal/min after 1 hours Water temperature Cold

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 150 ft. Depth of completed well 150 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| Top | 45 FT | Red Clay & Bolders |
| 45 | 150 | Gray Volcanic Rock |

Work started May 17 1978 Completed May 26 1978

## 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 Eugene Lovisone (Well Driller)

NAME EUGENE LOVISONE (Person, firm, or corporation) (Typed or printed)

Address PO Box 65

City Lower Lake Zip 95457

License No. 196290 Date of this report May 29-78

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

SEP 04 1986

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

LOVISONE

12N-8W-23 ✓

**ORIGINAL**

**File with DWR**

Notice of Intent No. _____

Local Permit No. or Date _____

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

114-031-05,6

*Do not fill in*

No. 135260

State Well No. CONFIDENTIAL LOG

Other Well No. Water Code Sec. 13752

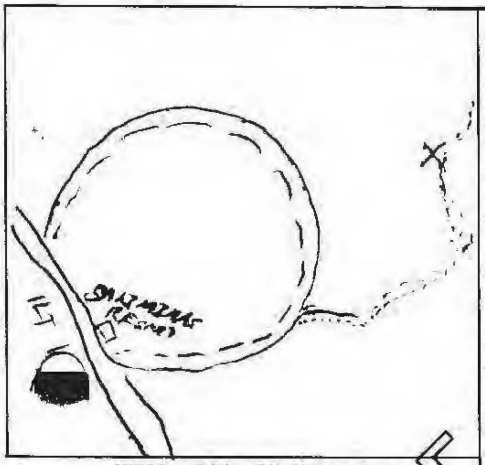
**(2) LOCATION OF WELL** (See instructions):

County Lake Owner's Well Number 1

Well address if different from above Mt. Hannah

Township 12N ~~11N~~ Range 8 W Section 23

Distance from cities, roads, railroads, fences, etc. 1 mile from Salmines Resort




WELL LOCATION SKETCH

**(3) TYPE OF WORK:**

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

**(4) PROPOSED USE:**

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

**(5) EQUIPMENT:**

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

**(6) GRAVEL PACK:**

Yes XX No ☐ Size Pea
Diameter of bore 10"
Packed from 517 to 20 ft.

**(7) CASING INSTALLED:**

Steel ☐ Plastic XX Concrete ☐

**(8) PERFORATIONS:**

Type of perforation or size of screen

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| top | 517 | 6 | 160 | 437 | 517 | 6"x1/8" |

**(9) WELL SEAL:**

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.

Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.

Method of sealing neat cement

**(10) WATER LEVELS:**

Depth of first water, if known 125 ft.

Standing level after well completion 480 ft.

**(11) WELL TESTS:**

Was well test made? Yes ☒ No ☐ If yes, by whom? driller

Type of test Pump ☐ Bailer ☐ Air lift ☒

Depth to water at start of test _____ ft. At end of test _____ ft

Discharge 37+ gal/min after _____ hours Water temperature cold

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 538 ft. Depth of completed well 517 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 22 | Brown volcanic top soil, floating lava boulders |
| 22 | 41 | Floating lava boulders, volcanic ash |
| 41 | 45 | Volcanic ash, cemented volcanic sands, floating boulders. |
| 45 | 124 | Consolidated but highly fractured lava (very hard) |
| 124 | 198 | Medium hard lava, redish brwn |
| 198 | 268 | Hard volcanic ash. |
| 268 | 320 | Soft volcanic ash, green obsidion, basalt boulders. |
| 320 | 338 | Black lava 50%, obsidion 40% Rayolite 10% |
| 338 | 440 | Black lava 50%, green obsidion 50%. |
| 440 | 458 | Cemented volcani ash 20%, 80% Rayolite. |
| 458 | 472 | Rayolite. |
| 472 | 478 | Rayolite, green obsidion, 1% Graywacke. |
| 478 | 520 | 90% Rayolite, 10% Graywacke |
| 520 | 538 | Rayolite. |

Work started 7-21 19 81 Completed 8-3- 19 81

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 Bill Darrah (Well Driller)

NAME The Darrah Drilling Corp. (Person, firm, or corporation) (Typed or printed)

Address 3327 Hill Rd.

City Lakeport, CA Zip 95453

License No. 271528 Date of this report 8-10-81

CONFIDENTIAL NOT FOR PUBLIC USE WATER CODE SEC. 13752

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

12N/10E W - 12 MA

ORIGINAL

File with DWR

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

Do not fill in

No. 184052

State Well No.

Other Well No.

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

| from ft. | to ft. | Formation (Describe by color, character, size of material) |
|---|---|---|
| 0 | 115 | broken Volcanics |
| 115 | 185 | Hard Blue Volcanics |
| 185 | 190 | Broken Cavity Mud Heavily Volcanics |

(2) LOCATION OF WELL (See instructions):

County Lake Owner's Well Number

Well address if different from above

Township 12 N Range 8 W Section 12

Distance from cities, roads, railroads, fences, etc. 40 acres

Stoyler Springs Rd.
Dirt Rd.
orchard
well
Hwy 20
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 X Reverse
Cable Air
Other Auger Bucket

(6) GRAVEL PACK:
Yes X No Size
Depth of bore 190 ft.
Gravel from 130 to 190 ft.

(7) CASING INSTALLED:
Steel Plastic X Concrete

| Depth ft. | To ft. | Dia. in. | Gage or Wall | Perf. From ft. | Perf. To ft. | Slot No. |
|---|---|---|---|---|---|---|
| 0 | 190 | 8 | 160 | 130 | 190 | 1/8 |

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

(9) WELL SEAL:
Was surface sanitary seal provided? Yes X No If yes, to depth 20 ft.
Were initial static water samples taken? Yes No X Interval ft.
Method of sealing Neat Cement

(10) WATER LEVELS:
Depth of first water, if known 182 ft.
Standing level after well completion 115 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 ft. At end of test ft.
Discharge 30 gal/min after 2 hours Water temperature
Chemical analysis made? Yes No X If yes, by whom?
Was electrical log made? Yes No X If yes, attach copy to this report

Work started 10-13 19 88 Completed 10-14 19 88

WELL DRILLER'S STATEMENT: 01562
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signed (Well Driller)

NAME Layton Drilling
(Person, firm or corporation) (Type or print)

Address 1132 Hwy 29

City Lower Lake Co. Zip 95457

License No. 456071 Date of this report 10-15-88

DWR 188 (rev. 1/88) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

NOT USED FOR PUBLIC USE
NOT USED FOR DOMESTIC USE
NOT USED FOR IRRIGATION

12N/8W-14

**ORIGINAL**

**File with DWR**

Notice of Intent No. _____

Local Permit No. or Date _____

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

115-03-40

*Do not fill in*

No. 210938

State Well No. _____

Other Well No. _____

[redacted]

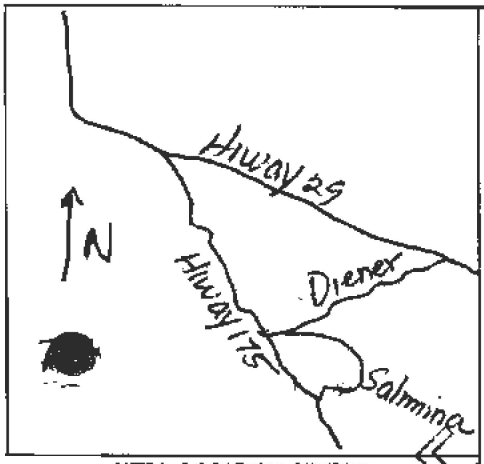
**(2) LOCATION OF WELL** (See instructions):

County Lake Owner's Well Number _____

Well address if different from above _____

Township 12N Range 8W Section 14

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




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 pea

Diameter of bore 9 7/8, 7 7/8"

Packed from 20' to 260' ft.

**(7) CASING INSTALLED:**

Steel ☐ Plastic ☒ Concrete ☐

**(8) PERFORATIONS:** microperfs

Type of perforation or size of screen

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 219 | 5" | CL200 | 118 | 218 | .032 |

**(9) WELL SEAL:**

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.

Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.

Method of sealing cement on gravel pack

**(10) WATER LEVELS:**

Depth of first water, if known _____ ft.

Standing level after well completion unknown 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 218 ft

Disc[illegible] 17 gal/min after 1 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 260 ft. Depth of completed well 219 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 6 | Red volcanic clay with embedded multicolored volcanic rocks |
| 6 | 16 | Brown volcanic clays with embedded gray volcanic gravels |
| 16 | 23 | Brown tufa with gray volcanic rock |
| 23 | 32 | Gray volcanic rock with traces of brown volcanic clays |
| 32 | 260 | Hard black and red volcanic rock |

Work started 5/19 19 88 Completed 5/26 19 88

WELL DRILLER'S STATEMENT: 00098

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

Don Sinclair

SIGNED Ward Thompson By: Don Sinclair
(Well Driller)

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

Address P.O. Box 176

City Sebastopol, California Zip 95472

License No. C57-177681 Date of this report June 7, 1988

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

CONFIDENTIAL FOR PUBLIC USE ... 13752

12N/08W-23M

**ORIGINAL**

**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

*Do not fill in*

No. 211540

Notice of Intent No. [redacted]

Local Permit No. or Date WE481

State Well No.

Other Well No.

## (2) LOCATION OF WELL (See instructions):

County LAKE Owner's Well Number

Well address if different from above

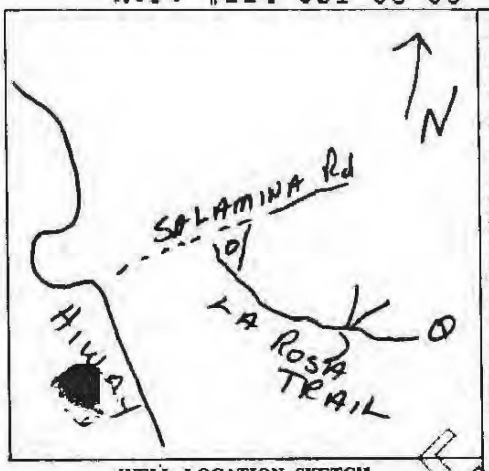
Township 12N Range 8W Section 23

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

10976 La Rosa Trail

Kelseyville

A.P. #114-031-08-00




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 pea
Diameter of bore 12¼,7 7/8,9 7/8"
Packed from 21½ to 760 ft.

## (7) CASING INSTALLED:

Steel ☒ Plastic ☐ Concrete ☐

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 158 | 8 5/8 | .250 |
| 158 | 760 | open hole | |

## (8) PERFORATIONS:

Type of perforation or size of screen: none

| From ft. | To ft. | Slot size |
|---|---|---|
| | | |

## (9) WELL SEAL:

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 21½ ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing concrete on gravel pack

## (10) WATER LEVELS:

Depth of first water, if known ft.
Standing level after well completion 550 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 550 ft. At end of test 760 ft
Discharge 120 gal/min after 2 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 760 ft. Depth of completed well 760 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 16 | Sandy red clay with weathered white volcanic ash |
| 16 | 31 | Sandy gray clay and hard gray volcanic rock |
| 31 | 35 | Very hard gray volcanic boulders |
| 35 | 49 | Gray and white tufa |
| 49 | 127 | Very hard cinder rock |
| 127 | 148 | Gray and green tufa |
| 148 | 156 | Very hard gray and burgundy volcanic rock |
| 156 | 163 | Hard weathered multicolored volcanic conglomerate |
| 163 | 760 | Very hard and extremely hard weathered predominately gray rock with traces of green volcanic rock |

NOV 1991

Work started 8-1 1991 Completed 8-22 1991

## 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 By: Don Sinclair
(Well Driller)

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

Address P.O. Box 176-6100 Sebastopol Road

City Sebastopol, California Zip 95473

License No. C57-177681 Date of this report August 29,1991

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

12N/08W-23M

**ORIGINAL**

**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

*Do not fill in*

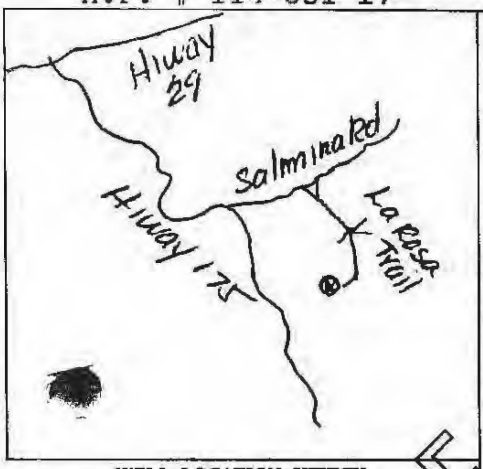
No. 211566

Notice of Intent No. _____
Local Permit No. or Date WE548

State Well No. _____
Other Well No. _____

## (2) LOCATION OF WELL (See instructions):

County LAKE Owner's Well Number _____
Well address if different from above _____
Township 12N Range 8W Section 23
Distance from cities, roads, railroads, fences, etc.
10923 La Rosa Trail
Kelseyville
A.P. # 114-031-17




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 pea
Diameter of bore 6 3/4, 9 7/8, 7 7/8"
Packed from 28 to 580 ft.

## (7) CASING INSTALLED:

Steel ☐ Plastic ☒ Concrete ☐

## (8) PERFORATIONS: microperf

Type of perforation or size of screen

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 580 | 5" | CL200 | 477 | 577 | .032 |

## (9) WELL SEAL:

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

## (10) WATER LEVELS:

Depth of first water, if known _____ ft.
Standing level after well completion 480 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 480 ft. At end of test 575 ft
Discharge 60 gal/min after 1 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 580 ft. Depth of completed well 580 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 22 | Tan sandy clay and cobble |
| 22 | 65 | Moist brown clay and cobble |
| 65 | 68 | Boulder |
| 68 | 206 | Reddish brown clay and boulder with seams of volcanic conglomerate |
| 206 | 227 | Volcanic conglomerate rock |
| 227 | 260 | Gray and reddish brown rock |
| 260 | 307 | Volcanic conglomerate rock |
| 307 | 339 | Gray rock |
| 339 | 463 | Red and gray hard volcanic rock |
| 463 | 500 | Gray rock and hard volcanic |
| 500 | 580 | Hard gray volcanic rock |

APR 2 8 1992

Work started 12-4 1991 Completed 12-17 1991

WELL DRILLER'S STATEMENT: 98

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

SIGNED Ward Thompson By: Don Sinclair
(Well Driller)

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

Address P.O. Box 176-6100 Sebastopol Road
City Sebastopol, California Zip 95473
License No. C57-177681 Date of this report Dec. 19,1991

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

12N/8W-23 ✓

**ORIGINAL**

**File with DWR**

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

*Do not fill in*
No. 228047

f Intent No.
Local Permit No. or Date

State Well No.
Other Well No. CONFIDENTIAL LOG
~~Water Code Sec. 13752~~

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number
Well address if different from above Salamina Rd.
Township Kelseyville Range Section
Distance from cities, roads, railroads, fences, etc.
AP# 114-031-09

(3) TYPE OF WORK:
New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 14)

(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:
Yes ☒ No ☐ Size: 3/8
Diameter of bore
Packed from 20 to 410 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 410 | 4" | c160 psi |
| | | | |
| | | | |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 370 | 410 | 1/8 |
| | | |
| | | |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing cement

(10) WATER LEVELS:
Depth of first water, if known ft.
Standing level after well completion 290 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? driller
Type of test Pump ☐ Bailer ☒ Air lift ☐
Depth to water at start of test 290 ft. At end of test 360 ft
Yield 50 gal/min after 2 hours Water temperature
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 ft. Depth of completed well ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 10 | fill |
| 10 | 95 | fract. vol. |
| 95 | 130 | clay |
| 130 | 190 | vol. with boulders |
| 190 | 370 | volcanics ash |
| 370 | 410 | fract. vol. |

Work started 2-29- 1981 Completed 2-24 1981

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 LARRY HERMAN by kathy baker (Well Driller)
NAME FISCH HERMAN DRILLING CO. (Person, firm, or corporation) (Typed or printed)
Address 5001 Gravenstein Hwy. N.
City Sebastopol, Ca. Zip 95472
License No. 304138 Date of this report 2-26-81

CONFIDENTIAL
PUBLIC USE
13752

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

CONFIDENTIAL LOG
Water Code Sec. 13752

**ORIGINAL**

**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

114-070-02

Do not fill in

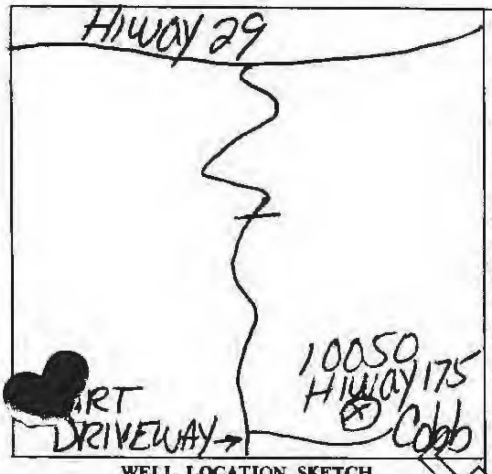
No. 229122

State Well No. 12N/[illegible]
Other Well No. ~~HN/BW-10~~

Notice of Intent No. _____
Permit No. or Date _____

(1)
Address
City

**(2) LOCATION OF WELL** (See instructions):
County Lake Owner's Well Number
Well address if different from above
Township Range Section
Distance from cities, roads, railroads, fences, etc.
10050 Hiway 175, Mt. Hannah, Cobb Mountain
Cobb




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 pea
Diameter of bore 9 7/8 - 8 3/4"
Packed from 20' to 150' ft.

