



Hydrology Report to Determine Area of Influence for Cultivation Irrigation Wells

for

Ghost Dance LLC

Site Location:
APN: 014-140-12
21080 Loconomi Rd
Middletown, CA 95461

September 28, 2021

Prepared for:

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





INTRODUCTION

The purpose of this study is to determine the area of influence of an existing well that will be used for irrigating a proposed commercial cannabis cultivation site. The “Project” is currently proposing about 43,560 sq.ft. (1 acre) of commercial cannabis canopy area.

The parcels on which the project is located are owned by Ghost Dance LLC and managed by Alex Paul & Michael Colbruno.

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

The report comes as a result from the County of Lake urgency ordinance requiring land use applicants to provide enhanced water analysis during a declared drought emergency. Ordinance no. 3106.

STUDY LIMITATIONS

The yield of wells cannot be estimated with precision because of 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 Reports obtained from Lake County EHD and CA Dept. of Water Resources Database
- Well Yield Test and Drillers Reports
- Rainfall for a drought year is 20% of annual precipitation
- Aquifer is uniform throughout the wells area of influence



WELL

Well #1 is the well that will be used for irrigating the proposed cultivation project. A radius of influence was calculated for well #1, and all other wells that were located 1000 ft outside of well #1's radius of influence. See Well Area of Influence Map in Appendix B.1. Wells included in calculations are wells #2 - #6, excluding well #3 because of no data available. Since there was no data for well #3 an assumed 300 ft area of influence was applied. See the Surrounding Area Map in Appendix B.2 for the 1000 ft radius. Locations of other wells outside the 1000 ft radius are depicted with coordinates on the Surrounding Area Map in Appendix B.2. All wells were located using information gathered from the County of Lake Environmental Health Department, CA Department of Water Resources, and a site visit by Vanderwall Engineering on 9/16/2021. See well descriptions below.

WELL #1

- Southern vicinity of APN: 014-140-12.
- There is no well drillers report available for this well. Data for this well was provided by a well performance test. See Appendix A.
- Total drill depth of 54 feet below the top of casing.
- The capacity of the well is at least 5.67 gpm.
- Use: "Project Loco" Commercial Cannabis Irrigation

WELL #2

- Eastern vicinity of APN: 014-140-12.
- This well is located on a 50' easement and provides domestic use to the dwelling unit at address 21095 Loconomi rd. See Appendix A
- Total drill depth of 50 feet below the surface.
- The capacity of the well is at least 100 gpm.
- Use: Domestic for Dwelling Unit



WELL #3

- Eastern vicinity of APN: 014-140-12.
- There are no well drillers reports or well performance tests available by the state or county for this well. The well was located via Vanderwall Engineering site visit and JAK Drilling and Pump site visit. See Appendix A & B.
- Total drill depth is unknown.
- The capacity of the well is unknown.
- Use: Domestic for Dwelling unit.

WELL #4

- Southern vicinity of APN: 014-140-09.
- See Appendix A for well drillers report and Appendix B for well maps.
- Total drill depth of 45 feet below the surface.
- The capacity of the well is at least 30 gpm.
- Use: Domestic for Dwelling Unit

WELL #5

- Center vicinity of APN: 014-140-13.
- See Appendix A for well drillers report and Appendix B for well maps.
- Total drill depth of 105 feet below the surface.
- The capacity of the well is at least 100 gpm.
- Use: Unknown.

WELL #6

- Center vicinity of APN: 014-140-14.
- See Appendix A for well drillers report and Appendix B for well maps.
- Total drill depth of 100 feet below the surface.
- The capacity of the well is at least 75 gpm.
- Use: Unknown.

See Appendix A for Well Completion/Drillers Reports and JAK Drilling & Pump Well Production Report.



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 (m² / 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 = 86,400 sec
- S = 0.15

Therefore;

- $R_{(1)}$ => 53 m = 172 feet
- $R_{(2)}$ => 50 m = 165 feet
- $R_{(3)}$ => Unknown (A conservative 300 ft radius is assumed based on values for the other wells)
- $R_{(4)}$ => 40 m = 130 feet
- $R_{(5)}$ => 79 m = 261 feet
- $R_{(6)}$ => 77 m = 252 feet

Well #1's radius of influence does not intersect with the radius of influence of any other surrounding wells. See Well Area of Influence Map in Appendix B.1. An overlap of well radius of influence only occurs for wells #2, #3, and #4. Said wells do not affect the water being sourced from the proposed projects well (Well #1).



WELLS IN SURROUNDING AREA

Data from existing wells in the area were obtained through the County of Lake Environmental Health Department, CA Department of Water Resources, and a site visit by Vanderwall Engineering on 9/16/2021. The next closest well to the subject well is located on APN: 014-140-13 approximately 330 feet from Well #1's Radius of influence.

WATER USAGE

The proposed project has a total canopy area of 1 acre (43,560 sf) with one Processing Buildings for 2 employees during grow season and 4 employees during harvest season. These values were used for calculating the total water usage in gallons per year. See calculations below.

WATER USAGE FOR WELL #1

The total water usage of the canopy area is estimated by the square footage of the canopy multiplied by the ft/year needed for a single cannabis plant. The ft/yr is estimated to be similar to a tomato plant, which is 20in/year or 1.66 ft/year.