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

**(8) PERFORATIONS:** saw cut
Type of perforation or size of screen

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 151 | 5" | 200PVC | 96 | 150 | 1/8x3" |

**(9) WELL SEAL:**
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing cement on gravel pack

**(10) WATER LEVELS:**
Depth of first water, if known ft.
Standing level after well completion 21 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 21 ft. At end of test 80 ft
Discharge 25 gal/min after 2 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 150 ft. Depth of completed well 150 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 1 | Top soil |
| 1 | 4 | Dark brown clay with decomposed organic materials |
| 4 | 10 | White volcanic ash |
| 10 | 28 | Fractured brown volcanic rock |
| 28 | 32 | Multicolored volcanic rock |
| 32 | 62 | Hard black fractured volcanic rock |
| 62 | 150 | Hard multicolored volcanic rock |

Work started July 21, 1981 Completed July 24, 1981

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

Roy Curl

SIGNED Gerald Thompson By: Roy Curl
(Well Driller)
NAME WEEKS DRILLING AND PUMP COMPANY
(Person, firm, or corporation) (Typed or printed)
Address P.O. Box 176 - 6100 Sebastopol Road
City Sebastopol, California Zip 95472
License No. C57-177681 Date of this report July 28, 1981

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

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

~~10N~~/08W-23M
12N

**ORIGINAL**
**File with DWR**

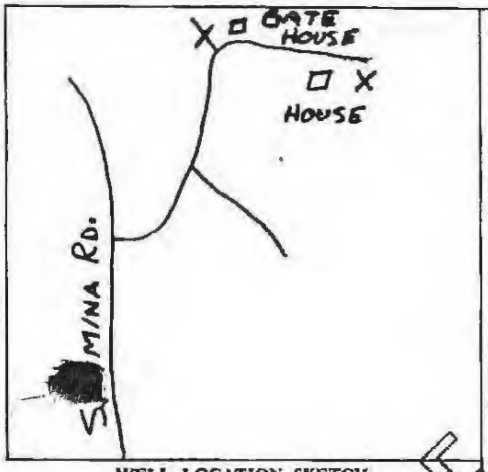
Notice [illegible] No.
Local Permit No. or Date

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
# WATER WELL DRILLERS REPORT
114-031-07, 16, 17

*Do not fill in*
No. 236826

State Well No.
Other Well No.

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number
Well address if different from above
Township Range Section
Distance from cities, roads, railroads, fences, etc.



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 5/16
Diameter of bore 6"
Packed from 20 to 295 ft.

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

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

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 295 | 4" | 160 | 255 | 295 | 1/8 |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☐ Interval ft.
Method of sealing

(10) WATER LEVELS:
Depth of first water, if known 270' ft.
Standing level after well completion 200' ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Owner
Type of test Pump ☐ Bailer ☐ Air lift ☒
Depth to water at start of test 200 ft. At end of test 250 ft
Disc[illegible] 25 gal/min after 2 hours Water temperature
Chem[illegible]nalysis 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 295 ft. Depth of completed well 295 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 25 | Broken Rock in Clay |
| 25 | 100 | Extremly Fractured Volcanics |
| 100 | 295 | Volcanics |

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER SEC. 13752

FEB 05 1987

Work started 7-25 1983 Completed 8-10 1983

WELL DRILLER'S STATEMENT: 01562
*This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.*
SIGNED Larry Herman (Well Driller)
NAME Larry Herman Drilling (Person, firm, or corporation) (Typed or printed)
Address 11321 Hwy 29
City Lower Lake, Ca Zip 95457
License No. 304138 Date of this report 8-23-83

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

12N08W14M

**ORIGINAL**

File with DWR

Notice of Intent No.

Local Permit No. or Date

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

Do not fill in

No. 245347

State Well No.

Other Well No.

(1)
Address
City

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number
Well address if different from above Diener Rd.
Township Lock Lomond Range 08 W Section 14
Distance from cities, roads, railroads, fences, etc.
A.P. # 114-080-03

(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:
Yes ☒ No ☐ Size 3/8
Diameter of hole
Packed from 20 to 348 ft.

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

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

| From ft. | To ft. | Dia. in. | Gage of Wall | From ft. | To ft. | Size |
|---|---|---|---|---|---|---|
| 0 | 348 | 50 | c160 psi | 328 | 348 | 1/8 |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing cement

(10) WATER LEVELS:
Depth of first water, if known ft.
Standing level after well completion 318 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? driller
Type of test Pump ☐ Bailer ☒ Air lift ☐
Depth to water at start of test 318 ft. At end of test 340 ft.
Discharge 10 gal/min after 2 hours Water temperature
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 ft. Depth of completed well ft.

| From ft. | To ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 30 | clay |
| 30 | 100 | broken blue vol. rock |
| 100 | 125 | red volcanic |
| 125 | 180 | volcanic ash |
| 180 | 280 | fract. blue and red vol. |
| 280 | 348 | fract. blue and red vol. with boulders |

Work started March 1982 Completed March 1982

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 LARRY HERMAN by kathy baker
(Well Driller)

NAME FISCH HERMAN DRILLING CO. 00941
(Person, firm, or corporation) (Typed or printed)

Address 5001 Gravenstein Hwy. N.
City Sebastopol, CA Zip 95472
License No. 399226 Date of this report 3-23-82

DWR 188 (REV. 1-81) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

12N/08W-23M 14

ORIGINAL
File with DWR

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

Do not fill in

No. 263679

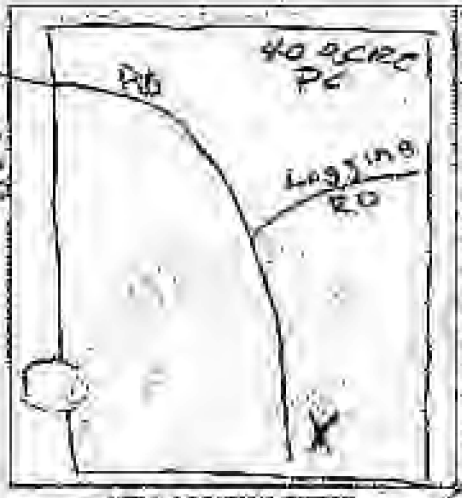
Notice of Intent No. _____
Local Permit No. or Date ME 102

115-005-02

State Well No. _____
Other Well No. _____

(1) OWNER: Name _____ Address _____ City _____ Zip _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number ME 102
Well address if different from above Soda Springs Rd
Township 12 Range 8W Section 23
Distance from cities, roads, railroads, fences, etc. Local off Hwy 175 Soda Springs RD



WELL LOCATION SKETCH

(3) TYPES 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 [ ]
Municipal [ ]
Other [X]
(Specify)

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

(6) CASING/LINER:
Steel [ ] Plastic [X] Concrete [ ]

| From ft. | To ft. | Dia. in. | Gauge or Wall | Slot size |
|---|---|---|---|---|
| 0 | 360 | 6" | SCH 40 | |

(7) GRAVEL/BACK:
Yes [X] No [ ]
Depth to top of fill material from 20 ft. to 365 ft.

(8) PERFORATIONS:
Type of perforation or screen
Perforated [ ] Wire wrapped [ ]

| From ft. | To ft. | Slot size |
|---|---|---|
| 360 | 365 | 1/16 |

(9) WELL SEAL:
Was surface seal provided? Yes [X] No [ ] If yes, to depth 20 ft.
Were strata sealed against pollution? Yes [X] No [ ] Interval _____ ft.
Method of sealing Concrete

(10) WATER LEVELS:
Depth of first water, if known 350 ft.
Standing level after well completion 100 ft.

(11) WELL TESTS:
Was well tested? Yes [X] No [ ] If yes, by whom? Driller
Type: Pump [ ] Bailer [ ] Air lift [X]
Depth to static level 235 ft. Hr. at end of test 300 ft.
Type C gallons/min 3 Hours Water temperature _____
Was a pump test made? Yes [ ] No [X] If yes, by whom? _____
Was electric log made? Yes [ ] No [X] If yes, attach copy to report

(12) WELL LOG: Total depth 365 ft. Completed depth 365 ft.

| From ft. | to ft. | Formation (Describe by color, character, size of material) |
|---|---|---|
| 0 | 80 | Top Soil |
| 80 | 365 | Lava Rock |

Water [ ] Gas [ ]

1637

Work started 12-1 19 87 Completion 12-1 19 87

WELL DRILLER'S STATEMENT: 1637

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

Signed _____ (Well Driller)
NAME Cope Mountain Engineering
(Person, firm or corporation) (Type or print)
Address PO Box 1??
City Cobb Zip 95426
License No. 423749 Date of this report _____

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

VOID
UNLESS
PUBLIC USE
SEC 1752
UNDER CODE
WATER

12N/8W-15M 14

Do not fill in

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

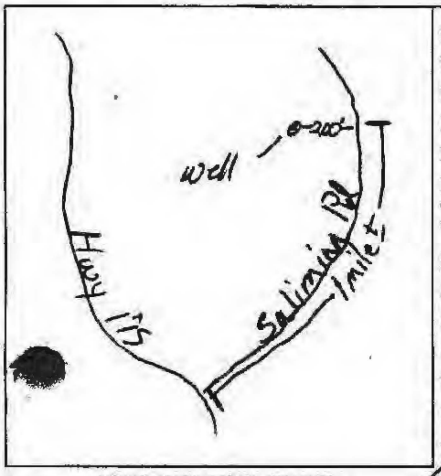
No. 264348

No. of Intent No. _____
Local Permit No. or Date WE-025 115-03-30

State Well No. _____
Other Well No. _____

(1)
Addr
City

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number 1
Well address if different from above _____
Township 12 N Range 8W Section 15
Distance from cities, roads, railroads, fences, etc. 200' F/ Salimina Rd



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 3/8"
Diameter of bore 6 1/8"
Packed from 180' to 10' ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 26' | 6" | 125 |
| 4 | 180 | 4" | 125 |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 80' | 180' | 1/8" |

(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 cement grout

(10) WATER LEVELS:
Depth of first water, if known 14' ft.
Standing level after well completion 30' ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Driller
Type of test Pump ☐ Bailer ☐ Air lift ☒
Depth to water at start of test 40' ft. At end of test 180' ft.
Discharge 2 gal/min after 1 hours Water temperature _____
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 180' ft. Completed depth 180' ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 14 | Top Soil Brn Gray |
| 14 | 17 | Pea gravel Rusty |
| 17 | 28 | Clay (Gray) |
| 28 | 42 | Fine Gray Vol. ash |
| 42 | 180 | Black Gray Vol. rock |

OCT 03 1989

Work started 7-17 1989 Completed 7-20 1989

WELL DRILLER'S STATEMENT: 1603

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

Signed Dan Mc Mullen (Well Driller)
NAME Dan Mc Mullen Construction + Well Drilling (Person, firm, or corporation) (Typed or printed)
Address 1487 Old Long Valley Rd.
City Clearlake Oaks CA ZIP 95423
License No. 533152 Date of this report 7-24-89

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96355

12N/08W-22M

**ORIGINAL**
**File with DWR**

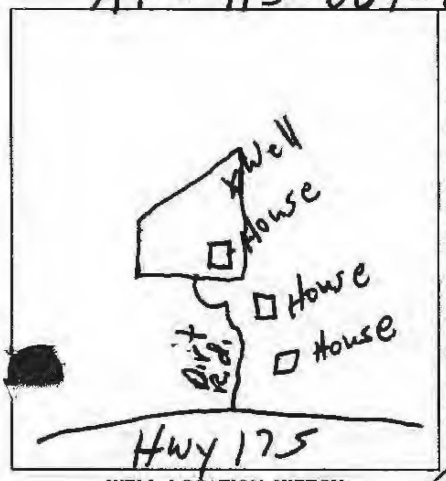
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
# WATER WELL DRILLERS REPORT

*Do not fill in*
No. 302014

Notice of Intent No. _____
Local Permit No. or Date WE-040

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above 10188 Hwy 175
Township 12 N Range 8W Section 22 ~~or 15~~
Distance from cities, roads, railroads, fences, etc.
10188 Hwy 175 Kelseyville
AP# 115-009-06



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 [ ]
Municipal [ ]
Other [ ]
(Describe)

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

(6) GRAVEL PACK:
Yes [X] No [ ] Size 3/16
Diameter of bore 7 7/8
Packed from 20 to 95 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 95 | 4 | F480 |
| | | | |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 75 | 95 | 48 |
| | | |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 20 ft.
Were strata sealed against pollution? Yes [ ] No [X] Interval _____ ft.
Method of sealing Neat Cement

(10) WATER LEVELS:
Depth of first water, if known 65 ft.
Standing level after well completion 25 ft.

(11) WELL TESTS:
Was well test made? Yes [X] No [ ] If yes, by whom? Driller
Type test Pump [ ] Bailer [ ] Air lift [X]
Flowing to water at start of test _____ ft. At end of test _____ ft.
Discharge 50 gal/min after 3 hours Water temperature _____
Chemical 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. Completed depth _____ ft.

| from ft | to ft | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 65 | Clay |
| 65 | 80 | Volcanic Ash |
| 80 | 95 | Broken Volcanics |

APR 23 1990

Work started 7-25 19 89 Completed 7-25 19 89

WELL DRILLER'S STATEMENT: 1582

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

Signed Larry Herman (Well Driller)
NAME Larry Herman Drilling (Person, firm, or corporation) (Typed or printed)
Address 11321 Hwy 29
City Lower Lake Ca ZIP 95457
License No. 465071 Date of this report 8-1-89

CONFIDENTIAL NOT FOR PUBLIC USE WATER CODE SEC. 13752

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96355

12N/08W-23M

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

*Do not fill in*
No. 302021

...e of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above _____
Township 12 N Range 8W Section 23
Distance from cities, roads, railroads, fences, etc.
10312 Salimina Rd - Kelseyville
AP# 114-031-01

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 [ ]
Municipal [ ]
Other [ ]
(Describe)

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

(6) GRAVEL PACK:
Yes [X] No [ ] Size 1/16
Diameter of bore 12
Packed from 20 to 340 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 340 | 12 | 160 |
| | | | |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 240 | 300 | 18 |
| | | |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 20 ft.
Were strata sealed against pollution? Yes [ ] No [X] Interval _____ ft.
Method of sealing Neat Cement

(10) WATER LEVELS:
Depth of first water, if known 300 ft.
Standing level after well completion 270 ft.

(11) WELL TESTS:
Was well test made? Yes [X] No [ ] If yes, by whom? Driller
(test) Pump [ ] Bailer [ ] Air lift [X]
to water at start of test _____ ft. At end of test _____ ft.
Discharge 20 gal/min after _____ hours Water temperature _____
Chemical 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 Completed depth _____ ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 35 | Sandy Clay |
| 35 | 340 | Hard & Broken Volcanics |

APR 23 1990

Work started 6-20 19 89 Completed 7-1 19 89

WELL DRILLER'S STATEMENT: 1562

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

Signed Larry Herman (Well Driller)
NAME Larry Herman Drilling (Person, firm, or corporation) (Typed or printed)
Address 11321 Hwy 29
City Lower Lake, Ca ZIP 95457
License No. 465071 Date of this report 7-1-89

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

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

12N/08W-22H

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

**ORIGINAL**
**File with DWR**

# WATER WELL DRILLERS REPORT

*Do not fill in*
No. 302028

AP 115-009-09

Notice of Intent No. _____
Local Permit No. or Date 12-6-89

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above _____
Township 12 N Range 8 W Section 22
Distance from cities, roads, railroads, fences, etc.
1085 Salmina Rd Kelseyville
AP# 11-009-09

N →
1/8 mi.
well
House
Salmina Rd
Hwy 29

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 [ ]
Municipal [ ]
Other [ ]
(Describe)

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

(6) GRAVEL PACK:
Yes [X] No [ ] Size 5/16
Diameter of bore 7 7/8
Packed from 20 ft. to 110 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 110 | 4½ | F480 |
| | | | |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 90 | 110 | 1/8 |
| | | |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 20 ft.
Were strata sealed against pollution? Yes [ ] No [X] Interval _____ ft.
Method of sealing Grout Mix

(10) WATER LEVELS:
Depth of first water, if known 70 ft.
Standing level after well completion 25 ft.

(11) WELL TESTS:
Was well test made? Yes [X] No [ ] If yes, by whom? Driller
Type of test Pump [ ] Bailer [ ] Air lift [X]
Flowing to water at start of test _____ ft. At end of test _____ ft.
Discharge 50 gal/min after 2 hours Water temperature _____
Chemical 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. Completed depth _____ ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 30 | Clay |
| 30 | 70 | Volcanic Ash |
| 70 | 110 | Blue Volcanics |

APR 23 1990

Work started Dec 19 89 Completed Dec 19 89

WELL DRILLER'S STATEMENT: 156

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

Signed Larry Herman (Well Driller)
NAME Larry Herman Drilling (Person, firm, or corporation) (Typed or printed)
Address 11321 Hwy 29
City Lower Lake Ca ZIP 95457
License No. 465071 Date of this report 12-14-89

DWR 188 (REV. 12-88) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96355

CONFIDENTIAL NOT FOR PUBLIC USE WATER CODE SEC. 13752

12N/02W-15M

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

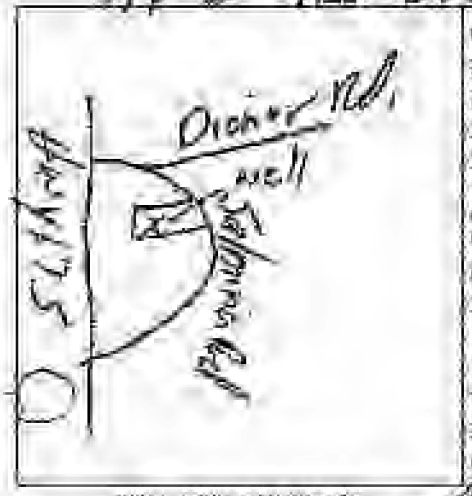
Do not fill in

No. 302048

Local Agency No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above _____
Township 12N Range 2W Section 15
Distance from cities, roads, railroads, fences, etc.
9225 Selmine Rd
Kelseyville
AP # 115-003-35



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 [ ]
Municipal [ ]
Other [ ]
(Describe)

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

(6) GRAVEL PACK:
Yes [X] No [ ]
Number of bags 2 yds
Placement from 20 to 123 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall | Slot No. | To ft. | Type |
|---|---|---|---|---|---|---|
| 0 | 123 | 32 | 160 | 80 | 123 | PVC |

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

(9) WELL SEAL:
Was surface sanitary seal provided? Yes [X] No [ ] If yes to depth 20 ft.
Were strata sealed against pollution? Yes [ ] No [X] Interval _____ ft.
Method of sealing Neat Cement

(10) WATER LEVELS:
Depth of first water, if known 80' ft.
Standing level after well completion 29' ft.

(11) WELL TESTS:
Was well test made? Yes [X] No [ ] If yes, by whom? Driller
Type Test Pump [ ] Bailer [ ] Air [X]
Flow rate or pressure of test _____ ft. Measured flow _____ ft.
Discharge 50 gal/minute Test length 1 hours Water temperature _____
Chemical analysis made? Yes [ ] No [X] If yes, by whom? _____
Was electrical log made? Yes [ ] No [X] If yes, attach copy to this report.

(12) WELL LOG: Total depth _____ ft. Completed depth _____ ft.
From ft. To ft. Formation (Describe by color, character, size of material)
0 - 80 Clay w/ Boulders
80 - 125 Volcanic Ash

UNAUTHORIZED PUBLIC USE PROHIBITED BY PUBLIC RESOURCES CODE SEC. 13752

Work started Aug 1990 Completed Aug 1990

WELL DRILLER'S STATEMENT: Type 1

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

Signed _____ (Well Driller)
NAME Larry Thomas Enright
(Person, firm, or corporation) (Type or print)
Address 1221 Hwy 29 N
City Lower Lake ZIP 95457
License No 461071 Dated this report 8-12-90

DWR 188 (REV. 12/80) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

12N/08W-23M

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

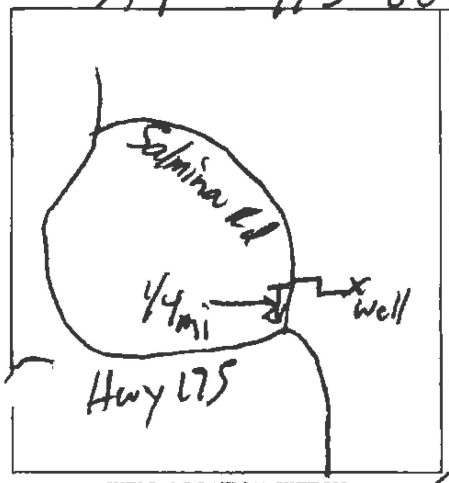
*Do not fill in*
No. 302067

e of Intent No. WE-274
Local Permit No. or Date

State Well No.
Other Well No.

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number
Well address if different from above Salmina Rd
Township 12 N Range 8W Section 23
Distance from cities, roads, railroads, fences, etc.

AP # 115-009-20



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 3/16
Diameter of bore 6½
Packed from 20 to 270 ft.

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

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

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| 0 | 270 | 12 | 160 | 230 | 270 | 1/8 |
| | | | | | | |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing

(10) WATER LEVELS:
Depth of first water, if known 220 ft.
Standing level after well completion 200 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Driller
Type of test Pump ☐ Bailer ☐ Air lift ☒
Flow to water at start of test ft. At end of test ft.
Discharge 30 gal/min after 2 hours Water temperature
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 ft. Completed depth ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 270 | Broken Blue & red volcanics |

Work started Aug 19 90 Completed Sept 19 90

WELL DRILLER'S STATEMENT: 158L

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

Signed Larry Herman (Well Driller)
NAME Larry Herman Drilling (Person, firm, or corporation) (Typed or printed)
Address 11321 Hwy 29
City Lower Lake Ca ZIP 95457
License No. 465071 Date of this report 9-10-90

DWR 188 (REV. 12-88) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96339

POTENTIAL PUBLIC USE
NOT FOR PUBLIC USE
WATER CODE SEC. 13752
VOID
COPY

12N/08W-14H

ORIGINAL
File with DWR

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

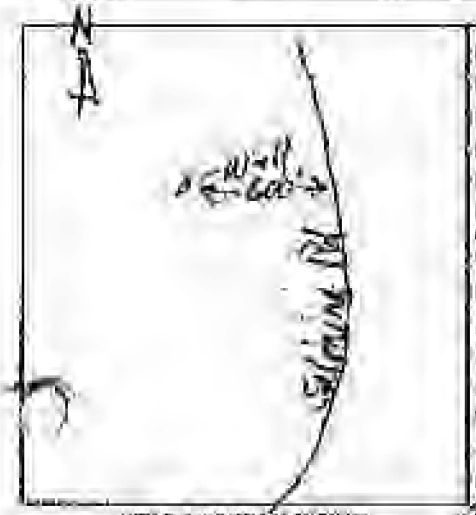
Do not fill in

No. 349828

Notice of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number 2
Well address if different from above APN 45-003-30
Township 12N Range 8W Section 14
Distance from cities, roads, railroads, fences, etc. _____



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 ☐ Auger ☐

(6) CASING/LINER:
Steel ☐ Plastic ☒ Concrete ☐

| From ft. | To ft. | Dia. in. | Gauge or Wall |
|---|---|---|---|
| 0 | 120 | 4 | 160 |
| 120 | 200 | 4 | 160 |

(7) GRAVEL PACK:
Yes ☒ No ☐
Number of bags 8 sack
Placed from 20 ft. to 200 ft.

(8) PERFORATIONS:
Type of perforation or size of slots
Machine

| From ft. | To ft. | Dia. in. | Slot Size |
|---|---|---|---|
| 80 | 120 | 4 | 250 |
| 120 | 200 | 4 | 250 |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.
Method of sealing Concrete

(10) WATER LEVELS:
Depth of first water, if known 85' ft.
Standing level after well completion _____ ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Driller
Type: Test ☐ Pump ☒ Bailer ☐ Air lift ☐
Flowing artesian? Yes ☐ No ☐ If yes, explain control _____
Discharge 150 gal/minute 1 hours Water temperature _____
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 200 ft. Completed depth 200 ft.

| From ft. | To ft. | Formation (Describe by color, character, size of material) |
|---|---|---|
| 0 | 22 | Blk. soil |
| 22 | 40 | Gray Clay |
| 40 | 75 | Blk/Wh. Gravel & Gray Clay |
| 75 | 200 | Blk/Wh. Rock |

CONFIDENTIAL
PUBLIC USE
PER 1876
SEC 13752

FEB 5 '90

Work started 1-29 19 90 Completed 1-30 19 90

WELL DRILLER'S STATEMENT: 1603

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

Signed Don McMullen
(Well Driller)

NAME Don McMullen Well Drilling
(Person, firm or corporation) (Type or print)

Address 1487 Old Long Valley Rd.

City Clearlake Oaks CA Zip 95423

License No. 533152 Date of this report 1-30-90

DWR 188 REV. 12-89) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

12N/08W-23M

**RECEIVED**

OCT 19 1992

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# D.W.R. WATER WELL DRILLERS REPORT

*Do not fill in*

No. 367362

Notice of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

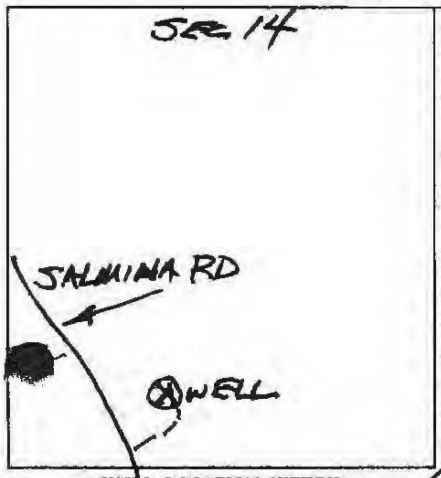
(12) WELL LOG: Total depth 345 ft. Completed depth 335 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 40 | BROWN CLAY / SOME ROCK |
| 40 | 245 | " " / & BOULDERS |
| 245 | 305 | BLUE " " " |
| 305 | 322 | BROWN " " " |
| 322 | 325 | " CLAYEY SAND |
| 325 | 345 | " CLAY & BOULDERS |

MAX. RECOMMEND YIELD
5½-6 GPM

(2) LOCATION OF WELL (See instructions):
County LAKE Owner's Well Number _____
Well address if different from above 10230 SALMINA RD.
Township 12N Range 8W Section 23
Distance from cities, roads, railroads, fences, etc. _____

AP# 115-013-01




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 TEA
Diameter of bore 9
Packed from 22 to 335 ft.

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

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

| From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|---|---|---|---|---|---|---|
| +1.5 | 335 | 6 | .188 | 280 | 335 | 1/8x3 |

(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 CEMENT GROUT

(10) WATER LEVELS:
Depth of first water, if known _____ ft.
Standing level after well completion 170 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? HUTTON
Type of test Pump ☐ Bailer ☒ Air lift ☐
Depth to water at start of test 170 ft. At end of test 280 ft.
Discharge 7 gal/min after 4 hours Water temperature 5
Chemical analysis made? Yes ☐ No ☒ If yes, by whom? _____
Was electric log made Yes ☐ No ☒ If yes, attach copy to this report

OCT 27 1992

Work started 1/10 1992 Completed 1/28 1992

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 [signature] (Well Driller) 42
NAME HUTTON DRILLING (Person, firm, or corporation) (Typed or printed)
Address 1466 PITNEY LANE
City UPPER LAKE ZIP 95485
License No. 153912 Date of this report 1/28/92

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

DWR 188 (REV. 12-86) 86 96355

12N/08W-22M

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

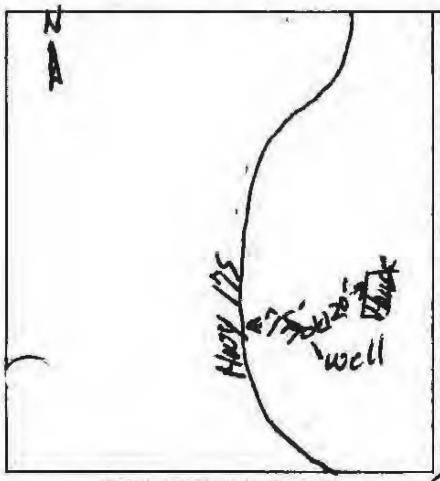
# WATER WELL DRILLERS REPORT

*Do not fill in*
No. 369634

...e of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above _____
Township 12N Range 8W Section 22
Distance from cities, roads, railroads, fences, etc. _____
AP # 115-009-25



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 [ ]
Municipal [ ]
Other [ ]
(Describe)

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

(6) GRAVEL PACK:
Yes [X] No [ ] Size 3/8
Diameter of bore 9"+8"
Packed from 22 ft. to 130 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 130 | 4½ | 160 |
| | | | |
| | | | |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 95 | 130 | 18 |
| | | |
| | | |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 20 ft.
Were strata sealed against pollution? Yes [ ] No [X] Interval _____ ft.
Method of sealing Concrete

(10) WATER LEVELS:
Depth of first water, if known 75'+ ft.
Standing level after well completion 55' 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 55' ft. At end of test 130' ft.
Discharge 60 gal/min after 1 hours Water temperature Cold
Chemical 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 130 ft. Completed depth 130 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 3 | Brn. Soil |
| 3 | 15 | Red Clay |
| 15 | 55 | Red Clay + Blk + Red Vol. Gravel |
| 55 | 120 | Blk + Red Vol. Rock |
| 120 | 130 | Blk + White Vol. Rock + Ash |

NOV 2 1991

Work started 11-2 19 91 Completed 11-5 19 91

WELL DRILLER'S STATEMENT: 1603

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

Signed Dan McMullen (Well Driller)
NAME Dan McMullen Well Drilling (Person, firm, or corporation) (Typed or printed)
Address 1487 Old Long Valley Rd.
City Clearlake Oaks CA ZIP 95423
License No. 533152 Date of this report _____

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96355

12N/08W-22H

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

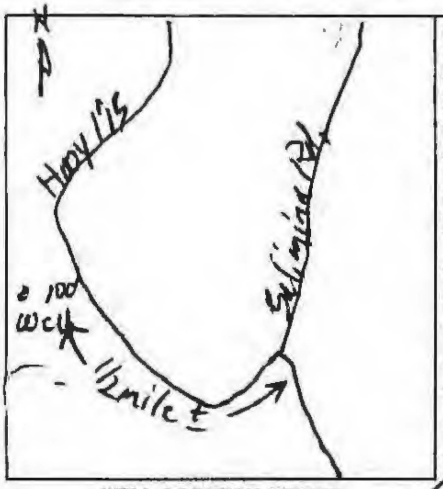
# WATER WELL DRILLERS REPORT

*Do not fill in*
No. 369637

e of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above _____
Township 12N Range 8W Section 22
Distance from cities, roads, railroads, fences, etc. _____
AP # 115-009-01



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 3/8"
Diameter of bore 9 7/8"
Packed from 20 ft. to 125 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 125 | 4½ | 160 |
| | | | |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 85 | 125 | 16 |
| | | |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.
Method of sealing Concrete

(10) WATER LEVELS:
Depth of first water, if known 75' ft.
Standing level after well completion 67' ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Driller
Type of test Pump ☐ Bailer ☐ Air lift ☐
Flow to water at start of test 67 ft. At end of test 125 ft.
Discharge 150 gal/min after 1 hours Water temperature Cold
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 142 ft. Completed depth 125 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 5' | Brn. Soil |
| 5 | 55 | Red + Brn. Clay + Vol. Gravel |
| 55 | 142 | Blk + Red Vol Rock |

NOV 1991

Work started 10-29 19 91 Completed 11-5 19 91

WELL DRILLER'S STATEMENT: 1603
*This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.*
Signed Dan McMullen (Well Driller)
NAME Dan McMullen Well Drilling (Person, firm, or corporation) (Typed or printed)
Address 1487 Old Long Valley Rd.
City Clearlake Oaks CA ZIP 95423
License No. 537152 Date of this report 11-5-91

CONFIDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96355

12N/08W - 14M 15

**ORIGINAL**
**File with DWR**

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# WATER WELL DRILLERS REPORT

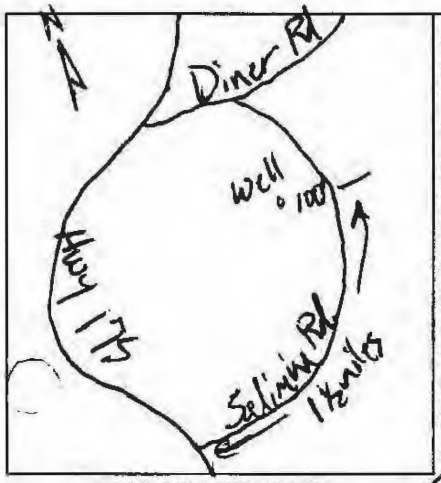
*Do not fill in*

No. 369638

e of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Lake Owner's Well Number _____
Well address if different from above _____
Township 12N Range 8W Section 14
Distance from cities, roads, railroads, fences, etc. _____
APN 115-003-26



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 3/8"
Diameter of bore 9"-8"
Packed from 20 ft. to 145 ft.