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

$$W_{\text{Irrigation}} = (1 \text{ acres}) * (43,560 \text{ sf/acres}) * (1.66 \text{ ft/year}) * (7.48 \text{ gal/cf})$$

$$W_{\text{Irrigation}} = 540,875 \text{ gal/year}$$

$$W_{\text{Processing Building (Harvest)}} = (4 \text{ employees}) * (15 \text{ gals/employee/day}) * (0.7 \text{ days/week used}) * (91 \text{ days/year}) = 3,822 \text{ gal/year}$$

$$W_{\text{Processing Building (Non-Harvest)}} = (2 \text{ employees}) * (15 \text{ gals/employee/day}) * (0.7 \text{ days/week used}) * (274 \text{ days/year}) = 5,754 \text{ gal/year}$$

$$W_{\text{Processing Building}} = 3,822 + 5,754 = 9,576 \text{ gal/year}$$

$$\begin{aligned} \text{Total Water Usage} &= W_{\text{Irrigation}} + W_{\text{Processing Building}} \\ &= 540,875 \text{ gal/year} + 9,576 \text{ gal/year} \\ &= 550,451 \text{ gal/year} \end{aligned}$$



AQUIFER RECHARGE

The proposed project has an estimated total annual water usage of 550,451 gallons per year.

The calculations of Aquifer Recharge are based on the tributary area to the radius of influence of Well #1. Per Well Recharge Area Map shown in Appendix B.3, the recharge area is 1,584,442 sf.

Given: Annual Precipitation, $P = 40$ inches per year, assume a drought year is 20% of the annual precipitation, yields 8" (0.66ft) of rainfall. (Note: Rainfall of 2021 was 9" per NOAA for Lake County)

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

$$V = (1,584,442 \text{ sf}) \times (0.66 \text{ ft/yr}) \times (7.48 \text{ gal/cf}) \times (0.7)$$

$$V = 5,475,451 \text{ gal/year}$$

$5,475,451 > 550,451$ therefore the well is adequate to handle the 1.0 acre of cultivation in a drought year.

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.

DISCLAIMER

Our calculations are based on data that has been made available to Vanderwall Engineering through state and county records as of 9/16/2021. All supporting data has been provided in this report. There is no way to guarantee future conditions. If new supporting data is provided, calculations would need to be redone to take into account for said data.



Appendix

A. Well Completion & Test Results

B. Maps

- B1. Well Area of Influence Map
- B2. Surrounding Aerial Map
- B3. Well Recharge Area

Appendix

A



WELL #1

WELL PERFORMANCE TEST REPORT

Client Name: Alex Paul
Property Location: 21080 Loconomi Road, Middletown, CA
Parcel Number: 014-140-12
Number of Wells Evaluated: One (Well #2) #1
Well Performance Test Completion Date: June 4, 2021
Water Samples Collected: No
Pump Technician: K. Feola

Location Description: 38.750500, -122.573605
Total Depth: 54-feet below top of casing*
Depth to Static Water Level: 19.5-feet below the top of casing
Diameter of well: 5.5-inches
Casing type: PVC
Test Duration: 6-hours
Test Type: Pump
Pumping Rate: 5.67-Gallons Per Minute (GPM)

Observations: The well is located near the edge of property in the field southeast of the house (see attached Parcel Boundary and Well Location Maps). There is an existing submersible well pump installed in the well of unknown specifications. It is assumed the submersible pump system is a 1-horse, 10-GPM set.

Well Performance Pump Test:

The six-hour pump test was conducted on June 4, 2021 using the existing submersible pump set in accordance with industry standards. The static water level within the well was measured prior to the start of the test. Once the performance test began, the depth-to-water or pumping level was measured manually with a Powers Water Meter in the well every five minutes during the first half hour of the test and then every 10-minutes for the next hour of the test. The measurement interval was then increased to every 30-minutes for the remainder of the six-hour test. The pumping rate was measured by timing the flow through a temporarily installed totalizing flow meter connected to the discharge pipe directed away from the well location. The pumping rate was measured at the same intervals as the pumping level. Both the depth-to-water/pumping level and pumping rate measurements are summarized in the attached table.

The static water level was measured at 19.5-feet below the top of casing at the start of the performance test. The pumping level quickly stabilized at 47-feet below the top of casing where it remained for the duration of the test. The pumping rate, measured by timing the flow through the totalizing flow meter, measured at 15.5-GPM after the first 5-minutes of the test and then decreased to 6-GPM for the next hour before decreasing again to 5.5-GPM. The pumping rate remained at 5.5-GPM for the duration of the test.



After six hours of pumping, the well produced 2,040-gallons of water which averages out to a pumping rate of 5.67-GPM. At the end of the test the well pump was shut off and the well was then allowed to rest and recharge. The depth-to-water was measured in the well after 10-minutes at 37.5-feet and then again in the well after 30-minutes at 22.00-feet below the top of casing, resulting in a recharge rate of 90% after resting 40-minutes. Assuming all other variables are constant, at 5.67-GPM the well would be capable of producing 2,978,400-gallons annually.

Water Quality: During the course of the performance test, JAK collected a water sample for the purpose of a field quality test with the following results:

Parameter	Concentration	Discussion
Hardness	19-Grains per gallon	VERY HARD, a softener is recommended when the hardness is greater than 7-gpg
Iron (ferrous)	0.2-part per million	EPA suggests a concentration of less than 0.3ppm for public drinking water system, higher concentrations can cause rust staining over time
pH	8.00	A pH of 7.0 is considered neutral
Total Dissolved Solids	177-part per trillion	Less than 500-ppm is acceptable, the higher the concentration the harder the water typically

Disclaimer:

Observations made of the well(s) are strictly limited to the date and time that the test(s) was conducted and are in no way a guarantee of future conditions, including but not limited to the quantity and/or quality of the water produced by this well. Please feel free to contact our office if there are any questions regarding the well test and/or well test report.