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

| From ft. | To ft. | Dia. in. | Gage or Wall |
|---|---|---|---|
| 0 | 145 | 4" | 160 |
| | | | |

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

| From ft. | To ft. | Slot size |
|---|---|---|
| 85 | 145 | 1/8" |
| | | |

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 20 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.
Method of sealing Concrete

(10) WATER LEVELS:
Depth of first water, if known 85'± ft.
Standing level after well completion 45' ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Driller
Type of test Pump ☐ Bailer ☐ Air lift ☒
Flow water at start of test _____ ft. At end of test _____ ft.
Discharge 12 gal/min after 1 hours Water temperature cold
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 150 ft. Completed depth 145 ft.

| from ft. | to ft. | Formation (Describe by color, character, size or material) |
|---|---|---|
| 0 | 3 | Brn. Soil |
| 3 | 35 | White clay |
| 35 | 70 | Brn + Red Clay + Vol Gravel |
| 70 | 150 | Blk + Red Vol. Rock |

NOV 2 1 1991

Work started 10-31 19 91 Completed 11-5 19 91

WELL DRILLER'S STATEMENT: 1605

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

Signed Dan Mc Mullen (Well Driller)
NAME Dan Mc Mullen Well Drilling (Person, firm, or corporation) (Typed or printed)
Address 1487 Old Long Valley Rd.
City Clearlake Oaks CA ZIP 95423
License No. 533152 Date of this report 11-5-91

ONE IDENTIAL
NOT FOR PUBLIC USE
WATER CODE SEC. 13752
COPY

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96355

**ORIGINAL**
**File with DWR**

Page ___ of ___ JUL 30 1997

Owner's Well No. ___

Date Work Began 9-12-95 Ended 9-21-95

Local Permit Agency Health Dept.

Permit No. WE-1245 Permit Date 8-29-95

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 405481

DWR USE ONLY — DO NOT FILL IN
12N/08W-10M
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

## GEOLOGIC LOG

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

DEPTH TO FIRST WATER 60 (Ft.) BELOW SURFACE

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 40 | Volcanic Ash |
| 40 | 110 | Soft Basalt |
| 110 | 140 | Hard Basalt |

TOTAL DEPTH OF BORING 140 (Feet)

TOTAL DEPTH OF COMPLETED WELL 140 (Feet)

## WELL LOCATION

Address 9710 Carrie Ln

City Kelseyville

County Lake

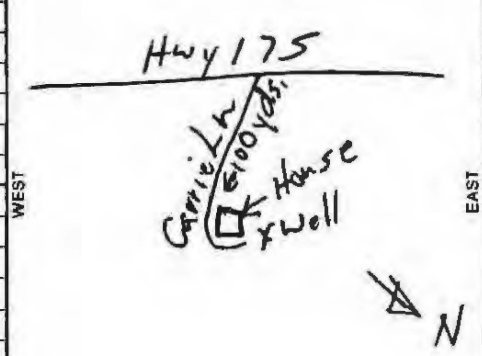
APN Book 115 Page 003 Parcel 07

or Township 12N Range 08W Section 10

Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

## LOCATION SKETCH

NORTH




WEST EAST

SOUTH

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

## ACTIVITY (✓)

X NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

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

## PLANNED USE(S) (✓)

___ MONITORING

WATER SUPPLY
X Domestic
___ Public
___ Irrigation
___ Industrial

___ "TEST WELL"

___ CATHODIC PROTECTION

___ OTHER (Specify)

DRILLING METHOD air rotary FLUID ___

## WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 20 (Ft.) & DATE MEASURED 9-29-95

ESTIMATED YIELD* 30 (GPM) & TEST TYPE air lift

TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL/GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 9" | | | | | | | | |
| 20 | 140 | 8" | | | | | | | | |
| 0 | 60 | | X | | | | PVC-F480 | 4 1/2 | 160 | |
| 60 | 140 | | | X | | | " " | " | " | 48 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CE-MENT (✓) | BEN-TONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 140 | | | | 5/16 Pea |

JUL 31 1997

## 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 Larry Herman Drilling
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

13011 Hwy 29, Lower Lake Ca 95457
ADDRESS CITY STATE ZIP

Signed Larry Herman 9-21-95 465071
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

JUL 30 1997

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 405501

Page ___ of ___
Owner's Well No. ___
Date Work Began 8-30-95 Ended 8-31-95
Local Permit Agency Health Dept.
Permit No. WE-1240 Permit Date 8-29-95

DWR USE ONLY — DO NOT FILL IN
12N/08W-13M
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
ATTN/TRS/OTHER

## GEOLOGIC LOG

ORIENTATION (✓) X 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 | 185 | Volcanic ash |
| 185 | 245 | Green soft Sandstone |

TOTAL DEPTH OF BORING 245 (Feet)
TOTAL DEPTH OF COMPLETED WELL 245 (Feet)

## WELL LOCATION

Address 11275 Diener Dr
City Kelseyville
County Lake
APN Book 115 Page 006 Parcel 03
Township 12N Range 8W Section 13
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 AUTHORIZED & COMPLETE.*

## ACTIVITY (✓)

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

## PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
X Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD air rotary FLUID ___

## WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 100 (Ft.) & DATE MEASURED 9-1-95
ESTIMATED YIELD* 50 (GPM) & TEST TYPE air lift
TEST LENGTH 2 (Ft.) TOTAL DRAWDOWN ___ (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 | FILLPIPE | MATERIAL/GRADE | INTERNAL DIAMETER (inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 9" | | | | | | | | |
| 20 | 245 | 7" | | | | | | | | |
| 0 | 165 | | X | | | | PVC F480 | 4 1/2 | 160 | |
| 165 | 245 | | | X | | | " " | " | " | 18 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 245 | | | | 5/16 Pea |

JUL 31 1997

## 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 Larry Herman Drilling
(PERSON, FIRM, OR CORPORATION CITED OR PRINTED)
13011 Hwy 29 Lower Lake Ca 95457
ADDRESS CITY STATE
Signed [signature] 9-1-95 965071
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED CSF LICENSE NUMBER

DWR 188 (REV. 2/90)

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

RECEIVED
JUL 2 1993

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

Page ___ of ___
Owner's Well No. 868 #
Date Work Began 5-20-93 Ended 6-15-93
Local Permit Agency Lake County Health Dept
Permit No. 868 # Permit Date 3-22-93

DWR No. 406862

DWR USE ONLY — DO NOT FILL IN
12N/08W-14J
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

## GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER 18 (Ft.) BELOW SURFACE

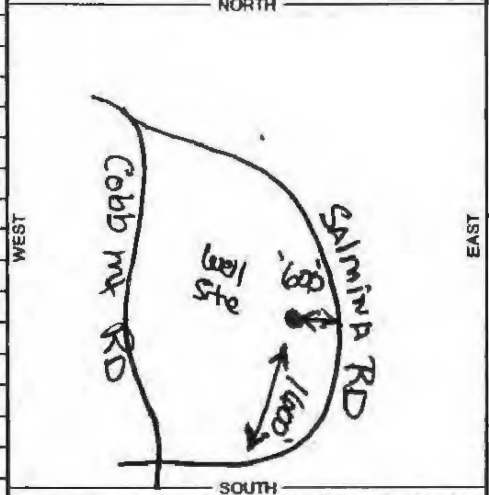
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 55 | BLACK CLAY WITH SOME GRAVEL AREAS |
| 55 | 140 | VOLCANIC ROCK WITH SOME AREAS OF BASALT |

TOTAL DEPTH OF BORING 140 (Feet)
TOTAL DEPTH OF COMPLETED WELL 140 (Feet)

## WELL LOCATION

Address 9565 SALMINA RD
City KELSEYVILLE CA. 95451
County LAKE
APN Book ___ Page ___ Parcel 115-003-29
or Township 12N Range 8W Section 14 #
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 CABLE FLUID NONE

## WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 10' (Ft.) & DATE MEASURED 6-10-93
ESTIMATED YIELD 20 (GPM) & TEST TYPE BAILER
TEST LENGTH 1½ (Hrs.) TOTAL DRAWDOWN 30 (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 | CON-DUCTOR | FILL PIPE | MATERIAL/ GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0+3 | 60 | 10 | X | | | | F480 | 6 | .200 | |
| 60 | 140 | 10 | | X | | | F480 | 6 | .200 | .065 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | ✓ | | | |
| 20 | 140 | | | ✓ | PEA |

JUL 2 8 1993

## 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 William G Mosegaard Well Drilling 1648
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 1996 MARTIN ST CITY Lakeport STATE CA ZIP 95453
Signed William G Mosegaard 6-15-93 563710
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

RECEIVED

JUL 10 1992

**ORIGINAL**
**File with DWR**

Page ___ of ___

# STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 486020

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO. 17N/08W-22M
LATITUDE ___ LONGITUDE ___
APN/TRS/OTHER

Owner's Well No. D. W. R.
Date Work Began 7-7-92 Ended 7-8-92
Local Permit Agency Lake County
Permit No. WE 717 Permit Date 7-7-92

## GEOLOGIC LOG

ORIENTATION (✓) K 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 | 3 | Brn. Soil + Vol Gravel |
| 3 | 68 | Yellow, Clay + Vol Gravel |
| 68 | 160 | Black + Red Vol Rock |

TOTAL DEPTH OF BORING 160 (Feet)
TOTAL DEPTH OF COMPLETED WELL 107 (Feet)

## WELL LOCATION

Address 10230 Hwy 175
City Kelseyville
County Lake
APN Book 115 Page 009 Parcel 26
or
Township 17N Range 08W Section 22
or
Latitude ___ DEG. ___ MIN. ___ SEC ___ NORTH Longitude ___ DEG. ___ MIN. ___ SEC. ___ WEST

## LOCATION SKETCH

NORTH
WEST — Hwy 175 — 30' to well — EAST
SOUTH

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

## ACTIVITY (✓)

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

## PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
K Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD Air FLUID ___

## WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 50' (Ft.) & DATE MEASURED 7-7-92
ESTIMATED YIELD* 60 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | 87 | 9 | K | | | | PVC | 4½ | 160 | |
| 87 | 107 | 9 | | K | | | PVC | 4½ | 160 | 1/8 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 23 | K | | | |
| 23 | 107 | | | K | 3/8 Pea Gravel |

JUL 13 1992

## 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 Dan McMullen Well Drilling 1603
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 1487 Old Long Valley Rd. CITY Clearlake Oaks STATE CA ZIP 95423

Signed Dan M Mullen 7-8-92 533152
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page ___ of ___

RECEIVED
SEP 04 1992
D. W. R.

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 486027

DWR USE ONLY — DO NOT FILL IN
12N/08W-22M1
STATE WELL NO./STATION NO.
LATITUDE ___ LONGITUDE ___
APN/TRS/OTHER

Owner's Well No. ___
Date Work Began 8-25-92 Ended 8-28-92
Local Permit Agency Lake County Environmental Health
Permit No. WE756 Permit Date 8-25-92

## GEOLOGIC LOG

ORIENTATION (✓) K VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER 225 (Ft.) BELOW SURFACE

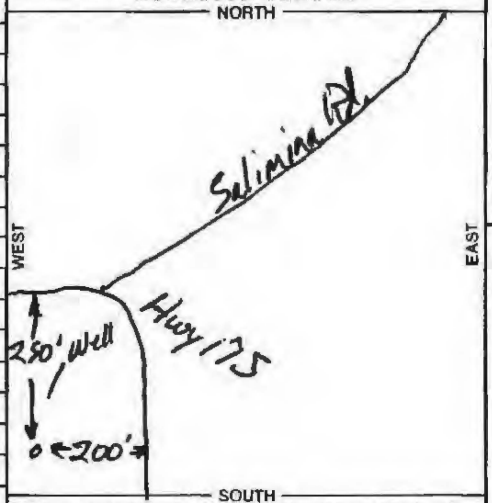
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 3 | Brn. Soil |
| 3 | 70 | Brn. Clay |
| 70 | 80 | Brn. Clay & Vol. Gravel |
| 80 | 110 | Gray Clay |
| 110 | 145 | Gray Clay |
| 145 | 210 | Sandstone Vol. Rock |
| 210 | 240 | Hard Black & Red Vol. Rock |

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

## WELL LOCATION

Address 10899 Hwy 175
City Kelseyville CA
County Lake
APN Book 114 Page 042 Parcel 09
or
Township 12N Range 08W Section 22
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 (✓)

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

### PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
K Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD Air FLUID ___

### WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 76' (Ft.) & DATE MEASURED 8-25-92
ESTIMATED YIELD* 100+ (GPM) & TEST TYPE Air-lift
TEST LENGTH 1 (Hrs.) TOTAL DRAWDOWN ___ (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 | 200' | 9 | K | | | | PVC | 4½ | 160 | |
| 200 | 240 | 9 | | X | | | PVC | 4½ | 160 | 2X ⅛" |

### ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 22 | K | | | |
| 22 | 240 | | | K | Pea Gravel |

SEP 10 1992

### 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 Dan McMullen Well Drilling 1603
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 1487 Old Long Valley Rd. CITY Clearlake STATE CA ZIP 95423
Signed Dan McMullen 8-28-92
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED
C-57 LICENSE NUMBER 533152

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

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Page ___ of ___

Owner's Well No. ___

Date Work Began 8-27-92 Ended 8-28-92

Local Permit Agency Lake County Environmental Health

Permit No. WE 755 Permit Date 8-25-92

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SEP 04 1992
W.R.

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 486028

DWR USE ONLY — DO NOT FILL IN
12N / 08W-22M
STATE WELL NO./STATION NO.
LATITUDE ___ LONGITUDE ___
APN/TRS/OTHER

## GEOLOGIC LOG

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

DEPTH TO FIRST WATER 120 (Ft.) BELOW SURFACE

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 3 | Black Soil |
| 3 | 12 | Brown Clay |
| 12 | 35 | Brown Clay Very Hard Black Vol. Rock |
| 35 | 45 | Blue Sandy Clay |
| 45 | 50 | Blue Sandy Clay |
| 50 | 140 | Black + Red Vol. Rock |

TOTAL DEPTH OF BORING 140 (Feet)

TOTAL DEPTH OF COMPLETED WELL 140 (Feet)

## WELL LOCATION

Address 10559 Salmina Rd.

City Kelseyville

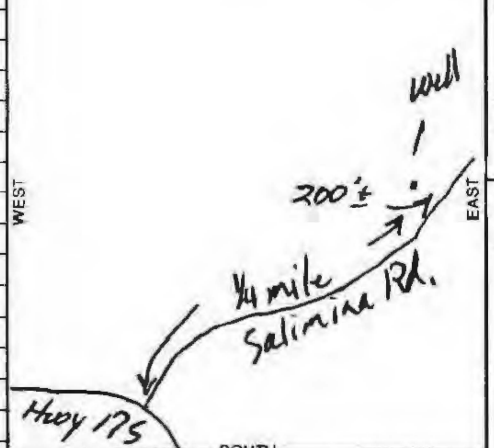
County Lake

APN Book 115 Page 009 Parcel 12

or Township 12N Range 08W Section 22

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 (✓)

X NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

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

## PLANNED USE(S) (✓)

___ MONITORING

WATER SUPPLY
X Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD Air FLUID ___

## WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 40' (Ft.) & DATE MEASURED 8-28-92

ESTIMATED YIELD* 60 (GPM) & TEST TYPE Air Lift

TEST LENGTH 1 (Hrs.) TOTAL DRAWDOWN ___ (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 | 35 | 9 | X | | | | PVC | 4½ | 160 | |
| 35 | 100 | 7½ | X | | | | PVC | 4½ | 160 | |
| 100 | 140 | 7½ | | X | | | PVC | 4½ | 160 | 2 x 90 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 26 | X | | | |
| 26 | 140 | | | X | 3/8 Pea Gravel |

SEP 1 0 1992

## 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 Dan McMullen Well Drilling 1603
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

14B7 Old Long Valley Rd. Clearlake Oaks CA 95423
ADDRESS CITY STATE ZIP

Signed Dan McMullen 8-28-92 533152
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

JUL 17 1997

Page 1 of 2

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 509558

DWR USE ONLY — DO NOT FILL IN
12N/08W-10M
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. _____
Date Work Began 6/13/97 , Ended 7/1/97
Local Permit Agency LAKE CO. Environmental Health Dept.
Permit No. WE 1443 Permit Date 6/10/97

## GEOLOGIC LOG

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

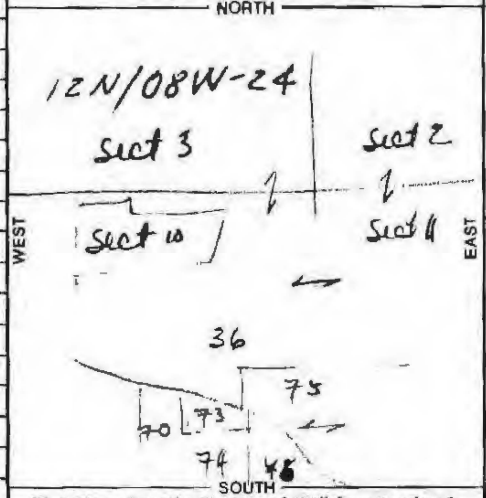
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 1½ | Road base |
| 1½ | 16 | Brown clays and loose volcanic conglomerates |
| 16 | 55 | Blue clays and multi-colored volcanic conglomerates |
| 55 | 95 | Hard, fractured, volcanic conglomerates |
| 95 | 120 | Hard and very hard volcanic conglomerates with seams of blue clay |

TOTAL DEPTH OF BORING 120 (Feet)
TOTAL DEPTH OF COMPLETED WELL 98½ (Feet)

## WELL LOCATION

Address 9500 Siegler Springs
City Kelseyville, CA
County LAKE 11-009-36
APN Book ___ Page ___ Parcel ___
or Township 12N Range 08W Section 10
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 (✓)
X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

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

DRILLING METHOD AIR ROTARY FLUID N/A

## WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 5'3" (Ft.) & DATE MEASURED 7/9/97
ESTIMATED YIELD* 1,530 (GPM) & TEST TYPE PUMP
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN 23'6" (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 | 20 | 17½ | | | | | | | | |
| 20 | 80 | 14 | | | | | | | | |
| 80 | 100 | 12¼ | | | | | | | | |
| 100 | 120 | 9 7/8 | | | | | | | | |

** SEE PAGE 2 for REMAINDER of INFORMATION**

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 21 | X | | | |
| 21 | 98½ | | | X | PEA GRAVEL |

## ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
X Other Page 2

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 AND PUMP CO. By Ward Thompson
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

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

Signed Ward Thompson (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 7/14/97

C-57 LICENSE NUMBER 177681

DWR 188 REV 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

**WELL COMPLETION REPORT # 509558**

Job Location: 9500 Siegler Springs
Kelseyville, CA

**Page 2 of 2**

| DEPTH FROM SURFACE | | BORE-HOLE DIA. (Inches) | CASING(S) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | TYPE (X) | | | | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
| Ft. | to Ft. | | BLANK | SCREEN | CON-DUCTOR | FILL PIPE | | | | |
| +1½ | 60 | | X | | | | STEEL | 10 1/4 | .250 | |
| 95 | 97 | | X | | | | Steel | 10 1/4 | .250 | |
| 0 | 60 | | X | | | | Steel | 12 1/4 | .250 | CONDUCTOR |
| 60 | 95 | | | X | | | Steel | 10 1/4 | .250 | 1/8 x 1 Knife Perfs. |
| | | | | | | | | | | |
| | | | | | | | | | | |

ORIGINAL
File with DWR

NOV 05

# STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 705621

Page ___ of ___
Owner's Well No. ___
Date Work Began 9/27/01 Ended 10/1/01
Local Permit Agency Lake County Environmental Health
Permit No. WE 3089 Permit Date 10/2/01

DWR USE ONLY — DO NOT FILL IN
12N/08W-23M
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

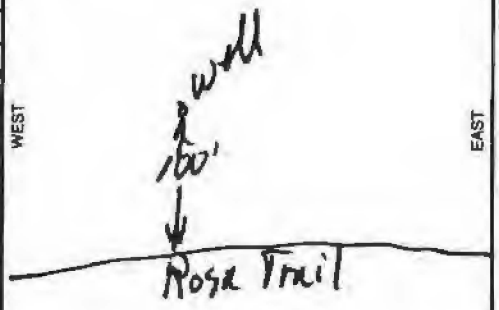
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 5 | Gravelly Brn. Soil |
| 5 | 70 | Gravelly Brn. Clay |
| 70 | 130 | Yel. Boulders + Brn. Clay |
| 130 | 260 | Black + Purple Broken Bolt Rock |
| 260 | 340 | Black Purple Broken Vol. Rock and Yellow Stalk. |

TOTAL DEPTH OF BORING 340 (Feet)
TOTAL DEPTH OF COMPLETED WELL 325 (Feet)

Address 10643 "Rosa Trail"
City Kelseyville CA
County Lake
APN Book 114 Page 031 Parcel 03
Township 12N Range 08W Section 23
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

## 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 (✓)

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

## PLANNED USES (✓)

WATER SUPPLY
X 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 280 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 272 (Ft.) & DATE MEASURED 10/9/01
ESTIMATED YIELD* 20 (GPM) & TEST TYPE Air Lift
TEST LENGTH 1 (Hrs.) TOTAL DRAWDOWN ___ (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 | 130 | 9 | X | | | | PVC F480 | 4½ | SDR21 | |
| 130 | 305 | 7 | X | | | | PVC F480 | 4½ | SDR21 | |
| 305 | 325 | 7 | | X | | | PVC F480 | 4½ | SDR21 | 2K 1/8 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 325 | | | | Pea Gravel |

NOV 26 2001

## 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 Dan McMullen Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 1487 Old Long Valley Rd. CITY Clearlake Oaks STATE CA ZIP 95423
Signed Dan McMullen (WELL DRILLER/AUTHORIZED REPRESENTATIVE)
DATE SIGNED 10/11/01
C-57 LICENSE NUMBER 533152

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 705627

DWR USE ONLY — DO NOT FILL IN
12N/08W-15M
STATE WELL NO./STATION NO.
LATITUDE / LONGITUDE
APN/TRS/OTHER

Page ___ of ___ 1 2 3
Owner's Well No. A-24-99
Date Work Began A-24-99 Ended 5-3-99
Local Permit Agency Lake County Environmental Health
Permit No. WE 1681 Permit Date 4-23-99

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

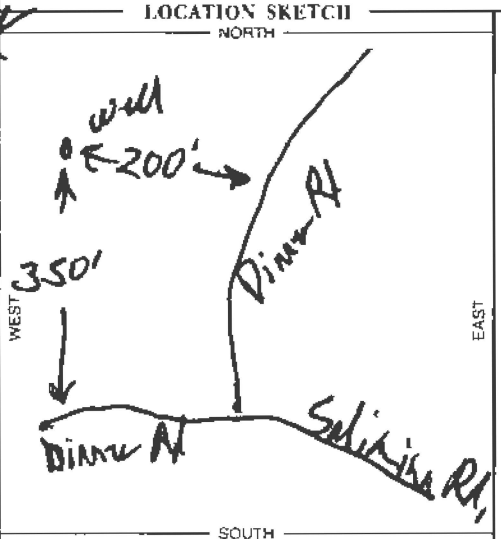
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 3 | Brn Soil |
| 3 | 9 | Yellow Clay |
| 9 | 12 | Yel. Gravel |
| 12 | 50 | Hard Black Vol. Rock |
| 50 | 70 | Blk+Red Vol. Rock |
| 70 | 99 | Blk+Red Vol. Rock |
| 99 | 123 | Hard Blk Vol Rock |
| 123 | 170 | Broken Blk+Red Vol Rock |

TOTAL DEPTH OF BORING 170 (Feet)
TOTAL DEPTH OF COMPLETED WELL 168 (Feet)

## WELL LOCATION

Address 9724 Dinner Rd.
City Kelseyville
County Lake
APN Book 115 Page 08 Parcel 26
Township 12N Range 08W Section 15
Latitude ___ DEG ___ MIN ___ SEC NORTH Longitude ___ DEG ___ MIN ___ SEC WEST

### LOCATION SKETCH




*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 (✓)

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

### PLANNED USES (✓)

WATER SUPPLY
X 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 125 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL ___ (Ft.) & DATE MEASURED ___
ESTIMATED YIELD * 30 (GPM) & TEST TYPE Air-Lift
TEST LENGTH 1 (Hrs.) TOTAL DRAWDOWN ___ (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 | 148 | 9 | X | | | | PVC F480 | 4½ | SDR26 | |
| 148 | 168 | 9 | | X | | | PVC F480 | 4½ | SDR26 | 2K .18 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 168 | | | | Pea 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 Dan McMullen Well Drilling
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 1487 Old Long Valley Rd CITY Clearlake STATE CA ZIP 95422
Signed ___ (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 5-20-99
C-57 LICENSE NUMBER 533152

ORIGINAL
File with DWR

Page ___ of ___

APR 0 4 2002

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

DWR USE ONLY — DO NOT FILL IN
12N/08W-11
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. ___ No. 713305

Date Work Began 3-14-01 Ended 3-23-01

Local Permit Agency Health Dept.

Permit No. WE-2047 Permit Date 1-4-01

## GEOLOGIC LOG

ORIENTATION (∠) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DRILLING METHOD air rotary FLUID ___

| DEPTH FROM SURFACE Ft. to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|
| 0 25 | Red Soil w/ Clay |
| 25 70 | Broken Basalt & Red Vol. |
| 70 140 | No Returns |
| 140 350 | Brown-Red-Tan Soft Rock |
| 350 385 | Dark Brown, Red, White, Blue, Soft rock |
| 385 395 | Hard Gray rock |

TOTAL DEPTH OF BORING 395 (Feet)

TOTAL DEPTH OF COMPLETED WELL 395 (Feet)

## WELL LOCATION

Address 10080 Siegler Springs Rd. N

City Kelseyville

County Lake

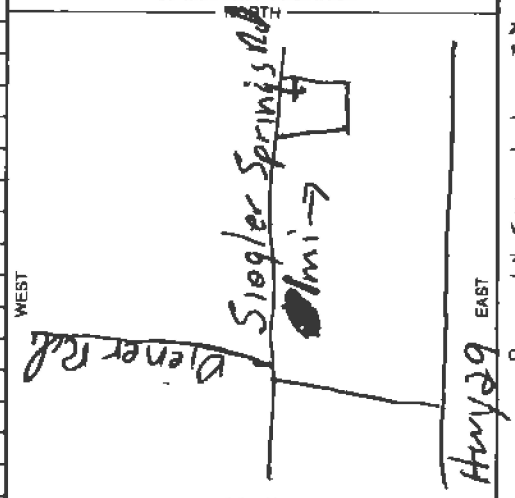
APN Book 011 Page 047 Parcel 020

Township 12N Range 8W Section 11

Latitude ___ DEG ___ MIN ___ SEC. NORTH

Longitude ___ DEG. ___ MIN ___ SEC. WEST

## LOCATION SKETCH




*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 (∠)

X NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

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

## PLANNED USES (∠)

WATER SUPPLY
X 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 320 (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 240 (Ft.) & DATE MEASURED 3-21-01

ESTIMATED YIELD * 50 (GPM) & TEST TYPE air lift

TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)

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

| DEPTH FROM SURFACE Ft. to Ft. | BORE-HOLE DIA. (Inches) | CASING (S) TYPE (∠) BLANK | SCREEN | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|
| 0 20 | 9" | X | | | | PVC Pipe | 4½ | 160 | |
| 20 335 | 7" | X | | | | " " | " | " | |
| 335 395 | 7" | | X | | | " " | " | " | 48 |

| DEPTH FROM SURFACE Ft. to Ft. | ANNULAR MATERIAL TYPE CEMENT (∠) | BENTONITE (∠) | FILL (∠) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 20 | X | | | |
| 20 395 | | | | 5/16 Pea |

## 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 13011 Hwy 29 CITY Lower Lake STATE Ca ZIP 95457

Signed Larry Herman (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 3-25-01

C-57 LICENSE NUMBER 461507

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

APR 04 2002

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 713306

DWR USE ONLY — DO NOT FILL IN
12N/08W-11
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page ___ of ___
Owner's Well No. ___
Date Work Began 3-22-01 Ended 4-10-01
Local Permit Agency Health Dept.
Permit No. WC-3015 Permit Date ~~4-10-01~~ 3-22-01

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD air rotary FLUID ___

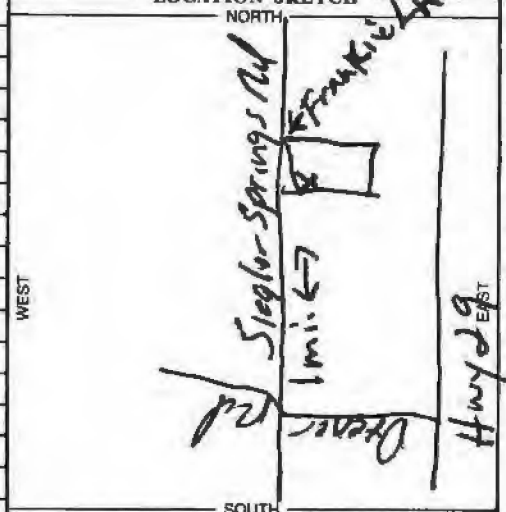
| DEPTH FROM SURFACE FL. | to FL. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 110 | Broken Basalt |
| 110 | 287 | Broken light weight Gray metamorphic Rock |

TOTAL DEPTH OF BORING 290 (Feet)
TOTAL DEPTH OF COMPLETED WELL 187 (Feet)

## WELL LOCATION

Address 10650 Stiegler Springs Rd N.
City Kelseyville
County Lake
APN Book 11 Page 009 Parcel 82
Township 12N Range 8W Section 11
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

### LOCATION SKETCH




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

### PLANNED USES (✓)
WATER SUPPLY
X 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 240 (FL) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 240 (Ft.) & DATE MEASURED 4-16-01
ESTIMATED YIELD * 30 (GPM) & TEST TYPE air lift
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN ___ (FL)
** May not be representative of a well's long-term yield.*

## CASING (S)

| DEPTH FROM SURFACE FL. | to FL. | 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 | 20 | 9" | X | | | | PVC F480 | 4½ | 160 | |
| 20 | 272 | 7" | X | | | | " | " | " | |
| 272 | 287 | 7" | | X | | | " | " | " | 1/8 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE FL. | to FL. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 287 | | | | 5/16 Pea |

APR 17 2002

## 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 13011 Hwy 29 CITY Lower Lake STATE Ca ZIP 95457
Signed Larry Herman WELL DRILLER/AUTHORIZED REPRESENTATIVE
DATE SIGNED 4-20-01
C-57 LICENSE NUMBER 465021

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

RECEIVED
MAY 20 1999

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 713834

DWR USE ONLY — DO NOT FILL IN
12N/08W-14M
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page ___ of ___
Owner's Well No. #1
Date Work Began 3/12/99 Ended 4/14/99
Local Permit Agency LAKE COUNTY HEALTH DEPARTMENT
Permit No. WE1529 Permit Date 4/14/99

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD AIR ROTARY FLUID POLY-JEL

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc* |
|---|---|---|
| 0 | 39 | Red clay, Cobble & Boulder |
| 39 | 420 | Red, Gray, Maroon volcanic rock and yellow, green, gray volcanic rock. |

TOTAL DEPTH OF BORING 420' (Feet)
TOTAL DEPTH OF COMPLETED WELL 420' (Feet)

## WELL LOCATION

Address 10234 Diener Drive,
City Kelseyville, California 95451
County LAKE
APN Book 114 Page 080 Parcel 03
Township 12N Range 08W Section 14
Latitude ___ DEG ___ MIN ___ SEC. NORTH Longitude ___ DEG ___ MIN ___ SEC WEST

### 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 (✓)

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

### PLANNED USES (✓)

WATER SUPPLY
X 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 340-360' (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 300' (Ft.) & DATE MEASURED 4/14/99
ESTIMATED YIELD * 50 (GPM) & TEST TYPE AIR LIFT
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN 415' (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 12 1/4 | | | | | | | | |
| 20 | 240 | 9 7/8 | | | | | | | | |
| 0 | 20 | 9 7/8 | | | | | | | | |
| +3 | 417 | | X | | | | Steel | 6 5/8 | .250 | |
| 320 | 415 | | | X | | | | | | Mechanical Perf. |

### ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | X | | | |
| 20 | 420 | | | | |

MAY 25 1999

### 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 WEEKS DRILLING AND PUMP COMPANY
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS P.O. BOX 176, SEBASTOPOL, CALIFORNIA 95473

Signed WARD THOMPSON By: THURMAN ADAMS
WELL DRILLER/AUTHORIZED REPRESENTATIVE

DATE SIGNED 4/26/99

STATE ___ ZIP ___

C-57 LICENSE NUMBER 177681

DWR 188 REV 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR
Page of
Owner's Well No.