Sincerely,

Jessica Moreno
JAK Drilling & Pump

Attachments:

Parcel Boundary Map

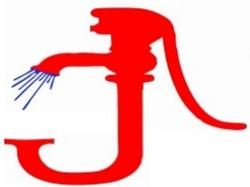
Well Location Map

Table 1: Well Performance Test Data



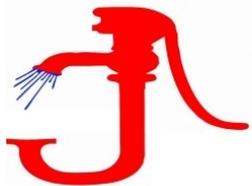
014-140-12

Loconomi Rd



PARCEL BOUNDARY MAP
21080 Loconomi Road
Middleton, CA





WELL LOCATION MAP
21080 Loconomi Road
Middletown, CA





TABLE 1
WELL PERFORMANCE TEST DATA
21080 Loconomi Road, Middletown, CA
June 4, 2021

Time	Gallons Per Minute	Depth to Water In Feet Below Top of Casing
7:15	Static	19.50
7:20	15.50	28.00
7:25	6.00	47.00
7:30	6.00	47.00
7:35	6.00	47.00
7:40	6.00	47.00
7:45	6.00	47.00
7:55	6.00	47.00
8:05	6.00	47.00
8:15	6.00	47.00
8:25	6.00	47.00
8:35	6.00	47.00
8:45	6.00	47.00
9:15	5.50	47.00
9:45	5.50	47.00
10:15	5.50	47.00
10:45	5.50	47.00
11:15	5.50	47.00
11:45	5.50	47.00
12:15	5.50	47.00
12:45	5.50	47.00
13:15	5.50	47.00
13:25	RECHARGE	37.50
14:05	RECHARGE	22.00

NOTES:

Flow rate measured by timing flow through totalizing flow meter.

<u>Meter Start</u>	<u>Meter End</u>	<u>Total Volume Produced</u>
252150	254190	2,040-gallons

Average Pumping Rate = 2040 gallons/360 Minutes = 5.67-GPM

Recharge Rate = $((47.0-22.0) \div (47.0-19.5)) \times 100 = 90.91\%$

LAKEPORT OFFICE
922 BEVINS COURT
LAKEPORT, CA 95453
(707) 263-2222

SOUTH SHORE OFFICE

(707) 994-2257

LAKE COUNTY PUBLIC HEALTH DEPARTMENT
DIVISION OF ENVIRONMENTAL HEALTH

WELL #2

JOB LOCATION ADDRESS: 21095 LOCONOMI RD

ASSESSOR'S PARCEL #: 014-140-12 Parcel Size: 2 18 ACRES

Property Owner: Eugene Witzel Phone No.: _____

Mailing Address: PO Box 894 Middletown

WELL DRILLER: LARRY HERMAN DRILLING

Mailing Address: 13011 Hwy 29 LOWER LAKE, CA

Telephone #: 994-4914 CA C-57 License #: 465071

TYPE OF WORK: New Well Reconstruction Destruction Test Well
 Other: _____

PROPOSED USE: Domestic Public Monitoring Agriculture
 Industrial Test Well Other: _____

CONSTRUCTION: Cable Tool Mud Rotary Air Rotary Other _____

Casing Type & Standard PVC F480 Wall Thickness 160 Diameter 4 1/2

Proposed Depth of Seal 20' Bore Hole Diameter 9"

Variance _____

Seal Material: Concrete Sand-cement grout Bentonite Clay
 Neat Cement Other _____

Is location of proposed well subject to flooding? No Yes

Describe known flooding conditions: _____

WELL DRILLER'S SIGNATURE: Larry Herman Date: 5-12-00

* * * * * PLEASE COMPLETE THE ATTACHMENTS * * * * *

THIS PERMIT IS VALID FOR ONE YEAR FROM DATE OF ISSUANCE
FIELD CONDITIONS MAY WARRANT CHANGES OF THIS PERMIT

* * * * * PLEASE DO NOT WRITE BELOW THIS LINE * * * * *

Date Received: 5/12/2000 Fee Paid: \$160.00 Receipt No.: 737605

100 Year Flood Plain? No Yes Zone: C Elevation: _____

Minimum Casing Height: 1' feet above ground surface

Date Issued: 6-6-2000 Issued By: J. P. M. H.

Seal Scheduled for: _____ at _____ a.m./p.m. Requested by: _____

Seal Cancelled on: _____ at _____ a.m./p.m. Requested by: _____

Seal Scheduled for: _____ at _____ a.m./p.m. Requested by: _____

Site #1 Seal Depth: 5 -- 23 Ft. 28ft Total feet below ground surface

Site #2 Seal Depth: _____ -- _____ Ft. _____ Total feet below ground surface

Annular Seal Verified by: J. P. M. H. 6-6-2000

Destruction Verified by: _____

Well Log Received on: 9-24-04

FINAL APPROVAL BY: Julie P. M. H. Date: 09/15/04

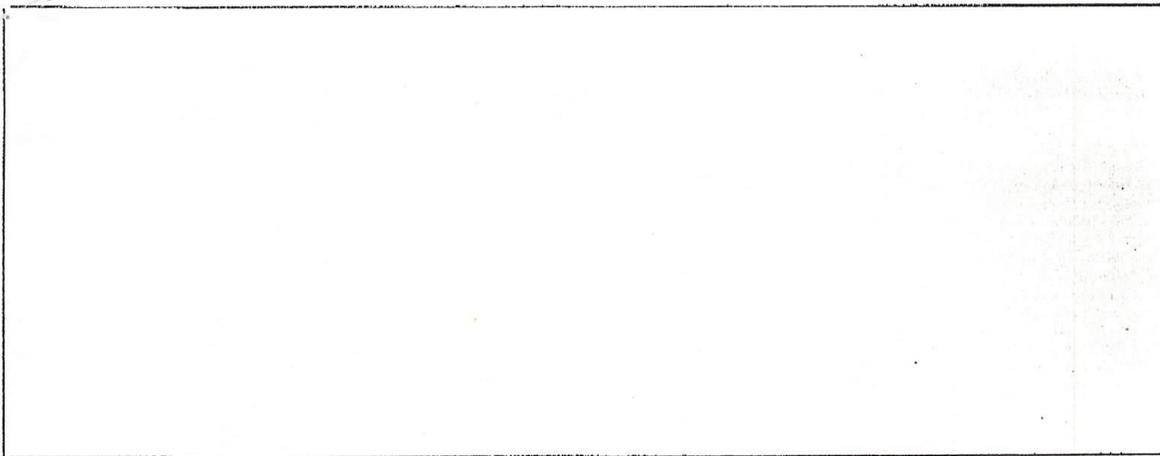
WELL PERMIT NO.: WE1880

EH/WELL/8-92

21-25815

LOCATION MAP

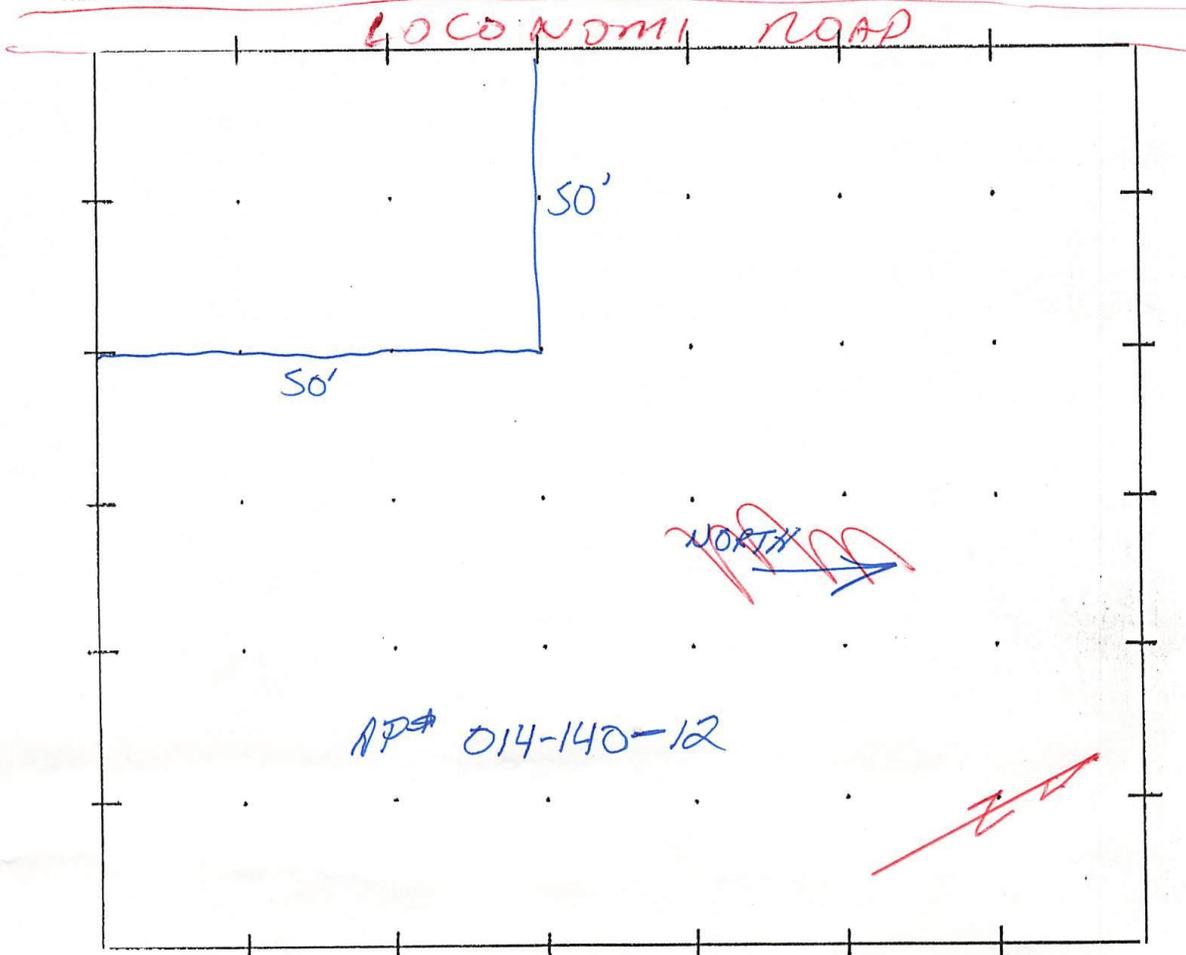
DIRECTIONS (Include mile post markers, landmarks, nearest cross street, etc.):