JAN 1 8 2002

# WELL COMPLETION REPORT

No. 756156

3-29-02 4-5-02
Health Dept
WE-3146 3-28-02

GEOLOGIC LOG

X air rotary

DESCRIPTION

0 3 Top soil
3 440 Basalt
440 470 Gray Rock
470 500 Multi-Colored Softer rock

500
500

WELL LOCATION

10180 Siegler Spring Rd. N.
Kelseyville
Lake
011 042 09
121 11

LOCATION SKETCH

Siegler Spring
Bremer Rd

ACTIVITY

X

PLANNED USES

X

WATER LEVEL & YIELD OF COMPLETED WELL

38 1 gpm
265 4-5-02
40 air lift
2

CASING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0 | 20 | 9" | X | PVC | 4½ | 160 | |
| 20 | 440 | 7" | X | " | " | " | |
| 440 | 500 | 7" | X | " | " | " | 48 |

ANNULAR MATERIAL

| | | | |
|---|---|---|---|
| 0 | 20 | X | |
| 20 | 500 | | 5/16 Pea |

ATTACHMENTS

CERTIFICATION STATEMENT

Larry Herman Drilling
1201 Hwy 29 Lower Lake CA 95457
[signature] 4-7-02 - 468 011

ORIGINAL
File with DWR

# WELL COMPLETION REPORT

No. 756184

10-24-02 10-30-02
Health Dept.
WE-3251 10-24-02

GEOLOGIC LOG

air rotary

DESCRIPTION

| | | |
|---|---|---|
| 0 | 4 | Red Top soil |
| 4 | 10 | White Ash |
| 10 | 40 | Broken Basalt |
| 40 | 105 | Broken red & blue Basalt |
| 105 | 325 | redish Blue Basalt |
| 325 | 500 | Basalt med. Hardness |

air lift test

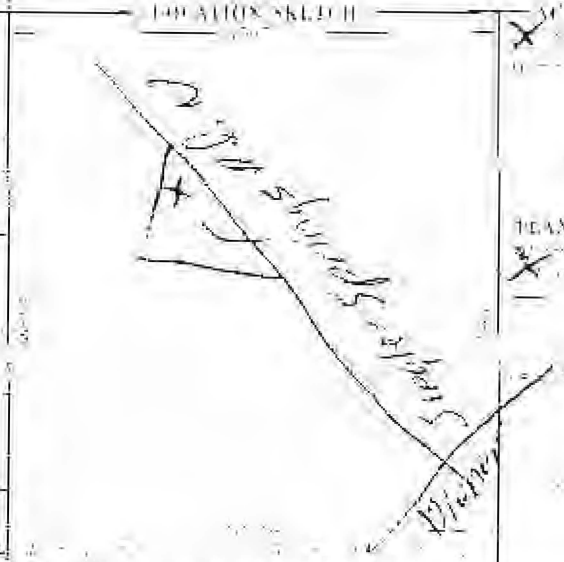
336 ft. = 20 gpm
419 ft. = 30 gpm
477 ft. = 50 gpm

500
500

WELL LOCATION

102 83 Siegler Springs N.
Kelseyville
Lake
011 009 81
12 N 8 W 14

LOCATION SKETCH




PLEASE PLOT WELL LOCATION

ACTIVITY

X

PLANNED USE

X

WATER LEVEL & YIELD OF COMPLETED WELL

325
300 10-29-02
50 air lift
4

CASING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0 | 20 | 9 | X | PVC | 4 1/2 | 160 | |
| 20 | 300 | 7 | X | " | " | " | |
| 300 | 390 | 7 | X | " | " | 200 | .030 |
| 390 | 480 | 7 | X | " | " | 160 | |
| 480 | 500 | 7 | X | " | " | 200 | .030 |

ANNULAR MATERIAL

| | | |
|---|---|---|
| 0 | 20 | X |
| 20 | 500 | 5/16 Pea |

ATTACHMENTS

CERTIFICATION STATEMENT

Larry Herman Drilling
13011 Hwy 29 Lower Lake Ca 95457
Larry Herman 11-1-02 465071

ORIGINAL
File with DWR

Page ___ of ___

# STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 756807

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

Owner's Well No. ___
Date Work Began 6/29/04 Ended 6/30/04
Local Permit Agency Lake County Environmental Health
Permit No. WE3477 Permit Date 6/17/04

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 5 | Red soil |
| 5 | 10 | Red clay |
| 10 | 60 | Red Clay Vol. boulders |
| 60 | 485 | Black & Purple Vol. Rock |

TOTAL DEPTH OF BORING 485 (Feet)
TOTAL DEPTH OF COMPLETED WELL 485 (Feet)

## WELL LOCATION

Address 10235 Sigler Springs North
City Kelseyville
County Lake
APN Book 011 Page 041 Parcel 008
Township 12N Range 8W Section 01
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

## LOCATION SKETCH

NORTH
Sigler Springs North
WEST 250'± Driveway EAST
0 well
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 (✓)

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

## PLANNED USES (✓)

WATER SUPPLY
X 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 460? (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 340 (Ft.) & DATE MEASURED 6/25/04
ESTIMATED YIELD * 45 (GPM) & TEST TYPE Air Lift
TEST LENGTH 1 (Hrs.) TOTAL DRAWDOWN ___ (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 | 60 | 9 | X | | | | PVC F480 | 4½ | SDR26 | |
| 60 | 445 | 7 | X | | | | PVC F480 | 4½ | SDR26 | |
| 445 | 485 | 7 | | X | | | PVC F480 | 4½ | SDR26 | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 22 | X | | | |
| 22 | 485 | | | | Pea 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 Dan McMullen Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 1467 Old Long Valley Rd. CITY Clearlake Oaks STATE CA ZIP 95423
Signed Dan McMullen WELL DRILLER/AUTHORIZED REPRESENTATIVE
DATE SIGNED 7/19/04
C-57 LICENSE NUMBER 533152

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. 0916393

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

**Owner's Well No.** Well #1
Date Work Began 10/4/2006, Ended 10/6/2006
Local Permit Agency Lake County Environmental
Permit No. WE3766 Permit Date 8/8/2006

## GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Mud Rotary FLUID Bentonite

| DEPTH FROM SURFACE FL. | to FL. | DESCRIPTION *Describe material, grain, size, color, etc.* |
|---|---|---|
| 0 | 30 | Dark brown clay |
| 30 | 70 | Tan clay with gravels |
| 70 | 100 | Hard sandstone |

TOTAL DEPTH OF BORING 100 (Feet)
TOTAL DEPTH OF COMPLETED WELL 100 (Feet)

## WELL LOCATION

Address 9790 Hwy 175
City Kelseyville CA
County Lake County
APN Book 115 Page 003 Parcel 21
Township 13 N Range 8 W Section 15
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 (FL.) BELOW SURFACE 1
DEPTH OF STATIC WATER LEVEL 15 (FL.) & DATE MEASURED 10/6/2006
ESTIMATED YIELD * 5 (GPM) & TEST TYPE Air Developed
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN 100 (FL)
*May not be representative of a well's long-term yield.*

| DEPTH FROM SURFACE FL. | to FL. | BORE-HOLE DIA. (Inches) | CASING(S) TYPE (✓) BLANK | SCREEN | CONDUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 11" | | | | | | | | |
| 20 | 100 | 7-7/8" | | | | | | | | |
| +3 | 100 | | ✓ | | | | PVC | 5 | SDR21 | |
| 40 | 100 | | | ✓ | | | | | | .032 |
| | | | | | | | | | | |
| | | | | | | | | | | |

| DEPTH FROM SURFACE FL. | to FL. | ANNULAR MATERIAL TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | ✓ | | | |
| 20 | 23 | | ✓ | | |
| 23 | 100 | | | ✓ | 3/8 Gravel |
| | | | | | |
| | | | | | |

**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 Melissa G Lyon WELL DRILLER/AUTHORIZED REPRESENTATIVE
10/10/06 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

JUL 03 2014

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 0951437

Page ___ of ___
Owner's Well No. ___
Date Work Began 5/13/2014, Ended 5/20/2014
Local Permit Agency ___
Permit No. ___ Permit Date ___

DWR USE ONLY — DO NOT FILL IN
12N/08W-10
STATE WELL NO./STATION NO.
LATITUDE ___ LONGITUDE ___
APN/TRS/OTHER ___

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

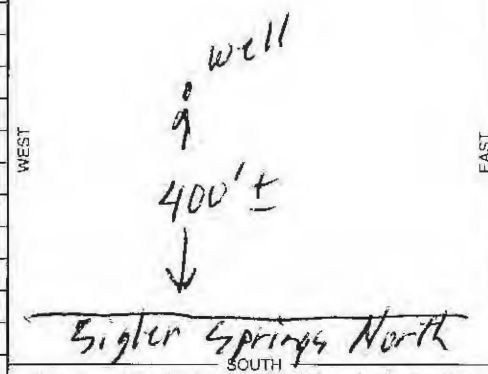
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 3 | Red soil |
| 3 | 17 | Red Clay like ash |
| 17 | 90 | Gray + Purple Broken Vol. Rock |
| 90 | 271 | Brown, Gray Purple Vol. Rock |
| 271 | 330 | Brown Broken very Rusty Vol Rock |
| 330 | 502 | Brown + Gray Vol. Rock w/ some rust stains |

TOTAL DEPTH OF BORING 502 (Feet)
TOTAL DEPTH OF COMPLETED WELL 502 (Feet)

## WELL LOCATION

Address 9570 Sigler Springs North
City Kelseyville
County Lake
APN Book 011 Page 069 Parcel 400
Township 12N Range 08W Section 10
Lat ___ DEG. ___ MIN. ___ SEC. N
Long ___ DEG. ___ MIN. ___ SEC. W

### LOCATION SKETCH




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

### USES (✓)
WATER SUPPLY
X 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 340± (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 290 (Ft.) & DATE MEASURED 5/23/2014
ESTIMATED YIELD * 10 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

| DEPTH FROM SURFACE Ft. | to Ft. | BORE-HOLE DIA. (Inches) | CASING (S) TYPE (✓) BLANK | SCREEN | CONDUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 30 | 9 | X | | | | PVC/F480 | 4½ | SDR26 | |
| 30 | 400 | 4½ | X | | | | " | " | " | |
| 400 | 500 | 4½ | | X | | | " | " | " | .032 |

| DEPTH FROM SURFACE Ft. | to Ft. | ANNULAR MATERIAL TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 1 | X | | | |
| 1 | 23 | | X | | |
| 23 | 502 | | | | Pea 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 Dan McMullen Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS P.O. Box 951 CITY Lower Lake STATE CA ZIP 95457
Signed Dan L Mull C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 5/23/2014 C-57 LICENSE NUMBER 533152

DWR 188 REV. 05-03
IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM
OSP 03 78836

**ORIGINAL**
**File with DWR**

AUG 18 2014

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 0951446

Page ___ of ___
Owner's Well No. ___
Date Work Began 7/29/2014 Ended 8/14/2014
Local Permit Agency Lake County Environmental Health
Permit No. WE 4479 Permit Date 7/21/2014

DWR USE ONLY — DO NOT FILL IN
12N/ 08W-15
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Mud

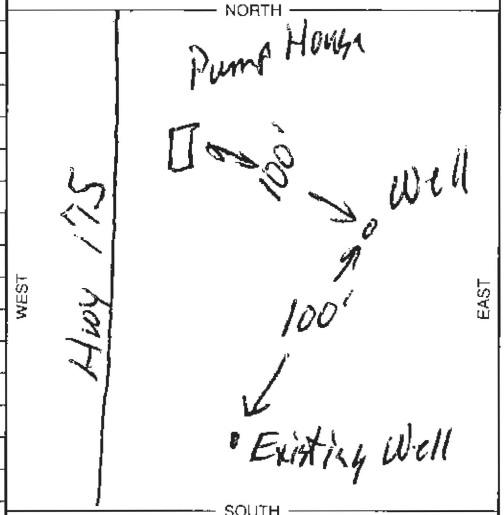
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc* |
|---|---|---|
| 0 | 5 | Gravely Gray Soil |
| 5 | 18 | Gravely Gray Clay |
| 18 | 41 | Gravely Brown Clay |
| 41 | 90 | Brown + Gray Vol. rock |
| 90 | 220 | Black, Brown, Pink Vol. Rock |

TOTAL DEPTH OF BORING 220 (Feet)
TOTAL DEPTH OF COMPLETED WELL 220 (Feet)

## WELL LOCATION

Address 9574 Hwy 175
City Kelseyville
County Lake
APN Book 115 Page 003 Parcel 420
Township 12N Range 08W Section 15
Lat ___ DEG. ___ MIN. ___ SEC. N Long ___ DEG. ___ MIN. ___ SEC. W

### LOCATION SKETCH




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

### USES (✓)
WATER SUPPLY X
___ 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 50± (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 49 (Ft.) & DATE MEASURED 8/14/2014
ESTIMATED YIELD 25 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

| DEPTH FROM SURFACE Ft. | to Ft. | BORE-HOLE DIA. (Inches) | CASING (S) TYPE (✓) BLANK | SCREEN | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 120 | 9 | X | | | | PVC / F480 | 5 | SDR21 | |
| 120 | 220 | 9 | | X | | | " " | " | " | .032 |

| DEPTH FROM SURFACE Ft. | to Ft. | ANNULAR MATERIAL TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 1 | X | | | |
| 1 | 50 | | X | | |
| 50 | 230 | | | | peagravel |

## 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 Dan Mc Mullen Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS P.O. Box 951 CITY Lower Lake STATE CA ZIP 95457
Signed Dan L Mullen C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 8/13/2014 C-57 LICENSE NUMBER 533152

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 78836

**ORIGINAL**
**File with DWR**

Page ___ of ___
Owner's Well No. ___

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*
No. 0963054

Date Work Began 9/10/2013 Ended 9/13/2013
Local Permit Agency Lake County Environmental Health
Permit No. WE 4412-P Permit Date 9/10/2013

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

## GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID Air

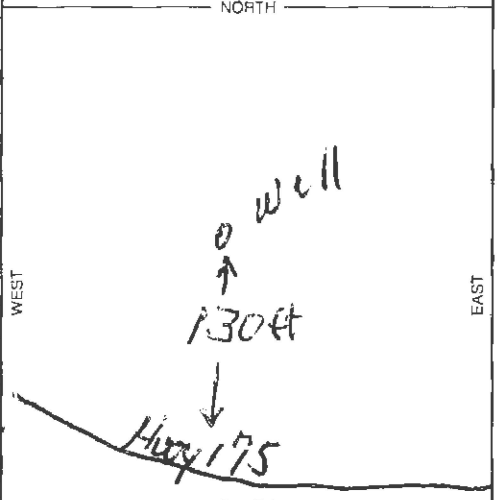
| DEPTH FROM SURFACE Ft | to Ft | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 2 | Brown Soil |
| 2 | 15 | Brown Clay with Vol. gravel and Boulders |
| 15 | 29 | Hard Gray Vol. rock |
| 29 | 43 | Red Clay with some Vol. gravel |
| 43 | 56 | Tan Clay like Ash and Vol. gravel |
| 56 | 70 | Red Clay like Ash and Vol. gravel |
| 70 | 102 | Tan Clay like Ash and Vol. gravel |
| 102 | 132 | Purple Vol. Rock |
| 132 | 160 | Black and Purple Vol. Rock |

TOTAL DEPTH OF BORING 160 (Feet)
TOTAL DEPTH OF COMPLETED WELL 154 Feet)

## WELL LOCATION

Address 10848 Hwy 175
City Kelseyville
County Lake
APN Book 115 Page 009 Parcel 130
Township 12N Range 08W Section 15
Lat ___ DEG. ___ MIN. ___ SEC N Long ___ DEG ___ MIN ___ SEC W

### LOCATION SKETCH




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

### USES (✓)
WATER SUPPLY
___ Domestic X 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 21 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 38 (Ft.) & DATE MEASURED 9/12/2013
ESTIMATED YIELD 17 (GPM) & TEST TYPE Air Lift
TEST LENGTH 1/2 (Hrs.) TOTAL DRAWDOWN ___ (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 | 58 | 9 | X | | | | PVC F480 | 4½ | SDR 26 | |
| 58 | 134 | 8 | X | | | | " | " | " | " | |
| 134 | 154 | 8 | | X | | | " | " | " | " | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft | to Ft | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 1 | X | | | |
| 1 | 51 | | X | | |
| 51 | 134 | | | | pea 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 Dan McMullen Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS P.O. Box 951 CITY Lower Lake STATE CA ZIP 95457
Signed Dan L McMullen C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 9/13/2013 C-57 LICENSE NUMBER 533152

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 78836

115-007-01

**QUADRUPLICATE**
**For Local Requirements**

Page ___ of ___
Owner's Well No. ___
Date Work Began 5/1/07, Ended 5/11/07
Local Permit Agency Lake County Environmental Health
Permit No. WE 3603 Permit Date 12/21/06

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*
No. 1089145

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

## GEOLOGIC LOG

ORIENTATION (✓) V VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary FLUID ___

| DEPTH FROM SURFACE Ft. to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|
| 0 3 | Red Soil |
| 3 12 | Red Clay |
| 12 40 | Tan Clay |
| 40 200 | Gray and Purple and White Soft Broken Vol. Rock |
| 200 290 | Black Vol. Rock and Blue Clay |
| 290 360 | Black Vol. Rock Broken |

RECEIVED
MAY 11 2007
Environmental Health

TOTAL DEPTH OF BORING 360 (Feet)
TOTAL DEPTH OF COMPLETED WELL 346 (Feet)

## WELL OWNER

Name Jerry and Stephanie Burnum
Mailing Address 441 First St.
CITY Middletown STATE CA ZIP 95461

## WELL LOCATION

Address 11435 State Springs Road
City Kelseyville
County Lake
APN Book 115 Page 007 Parcel 01
Township ___ Range ___ Section ___
Lat ___ DEG. ___ MIN. ___ SEC. N Long ___ DEG. ___ MIN. ___ 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 (✓)