DRAW TO SCALE ANY OF THE FOLLOWING WITHIN 200 FEET OF THE WELL

- | | |
|---|--|
| 1. Well/wells existing and proposed | 5. Any facilities or piping designed to carry or hold sewage |
| 2. Property lines, if over 200 feet | 6. Any storage or mixing area which involves Hazardous Materials |
| 3. Easements or roads | 7. Any structures |
| 4. All existing and proposed sewage disposal systems within 100 feet, adjacent parcels included | |

None of the items above are within 200 feet of the well



DRAWN TO THE SCALE OF 1"=25'

10N/06W-06M

ORIGINAL
File with DWR

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

Do not fill in
No. 177964

State Well No. _____
Other Well No. _____

ent No. _____
No. or Date _____

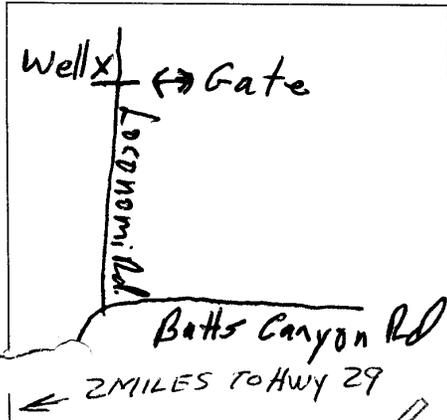
WELL #4

(12) WELL LOG: Total depth 45 ft. Depth of completed well 45 ft.
from ft. to ft. Formation (Describe by color, character, size or material)

0 - 25 Clay
25 - 27 Sand
27 - 38 Gravel
38 - 42 Clay
42 - 45 Gravel

(2) LOCATION OF WELL (See instructions):

County Lake Owner's Well Number _____
Well address if different from above AP# 014-140-09
Township _____ Range _____ Section _____
Distance from cities, roads, railroads, fences, etc. Loconomi Rd
Middletown



(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 Natural
Diameter of bore 10 7/8" 6 1/8"
Packed from 20 to 45 ft.

(7) CASING INSTALLED:

From ft.	To ft.	Dia. in.	Gage or Wall
<u>0</u>	<u>35</u>	<u>10 7/8</u>	<u>1188</u>
<u>35</u>	<u>45</u>	<u>5"</u>	<u>160</u>

(8) PERFORATIONS:

From ft.	To ft.	Slot size
<u>35</u>	<u>45</u>	<u>1/8</u>

(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 30 ft.
Standing level after well completion 15 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 30 gal/min after 2 hours Water temperature _____
Ch analysis made? Yes No If yes, by whom? _____
Was electric log made? Yes No If yes, attach copy to this report

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
SIGNED Larry Herman (Well Driller)
NAME Larry Herman Drilling
Address 11321 Hwy 29
City Lower Lake Zip 95457
License No. 468071 Date of this report 1-13-86

FEB 05 1987

RECEIVED

JUL 10 1992

STATE OF CALIFORNIA
THE RESOURCES AGENCY

WELL #5

Do not fill in

ORIGINAL
File with DWR

D. W. R. WATER WELL DRILLERS REPORT

No. 324252

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

AP 014-140-13

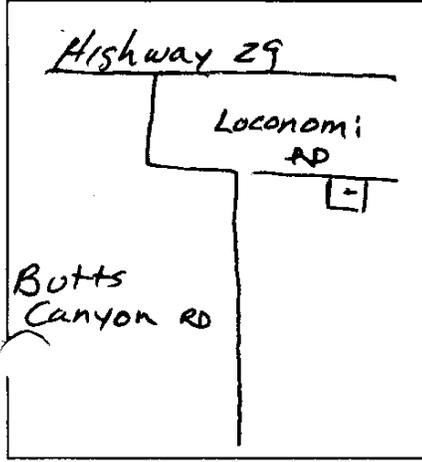
State Well No. 102/07W-1M
Other Well No. _____

(2) LOCATION OF WELL (See instructions):

County Lake Owner's Well Number 696
Well adjacent to different from above same
Township 70W Range 70W Section 10M
Distance from cities, roads, railroads, fences, etc. 2 miles
East of Middletown Ca of Butte
Canyon RD

(12) WELL LOG: Total depth 105 ft. Completed depth 105 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	8	TOP SOIL BLACK
8	25	Clay Tan
25	38	GRAVEL
38	65	Clay Tan
65	75	GRAVEL
75	105	Clay Rock MIX



- (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 20
 - Diameter of bore _____
 - Packed from 105 to _____

- (7) CASING INSTALLED:
- Steel Plastic Concrete

- (8) PERFORATIONS:
- | From ft. | To ft. | Dia. in. | Gage or Wall | From ft. | To ft. | Slot size |
|----------|--------|----------|--------------|----------|--------|-----------|
| 0 | 105 | 8 | 14 | 100 | 50 | 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 Concrete

AUG 14 1992

Work started 6-3 1992 Completed 6-9 1992

- (10) WATER LEVELS:
- Depth of first water, if known 25' ft.
 - Standing level after well completion 22' ft.

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.

- (11) WELL TESTS:
- Was well test made? Yes No If yes, by whom? Drilled
 - of test Pump Bailer Air lift
 - to water at start of test 22 ft. At end of test _____ ft.
 - Discharge 100 gal/min after 3 hours Water temperature Cool
 - Chemical analysis made? Yes No If yes, by whom? _____
 - Was electric log made Yes No If yes, attach copy to this report

Signed Steve W. ... (Well Driller)

NAME CME

Address PO Box 191

City Coke Ca ZIP 95426

License No. 4231401 Date of this report 6-9-92

10N/06W-06M
 10N/07W-01M
 Do not fill in
 No. 236886

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

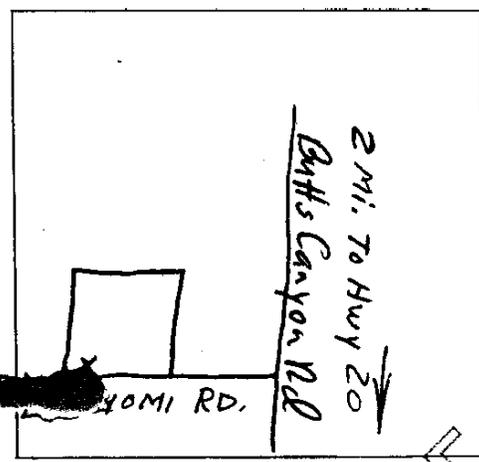
ORIGINAL
 with DWR WELL #6

State Well No. _____
 Other Well No. _____

Permit 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 AP# 014-140-14-01
 Township 10N Range 6W Section 6
 Distance from cities, roads, railroads, fences, etc.
2132 LAKE RD.

(12) WELL LOG: Total depth _____ ft. Depth of completed well _____ ft.
 from ft. to ft. Formation (Describe by color, character, size or material)
0 - 5 Top Soil
5 - 25 Sandy Clay
25 - 40 Gravel
40 - 90 Gravel Embedded
in Clay
90 - 100 Gravel



(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 _____
 Diameter of bore 10 1/2
 Packed from 20 to 100

(7) CASING INSTALLED:

From ft.	To ft.	Dia. in.	Gauge or Wall
0	100	6	160

(8) PERFORATIONS:

From ft.	To ft.	Slot size
30	100	98

(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 35 ft.
 Standing level after well completion 7 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 7 ft. At end of test 85 ft.
 Discharge 75 gal/min after 2 hours Water temperature _____
 Analysis made? Yes No If yes, by whom? _____
 Was electric log made? Yes No If yes, attach copy to this report

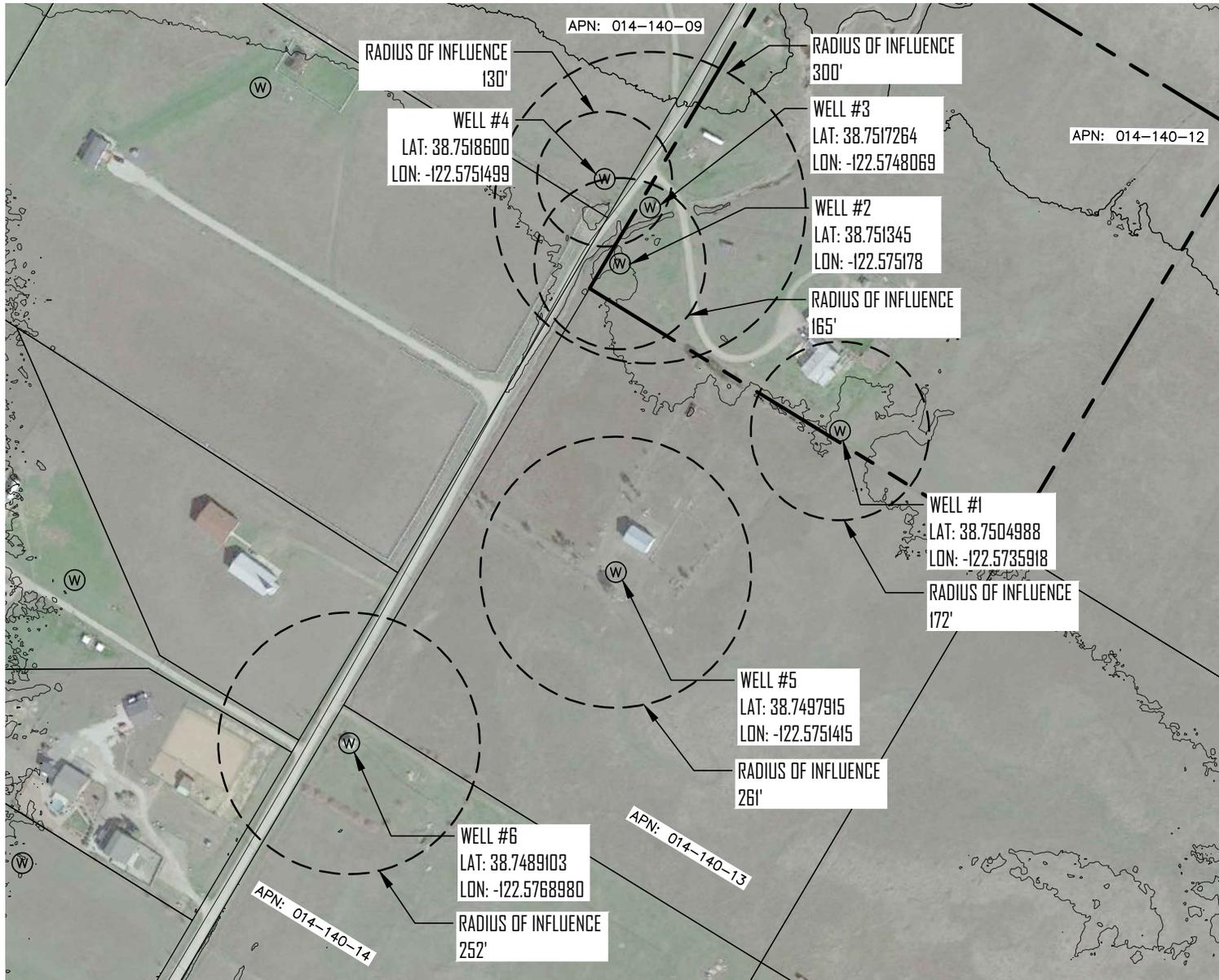
Work started 8-26 1983 Completed 8-28 1983
 WELL DRILLER'S STATEMENT: 01562
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
 SIGNED Larry Herman
 (Well Driller)
 NAME Larry Herman Drilling
 (Person, firm, or corporation) (Typed or printed)
 Address 11321 Hwy 29
 City Lower Lake Zip 95457
 License No. 304138 Date of this report 9-6-83