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

## USES (✓)

WATER SUPPLY
X 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 320 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 270 (Ft.) & DATE MEASURED 5/10/07
ESTIMATED YIELD * 40 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|
| 0 40 | 9 | X | | | | PVC 1498 | 4" | SDR26 | |
| 40 326 | 7 | X | | | | PVC 1498 | 4" | SDR26 | |
| 326 346 | 7 | | X | | | PVC 1498 | 4" | SDR26 | .032 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 20 | X | | | |
| 20 22 | | X | | |
| 22 346 | | | | #2 Sand |
| | | | | |
| | | | | |
| | | | | |

## 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 Don McMullin Well Drilling
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 1947 Old Long Valley Rd CITY Clearlake Oaks STATE CA ZIP 95423
Signed [signature] C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 5/11/07 C-57 LICENSE NUMBER 485911

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

**ORIGINAL**
**File with DWR**

Page ___ of ___
Owner's Well No. ___
Date Work Began 3/29/06 Ended 4/18/06
Local Permit Agency Health Dept.
Permit No. WE-3703 Permit Date 3-22-06

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*
No. 1093066

DWR USE ONLY — DO NOT FILL IN
12N / 08W / 11
STATE WELL NO./STATION NO.
LATITUDE ___ LONGITUDE ___
APN/TRS/OTHER ___

## GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Air Rotary FLUID ___

| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 95 | Loose Soft Tan + Red Volcanic |
| 95 | 300 | Red, Blue, Tan Volcanics |
| 300 | 450 | Grey + Blue Basalt |
| 450 | 490 | Gray Basalt w/ Tan Clay Layers |

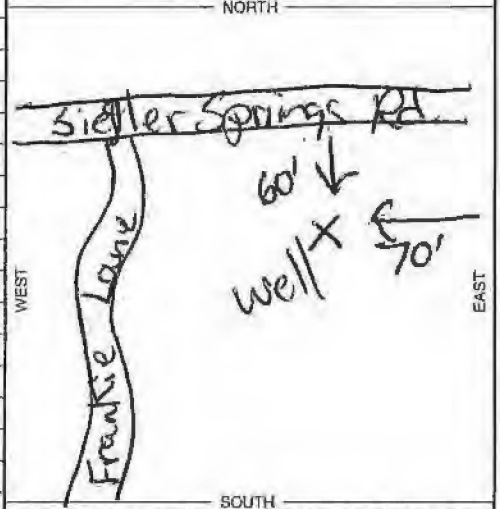
TOTAL DEPTH OF BORING 490 (Feet)
TOTAL DEPTH OF COMPLETED WELL 490 (Feet)

NOT FOR CONVEYANCE WATER CODE

## WELL LOCATION

Address 19550 Siegler Springs Rd
City Kelseyville Ca 95451
County Lake
APN Book 011 Page 009 Parcel 83
Township 12N Range 8W Section 4 11
Lat ___ DEG. ___ MIN. ___ SEC. N Long ___ DEG. ___ MIN. ___ SEC. W

## LOCATION SKETCH




*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")

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 230 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 200 (Ft.) & DATE MEASURED 4-15-06
ESTIMATED YIELD * 70 (GPM) & TEST TYPE AIR LIFT
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | 270 | 9" | X | | | | PVC | 4½" | 160 | |
| 270 | 290 | 7" | | X | | | PVC | " | 200 | .032 |
| 290 | 370 | 7" | X | | | | PVC | " | 160 | |
| 370 | 390 | 7" | | X | | | PVC | " | 200 | .032 |
| 390 | 470 | 7" | X | | | | PVC | " | 160 | |
| 470 | 490 | 7" | | X | | | PVC | " | 200 | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 20 | ✓ | | | |
| 20 | 490 | | 5/16 | | Pea 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS P.O. Box 1152 CITY Lower Lake STATE Ca ZIP 95457
Signed Larry Herman C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 4-25-06
C-57 LICENSE NUMBER 465071

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 782

**ORIGINAL**
**File with DWR**

Page ___ of ___
Owner's Well No. ___
Date Work Began 5-1-06 Ended 5-5-06
Local Permit Agency Health Dept.
Permit No. WE 3641 Permit Date 9-23-05

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*
No. 1093068

DWR USE ONLY — DO NOT FILL IN
12N / 08W / 23
STATE WELL NO./STATION NO.
LATITUDE ___ LONGITUDE ___
APN/TRS/OTHER

## GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Air Rotary FLUID ___

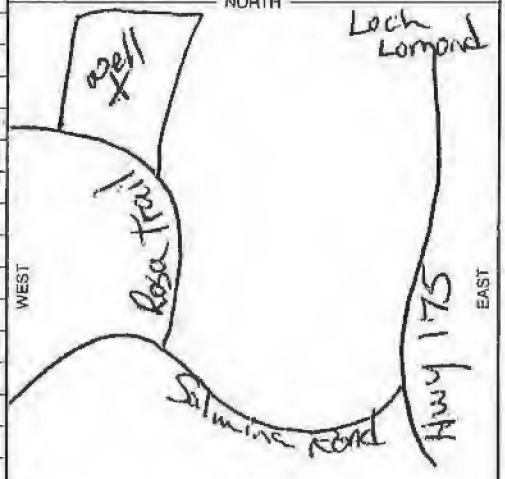
| DEPTH FROM SURFACE Ft. | to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|---|
| 0 | 40 | Brown Ash / Brown Volcanic |
| 40 | 70 | Blue / Red Volcanic |
| 70 | 95 | Brown Ash / Loose Blue / Red Volcanic |
| 95 | 115 | Blue Red Volcanic |
| 115 | 125 | White Volcanic & Blue |
| 125 | 190 | White & Blue Volcanic |
| 190 | 220 | Blue & Red Volcanic |

TOTAL DEPTH OF BORING 220 (Feet)
TOTAL DEPTH OF COMPLETED WELL 215 (Feet)

## WELL LOCATION

Address 10475 Rosa Trail
City Kelseyville Ca 95451
County Lake
APN Book 114 Page 051 Parcel 02
Township 12N Range 8W Section 23
Lat ___ DEG. ___ MIN. ___ SEC. N
Long ___ DEG. ___ MIN. ___ SEC. W

### LOCATION SKETCH




*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")

### 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 185 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 150 (Ft.) & DATE MEASURED 5-5-06
ESTIMATED YIELD * 10 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 40 | 9 | X | | | | PVC | 4½" | 160 | |
| 40 | 175 | 7 | X | | | | PVC | 4½" | 160 | |
| 175 | 215 | 7 | | X | | | PVC | 4½" | 200 | .030 |

### ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. | to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|---|
| 0 | 25 | ✓ | | | |
| 25 | 215 | | | | 5/16 pea 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS PO Box 1152 CITY Lower Lake STATE Ca ZIP 95457
Signed Larry Herman C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 5-8-06
C-57 LICENSE NUMBER 465071

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 78636

ORIGINAL
File with DWR

Page ___ of ___

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. 1093128

DWR USE ONLY — DO NOT FILL IN
12N/08W/13
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. ___
Date Work Began 3-13-07 Ended 3-16-07
Local Permit Agency Health Dept.
Permit No. WE-3828 Permit Date 2-8-07

## GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Mud Rotary FLUID ___

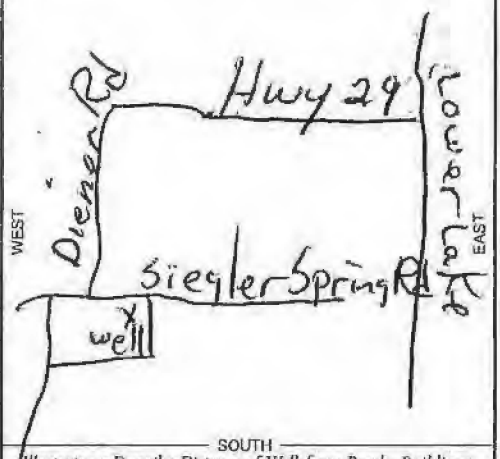
| DEPTH FROM SURFACE Ft. to Ft. | DESCRIPTION *Describe material, grain size, color, etc.* |
|---|---|
| 0 100 | Rock Gray |
| 100 140 | Purple/Brown Rock |
| 140 160 | Rock with Clay |

TOTAL DEPTH OF BORING 160 (Feet)
TOTAL DEPTH OF COMPLETED WELL 160 (Feet)

## WELL LOCATION

Address 11135 Siegler Springs Rd
City Kelseyville Ca 95451
County Lake
APN Book 115 Page 006 Parcel 02
Township 12N Range 8W Section 13
Lat ___ DEG. ___ MIN. ___ SEC. N Long ___ DEG. ___ MIN. ___ SEC. W

### LOCATION SKETCH




*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
___ Deeper
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

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 80 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 36 (Ft.) & DATE MEASURED 3-16-06
ESTIMATED YIELD * 100 (GPM) & TEST TYPE Air Lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (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 | CON-DUCTOR | FILL PIPE | MATERIAL / GRADE | INTERNAL DIAMETER (Inches) | GAUGE OR WALL THICKNESS | SLOT SIZE IF ANY (Inches) |
|---|---|---|---|---|---|---|---|---|---|
| 0 115 | 7 7/8 | X | | | | PVC | 4 1/2" | 160 | |
| 115 155 | 7 7/8 | | X | | | PVC | 4 1/2" | 200 | .030 |
| 155 160 | 7 7/8 | X | | | | PVC | 4 1/2" | 160 | |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE: CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 20 | ✓ | | | |
| 20 160 | | | 5/10 | Pea 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 Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS P.O. Box 1152 CITY Lower Lake STATE Ca ZIP 95457
Signed Larry Herman C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 3-21-07
C-57 LICENSE NUMBER 465071

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

OSP 03 70836

NOT FOR PUBLIC DISCLOSURE
CONFIDENTIAL
WATER CODE SECTION

ORIGINAL
File with DWR AUG 1 6 2014

Page 1 of 2

# STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. e0224356

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

Owner's Well No. WELL #1
Date Work Began 7/16/2014, Ended 7/21/2014
Local Permit Agency Lake County Environmental
Permit No. WE 4473 Permit Date 6/16/2014

## 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 5 | Brown clay |
| 5 24 | Brown clay and boulders |
| 24 82 | White volcanic rock |
| 82 110 | Clay and volcanic rock |
| 110 182 | Sandy clay embedded rock |
| 182 200 | Loose volcanic rock |
| 200 220 | Clay and volcanic rock |
| 220 230 | Loose volcanic rock |
| 230 255 | Clay and volcanic rock |
| 255 260 | Hard volcanic rock |

TOTAL DEPTH OF BORING 260 (Feet)
TOTAL DEPTH OF COMPLETED WELL 245 (Feet)

## WELL OWNER

CITY STATE ZIP

## WELL LOCATION

Address 10536 Highway 175
City Kelseyville CA
County Lake
APN Book 115 Page 009 Parcel 08 D
Township 11N Range 07W Section 12
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
DEPTH OF STATIC WATER LEVEL 34 (Ft.) & DATE MEASURED 7/21/2014
ESTIMATED YIELD 20+ (GPM) & TEST TYPE Air Developed
TEST LENGTH 1.5 (Hrs.) TOTAL DRAWDOWN 200 (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 20 | 11 | | | | | | | | |
| 20 60 | 8 | | | | | | | | |
| 60 260 | 7 7/8 | | | | | | | | |
| +2 80 | | ✓ | | | | PVC | 5 | SDR21 | |
| 80 100 | | | ✓ | | | PVC | 5 | SDR21 | .032 |
| 100 140 | | ✓ | | | | PVC | 5 | SDR21 | |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 3 | ✓ | | | CONCRETE |
| 3 23 | | ✓ | | |
| 23 245 | | | ✓ | #6 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
08/08/14 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. e0224356

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

Owner's Well No. WELL #1
Date Work Began 7/16/2014, Ended 7/21/2014
Local Permit Agency Lake County Environmental
Permit No. WE 4473 Permit Date 6/16/2014

## 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 5 | Brown clay |
| 5 24 | Brown clay and boulders |
| 24 82 | White volcanic rock |
| 82 110 | Clay and volcanic rock |
| 110 182 | Sandy clay embedded rock |
| 182 200 | Loose volcanic rock |
| 200 220 | Clay and volcanic rock |
| 220 230 | Loose volcanic rock |
| 230 255 | Clay and volcanic rock |
| 255 260 | Hard volcanic rock |

TOTAL DEPTH OF BORING 260 (Feet)
TOTAL DEPTH OF COMPLETED WELL 245 (Feet)

## WELL OWNER

CITY STATE ZIP

## WELL LOCATION

Address 10536 Highway 175
City Kelseyville CA
County Lake
APN Book 115 Page 009 Parcel 08
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 34 (Ft.) & DATE MEASURED 7/21/2014
ESTIMATED YIELD 20+ (GPM) & TEST TYPE Air Developed
TEST LENGTH 1.5 (Hrs.) TOTAL DRAWDOWN 200 (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) |
|---|---|---|---|---|---|---|---|---|---|
| 140 160 | | | ✓ | | | PVC | 5 | SDR21 | .032 |
| 160 180 | | ✓ | | | | PVC | 5 | SDR21 | |
| 180 200 | | | ✓ | | | PVC | 5 | SDR21 | .032 |
| 200 220 | | ✓ | | | | PVC | 5 | SDR21 | |
| 220 240 | | | ✓ | | | PVC | 5 | SDR21 | .032 |
| 240 245 | | ✓ | | | | PVC | 5 | SDR21 | |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 3 | ✓ | | | CONCRETE |
| 3 23 | | ✓ | | |
| 23 245 | | | ✓ | #6 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] 08/08/14 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

ORIGINAL
File with DWR

DEC 12 2014

Page 1 of 1

STATE OF CALIFORNIA

# WELL COMPLETION REPORT

*Refer to Instruction Pamphlet*

No. e0242689

DWR USE ONLY -- DO NOT FILL IN

STATE WELL NO./ STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Owner's Well No. WELL #1

Date Work Began 10/8/2014, Ended 10/10/2014

Local Permit Agency Lake County Environmental

Permit No. WE 4494 Permit Date 8/26/2014

## 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 14 | Red ash and boulders |
| 14 43 | Red ashy clay |
| 43 287 | Light gray pumice and gray volcanic rock |
| 287 377 | Dirty white pumice and gray volcanic rock |
| 377 440 | Gray and multi-colored volcanic rock |

TOTAL DEPTH OF BORING 440 (Feet)

TOTAL DEPTH OF COMPLETED WELL 435 (Feet)

## WELL OWNER

CITY STATE ZIP

## WELL LOCATION

Address 9612 Salmina Road

City Kelseyville CA

County Lake

APN Book 115 Page 003 Parcel 380

Township 12N Range 08W Section 18

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 340 (Ft.) BELOW SURFACE 1

DEPTH OF STATIC WATER LEVEL 320 (Ft.) & DATE MEASURED 10/10/2014

ESTIMATED YIELD * 75+ (GPM) & TEST TYPE Air Developed

TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN 420 (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 22 | 11 | | | | | | | | |
| 22 440 | 8 | | | | | | | | |
| +2 315 | | ✓ | | | | PVC | 5 | SDR21 | |
| 315 435 | | | ✓ | | | PVC | 5 | SDR21 | .032 |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE: CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 1 | ✓ | | | CONCRETE |
| 1 23 | | ✓ | | |
| 23 435 | | | ✓ | 3/8 Pea Gravel |

## 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 June Angelini WELL DRILLER/AUTHORIZED REPRESENTATIVE

11/25/14 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

DEC 17 2014

STATE OF CALIFORNIA
# WELL COMPLETION REPORT
*Refer to Instruction Pamphlet*

No. e0245591

Page 1 of 1

DWR USE ONLY — DO NOT FILL IN
12N/8W-10
STATE WELL NO./ STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. WELL #1

Date Work Began 10/10/2014, Ended 10/30/2014

Local Permit Agency Lake County Environmental

Permit No. WE-4464 Permit Date 4/8/2014

## 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 – 41 | Sandy red ash/clay |
| 41 – 63 | Red ash and lava rock |
| 63 – 93 | Extra loose red and black lava rock |
| 93 – 102 | Hard gray volcanic rock |
| 102 – 124 | Loose black and red lava rock |
| 124 – 138 | Gray and yellow volcanic rock |
| 138 – 188 | Loose gray and yellow volcanic rock |
| 188 – 256 | Hard gray volcanic rock |
| 256 – 262 | Loose fractured gray volcanic rock |
| 262 – 307 | Gray volcanic rock |
| 307 – 313 | Void |
| 313 – 396 | Gray volcanic rock |
| 396 – 540 | Fractured gray volcanic rock |
| | (Extra loose from 500' to 540') |

TOTAL DEPTH OF BORING 540 (Feet)

TOTAL DEPTH OF COMPLETED WELL 530 (Feet)

## WELL OWNER

CITY STATE ZIP

## WELL LOCATION

Address 9595 Seigler Springs Road

City Kelseyville CA

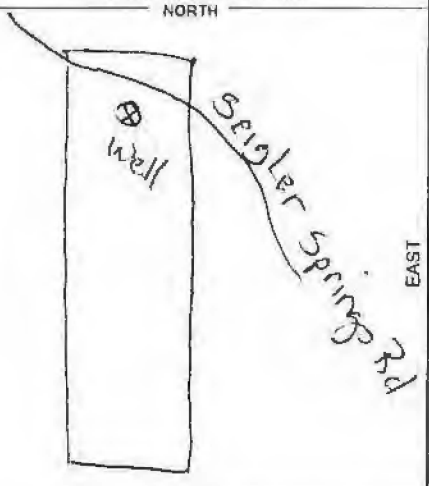
County Lake

APN Book 011 Page 069 Parcel 41 0

Township 12N Range 08W Section 10

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

## LOCATION SKETCH




*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

DEPTH OF STATIC WATER LEVEL 350 (Ft.) & DATE MEASURED 10/30/2014

ESTIMATED YIELD 50 (GPM) & TEST TYPE Air Developed

TEST LENGTH 3.75 (Hrs.) TOTAL DRAWDOWN 504 (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 – 22 | 11 | | | | | | | | |
| 22 – 540 | 8 | | | | | | | | |
| +3 – 430 | | ✓ | | | | PVC | 5 | SDR21 | |
| 430 – 530 | | | ✓ | | | PVC | 5 | SDR21 | .032 |
| | | | | | | | | | |
| | | | | | | | | | |

## ANNULAR MATERIAL

| DEPTH FROM SURFACE Ft. to Ft. | TYPE: CEMENT (✓) | BENTONITE (✓) | FILL (✓) | FILTER PACK (TYPE/SIZE) |
|---|---|---|---|---|
| 0 – 1 | ✓ | | | CONCRETE |
| 1 – 21 | | ✓ | | |
| 21 – 530 | | | ✓ | 3/8 Pea Gravel |
| | | | | |
| | | | | |
| | | | | |

## 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] 12/09/14 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

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a blank form.