Appendix

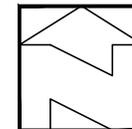
B

Well Area of Influence Map

APPENDIX B.1



5' MINOR AND 25' MAJOR CONTOUR INTERVAL



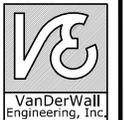
SUBMITTED TO:

LAKE COUNTY COMMUNITY
DEVELOPMENT DEPT.
COUNTY OF LAKE
LAKEPORT, CA

PO BOX 431
KELSEYVILLE, CA 95451
707-279-4887

VanderWall
Engineering, Inc.

WELL AREA OF INFLUENCE MAP
APN: 014-140-12
21080 LOCONOMI RD
MIDDLETOWN, CALIFORNIA



VERIFY SCALE

BAR IS ONE INCH ON
ORIGINAL DRAWING.
0 1/2"

DATE SEPT 2021

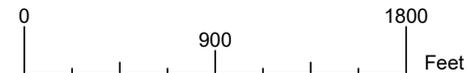
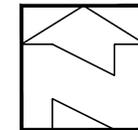
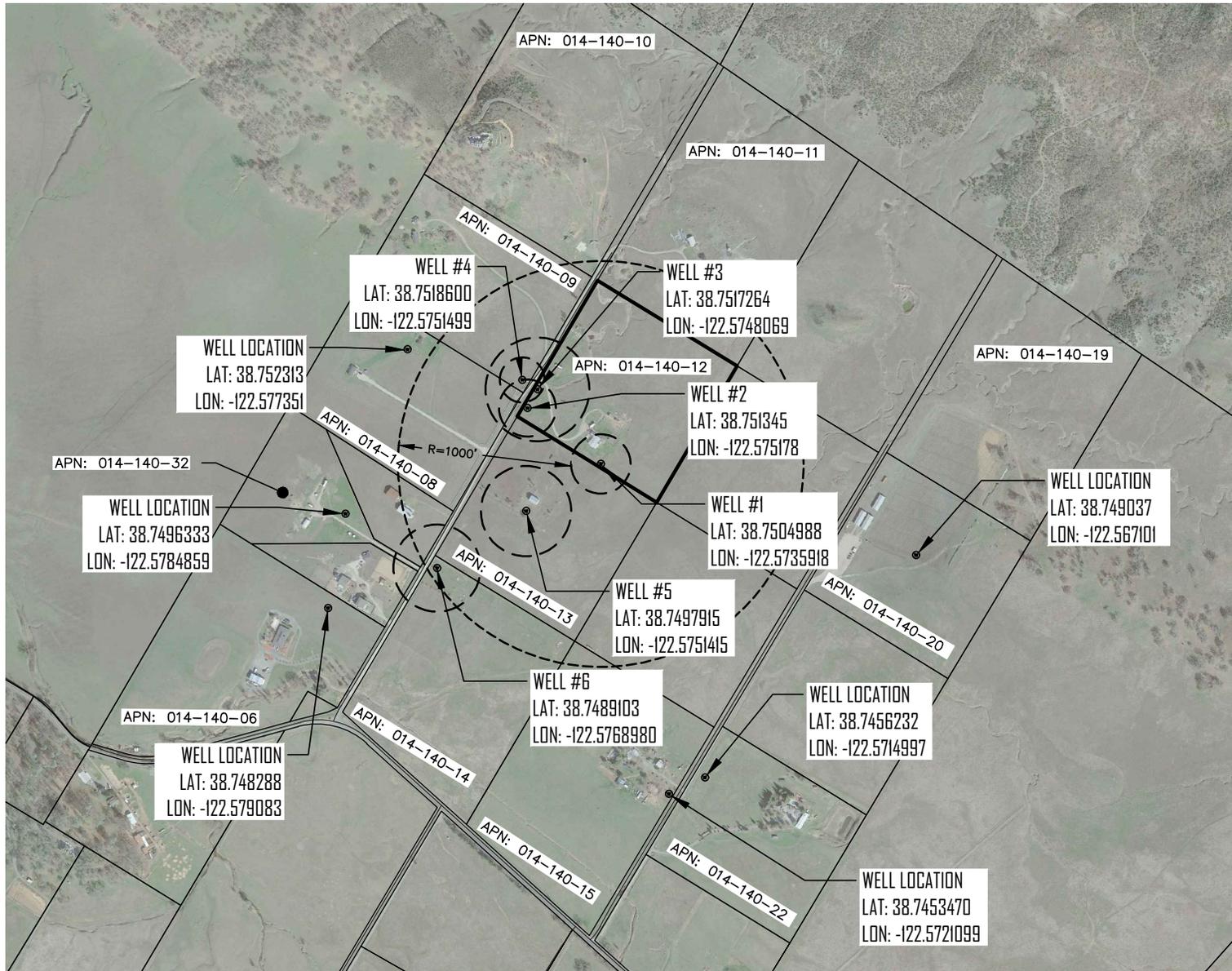
PROJ 21-54

DWG

APPENDIX B.1

Surrounding Area Map

APPENDIX B.2



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COUNTY OF LAKE
LAKEPORT, CA

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VanDerWall
Engineering, Inc.

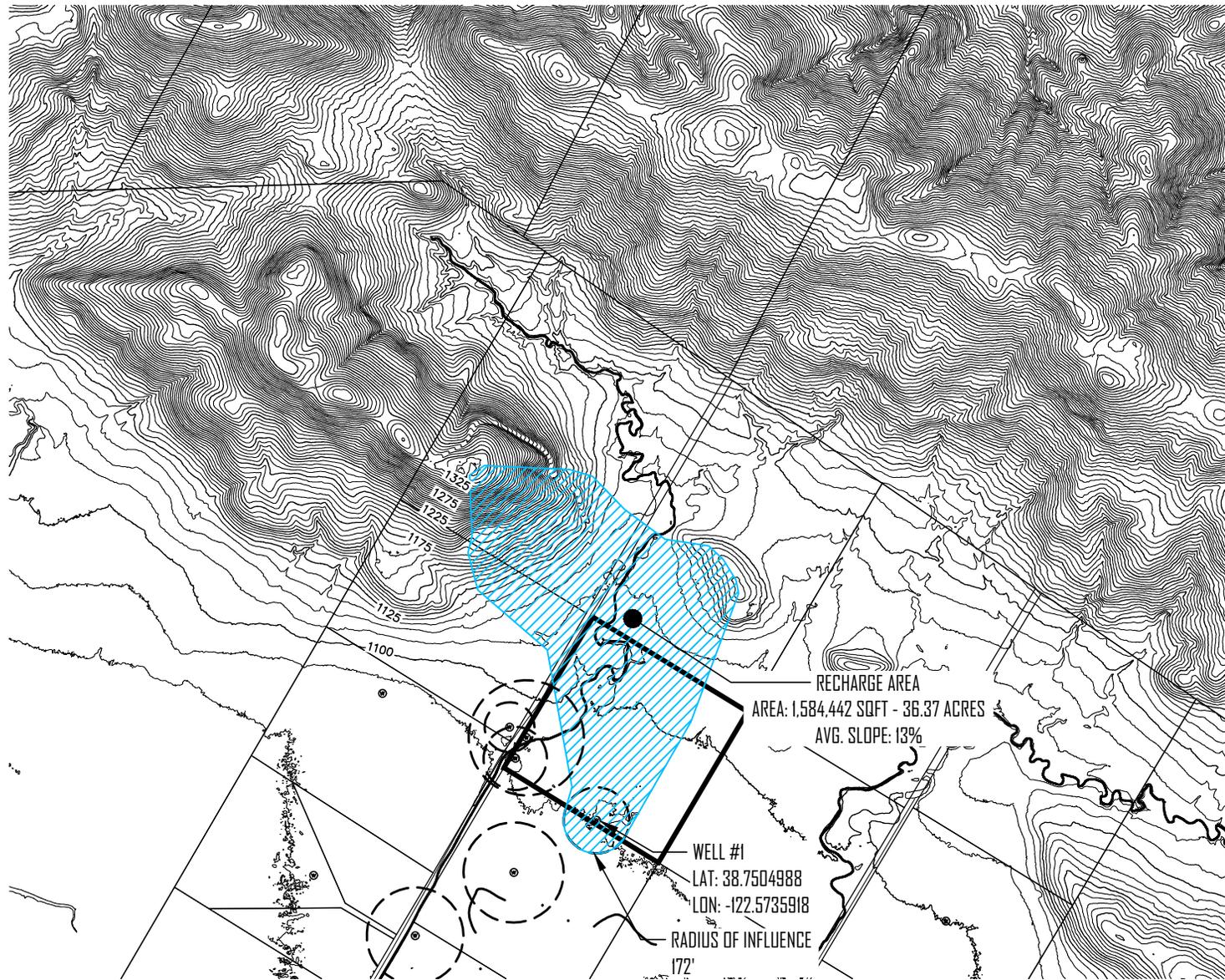
SURROUNDING AREA MAP
APN: 014-140-12
21080 LOCONOMI RD
MIDDLETOWN, CALIFORNIA



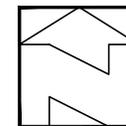
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	SEPT 2021
PROJ	21-54
DWG	
APPENDIX	B.2

Well Recharge Area Map

APPENDIX B.3



5' MINOR AND 25' MAJOR CONTOUR INTERVAL



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 LAKE COUNTY COMMUNITY
 DEVELOPMENT DEPT.
 COUNTY OF LAKE
 LAKEPORT, CA

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 KESEVILLE, CA 96451
 707-279-4887

VanDerWall
 Engineering, Inc.

WELL RECHARGE AREA MAP
 APN: 014-140-12
 21080 LOCONOMI RD
 MIDDLETOWN, CALIFORNIA



VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	SEPT 2021
PROJ	21-54
DWG	
APPENDIX	B.3