File Original with DWR

# State of California
# Well Completion Report

Page 1 of 1

Owner's Well Number 1

Date Work Began 4-16-21 Date Work Ended 4/19/2021

Local Permit Agency Environmental Health

Permit Number WE-5515 Permit Date 1120/2021

DWR Use Only – Do Not Fill In

State Well Number/Site Number

Latitude Longitude

APN/TRS/Other

## Geologic Log

Orientation: ● Vertical ○ Horizontal ○ Angle Specify

Drilling Method Air Rotary Drilling Fluid N/A

| Depth from Surface Feet | to Feet | Description (Describe material, grain size, color, etc.) |
|---|---|---|
| 0 | 20 | Red Clay |
| 20 | 50 | Yellow Rock |
| 50 | 70 | Yellow ash w/ basalt boulders |
| 70 | 110 | Red clay, old surface |
| 110 | 140 | Black basalt |
| 140 | 220 | Red & Black Volcanics |

Total Depth of Boring 225 Feet

Total Depth of Completed Well 210 Feet

## Well Owner

Name Thomas and Regina DeWitt

Mailing Address 453 Ava Ave.

City Kenner State LA Zip 70065

## Well Location

Address 10925 Willow Springs Rd

City Lower Lake County LAKE

Latitude Deg. Min. Sec. N Longitude Deg. Min. Sec. W

Datum Decimal Lat. Decimal Long.

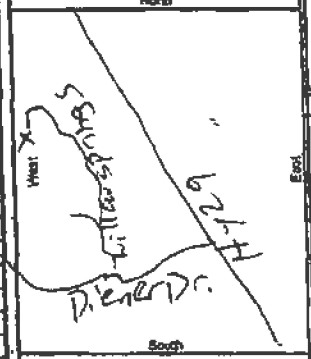
APN Book 001 Page 067 Parcel 49

Township Range Section

## Location Sketch

(Sketch must be drawn by hand after form is printed.)

North




## Activity

● New Well

○ Modification/Repair

○ Deepen

○ Other

○ Destroy

## Planned Uses

● Water Supply

☒ Domestic ☐ Public

☐ Irrigation ☐ Industrial

○ Cathodic Protection

○ Desalting

○ Heat Exchange

○ Injection

○ Monitoring

○ Remediation

○ Sparging

○ Test Well

○ Vapor Extraction

○ Other

## Water Level and Yield of Completed Well

Depth to first water 180' (Feet below surface)

Depth to Static Water Level 180' (Feet) Date Measured 4-19-21

Estimated Yield* 40 (GPM) Test Type Air Lift

Test Length 2 HRS (Hours) Total Drawdown (Feet)

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

## Casings

| Depth from Surface Feet | to Feet | Borehole Diameter (inches) | Type | Material | Wall Thickness (inches) | Outside Diameter (inches) | Perforation Type | Slot Size if Any (inches) |
|---|---|---|---|---|---|---|---|---|
| 0 | 40 | 9" | F480 | PVC | sch 40 | 5" | Blank | — |
| 40 | 170 | 7 1/4 | F480 | PVC | sch 40 | 5" | Blank | — |
| 170 | 210 | 7 1/4 | F480 | PVC | sch 40 | 5" | Perfs. | .052" |

## Annular Material

| Depth from Surface Feet | to Feet | Fill | Description |
|---|---|---|---|
| 0 | 1 | Concrete | SEAL |
| 1 | 21 | Bentonite | |
| 21 | 210 | Filter pack | Gravel Pack |

## Attachments

☐ Geologic Log

☐ Well Construction Diagram

☐ Geophysical Log(s)

☐ Soil/Water Chemical Analyses

☐ Other

Attach additional information, if more space is needed.

## Certification Statement

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

Name Williamson Well Drilling

Person, Firm or Corporation P.O. Box 495 Kelseyville CA 95451

Address City State Zip

Signed [signature] 4-19-21 100903-3

C-57 Licensed Water Well Contractor Date Signed C-57 License Number

DWR 188 REV 12/2008

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

# APPENDIX F

# WEEKLY GROUNDWATER DEMAND DATA (PROVIDED BY 1833 DS LLC)

**WEEKLY GROUNDWATER DEMAND DATA** **SHEET 1**
**PROVIDED BY 1833 DS LLC**

**HISTORICAL GROUNDWATER USE**
**DATA FROM 2024 GROWING SEASON**

| Week ID No. | Week Start Date | Full Term Canopy (AC) | Total Irrigation Use (gallons) | Dust Control (gallons) | Employees (gallons) |
|---|---|---|---|---|---|
| WEEK 1 | 1/1/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 2 | 1/8/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 3 | 1/15/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 4 | 1/22/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 5 | 1/29/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 6 | 2/5/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 7 | 2/12/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 8 | 2/19/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 9 | 2/26/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 10 | 3/4/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 11 | 3/11/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 12 | 3/18/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 13 | 3/25/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 14 | 4/1/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 15 | 4/8/2024 | 0.0 | 0 | 0 | 0 |
| WEEK 16 | 4/15/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 17 | 4/22/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 18 | 4/29/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 19 | 5/6/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 20 | 5/13/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 21 | 5/20/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 22 | 5/27/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 23 | 6/3/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 24 | 6/10/2024 | 0.0 | 0 | 2,000 | 1,575 |
| WEEK 25 | 6/17/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 26 | 6/24/2024 | 20.0 | 900,000 | 2,000 | 1,575 |
| WEEK 27 | 7/1/2024 | 20.0 | 900,000 | 2,000 | 1,575 |
| WEEK 28 | 7/8/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 29 | 7/15/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 30 | 7/22/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 31 | 7/29/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 32 | 8/5/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 33 | 8/12/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 34 | 8/19/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 35 | 8/26/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 36 | 9/2/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 37 | 9/9/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 38 | 9/16/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 39 | 9/23/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 40 | 9/30/2024 | 20.0 | 1,120,000 | 2,000 | 1,575 |
| WEEK 41 | 10/7/2024 | 20.0 | 900,000 | 2,000 | 1,575 |
| WEEK 42 | 10/14/2024 | 15.0 | 450,000 | 2,000 | 1,575 |
| WEEK 43 | 10/21/2024 | 10.0 | 250,000 | 2,000 | 1,575 |
| WEEK 44 | 10/28/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 45 | 11/4/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 46 | 11/11/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 47 | 11/18/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 48 | 11/25/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 49 | 12/2/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 50 | 12/9/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 51 | 12/16/2024 | 0.0 | 0 | 0 | 1,575 |
| WEEK 52 | 12/23/2024 | 0.0 | 0 | 0 | 1,575 |

| **HISTORICAL ANNUAL TOTAL** | |
|---|---|
| 19,178,275 | Gallons per year |
| **58.86** | **Acre-Feet per year** |

**WEEKLY GROUNDWATER DEMAND DATA** **SHEET 2**
**PROVIDED BY 1833 DS LLC**

**PROPOSED FUTURE GROUNDWATER USE**
**MULTIPLE GROWING SEASONS (LIGHT DEPRIVATION)**

| Week ID No. | Week Start Date | Light Dep Canopy Area (AC) | Light Dep Water Use (gallons) | Full Term Canopy (AC) | Full Term Water Use (gallons) | Nursery Area (AC) | Nursery Water Use (gallons) | Total Irrigation Use (gallons) | Dust Control (gallons) | Employees (gallons) |
|---|---|---|---|---|---|---|---|---|---|---|
| WEEK 1 | 1/1/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 2 | 1/8/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 3 | 1/15/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 4 | 1/22/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 5 | 1/29/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 6 | 2/5/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 7 | 2/12/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 8 | 2/19/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 9 | 2/26/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 2,000 | 2,100 |
| WEEK 10 | 3/5/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 5,000 | 255,000 | 2,000 | 2,100 |
| WEEK 11 | 3/12/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 5,000 | 255,000 | 2,000 | 2,100 |
| WEEK 12 | 3/19/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 5,000 | 255,000 | 2,000 | 2,100 |
| WEEK 13 | 3/26/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 10,000 | 260,000 | 2,000 | 2,100 |
| WEEK 14 | 4/2/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 10,000 | 260,000 | 2,000 | 2,100 |
| WEEK 15 | 4/9/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 10,000 | 260,000 | 2,000 | 2,100 |
| WEEK 16 | 4/16/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 10,000 | 260,000 | 2,000 | 2,100 |
| WEEK 17 | 4/23/2026 | 10.0 | 250,000 | 0.0 | 0 | 0.92 | 10,000 | 260,000 | 2,000 | 2,100 |
| WEEK 18 | 4/30/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 10,000 | 510,000 | 2,000 | 2,100 |
| WEEK 19 | 5/7/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 2,000 | 2,100 |
| WEEK 20 | 5/14/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 2,000 | 2,100 |
| WEEK 21 | 5/21/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 2,000 | 2,100 |
| WEEK 22 | 5/28/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 2,000 | 2,100 |
| WEEK 23 | 6/4/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 2,000 | 2,100 |
| WEEK 24 | 6/11/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 2,000 | 2,100 |
| WEEK 25 | 6/18/2026 | 10.0 | 500,000 | 0.0 | 0 | 0.92 | 25,000 | 525,000 | 3,000 | 2,100 |
| WEEK 26 | 6/25/2026 | 10.0 | 500,000 | 20.1 | 900,000 | 0.92 | 25,000 | 1,425,000 | 3,000 | 2,100 |
| WEEK 27 | 7/2/2026 | 10.0 | 500,000 | 20.1 | 1,120,000 | 0.92 | 25,000 | 1,645,000 | 3,000 | 2,100 |
| WEEK 28 | 7/9/2026 | 10.0 | 500,000 | 20.1 | 1,120,000 | 0.92 | 5,000 | 1,625,000 | 3,000 | 2,100 |
| WEEK 29 | 7/16/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 30 | 7/23/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 31 | 7/30/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 32 | 8/6/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 33 | 8/13/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 34 | 8/20/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 35 | 8/27/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 36 | 9/3/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 37 | 9/10/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 38 | 9/17/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 39 | 9/24/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 40 | 10/1/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 41 | 10/8/2026 | 0.0 | 0 | 30.1 | 1,690,600 | 0.92 | 5,000 | 1,695,600 | 3,000 | 2,100 |
| WEEK 42 | 10/15/2026 | 0.0 | 0 | 30.1 | 1,130,600 | 0.92 | 5,000 | 1,135,600 | 3,000 | 2,100 |
| WEEK 43 | 10/22/2026 | 0.0 | 0 | 20.1 | 565,000 | 0.92 | 5,000 | 570,000 | 2,000 | 2,100 |
| WEEK 44 | 10/29/2026 | 0.0 | 0 | 10.0 | 5,000 | 0.92 | 5,000 | 10,000 | 2,000 | 2,100 |
| WEEK 45 | 11/5/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 46 | 11/12/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 47 | 11/19/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 48 | 11/26/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 49 | 12/3/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 50 | 12/10/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 51 | 12/17/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |
| WEEK 52 | 12/24/2026 | 0.0 | 0 | 0.0 | 0 | 0.92 | 5,000 | 5,000 | 0 | 2,100 |

| **PROPOSED PROJECT ANNUAL TOTAL** | |
|---|---|
| 34,987,600 | Gallons per year |
| **107.37** | **Acre-Feet per year** |

# APPENDIX G

# DROUGHT MANAGEMENT PLAN

January 13, 2025

Mr. Samual Edwards
1833 DS LLC
10750 Seigler Springs Road North
Kelseyville, CA 95451

RE: DROUGHT MANAGEMENT PLAN
1833 DS LLC
KELSEYVILLE, CALIFORNIA 95451
***EBA Job No. 24-3575***

Dear Mr. Edwards,

This Drought Management Plan (DMP) has been prepared to outline the recommended best management practices to be implemented as water saving measures during drought conditions for the proposed project at the 1833 DS LLC site, located near Kelseyville, California, hereinafter referred to as the project site. This DMP has been prepared as an Appendix to supplement EBA Engineering's August 2024 *Water Availability Report* (EBA, 2025) and for submittal to the County of Lake to address requirements as outlined in the County of Lake's Urgency Ordinance No. 3106 (*An Urgency Ordinance Requiring Land Use Applicants to Provide Enhanced Water Analysis During a Declared Drought Emergency*, County of Lake, 2021).

## WATER SOURCES AND IRRIGATION

All project water demand will be supplied by the project site's irrigation wells: Well 1 and Well 2. Well 1, located on APN 115-004-070 at an elevation of 2,567 feet NAVD88, is primarily used for water supply to the cannabis farm, with a yield of 197 gallons per minute and a static groundwater level of 129 feet bgs per the Well Completion Report. Well 2, situated on APN 115-004-080 at 2,562 feet NAVD88, serves as the second water supply well, with a yield of 275 gallons per minute and a static groundwater level of 151 feet bgs per the Well Completion Report. Both wells have been tested to ensure adequate performance and recovery rates by Jim's Pumps from Upper Lake.

Irrigation will be provided from the water distribution system which will utilize the irrigation wells as a source and a 300,000-gallon aboveground water storage tank for storage. The cannabis irrigation distribution system will consist of highly efficient drip irrigation delivered to cannabis plants through a combination of PVC piping, black polyethylene tubing, and drip lines. The water storage tank will be equipped with a float valve to prevent overflow and runoff of irrigation water when full. Additionally, safety valves are equipped to supply lines in case the flow of irrigation water needs to be stopped in an emergency situation. A meter compliant with Title 23, Division 3, Chapter 2.7 of the California Code of Regulations is used to measure water produced from the irrigation wells to maintain water usage records. All records will be made available to all interested state and county departments upon request.

While the results of EBA's *Water Availability Analysis* (EBA, 2025) suggest that a positive water balance exists for project site-specific groundwater recharge during an assumed drought scenario (60 percent of average annual precipitation), best management practices have been developed to provide additional water saving measures during a declared drought emergency. These best management practices are described in the following subsection.

## BEST MANAGEMENT PRACTICES DURING A DECLARED DROUGHT EMERGENCY

During a declared drought emergency, EBA recommends implementation of the following:

- Incremental annual development of water storage volume to catch/store rainwater from the roofs of the cannabis processing building and other project buildings;
- Installation of low flow fixtures in all facilities;
- Use of growing mediums with enhanced water storage/retention capacity;
- Reduction in water applied per plant via reduced duration of water application and/or reduced volume of water emitted from irrigation emitters via flow constrictors; and
- If deemed necessary, a reduction in total water applied annually via a reduction in the total square footage of canopy planted/irrigated.

## CLOSING

EBA appreciates the opportunity to be of service to you on this project. If you should have any questions regarding the information contained herein, please do not hesitate to contact our office at (707) 544-0784.

Sincerely,

EBA ENGINEERING



Brian M. Wallace, PE, MS, MBA, QSD
Project Engineer

## REFERENCES


County of Lake, July 27, 2021. An Urgency Ordinance Requiring Land Use Applicants to Provide Enhanced Water Analysis During a Declared Drought Emergency.

EBA Engineering, Water Availability Analysis, 1833 DS LLC., Kelseyville, California. January, 2025.