

Revised Water Availability Analysis



WATER AVAILABILITY ANALYSIS FOR THE BENJAMIN RANCH WINERY 8895 CONN CREEK ROAD, NAPA COUNTY, CA APN 030-120-016

As required by Napa County Planning, Building & Environmental Services (PBES), this study outlines availability of groundwater for a potential winery located at 8895 Conn Creek Road, Napa County, CA.

PROJECT DESCRIPTION

The project proposes the installation of a Visitors Center, commercial kitchen, and full crush winery on a 54.64± acre parcel with the intent of the facility having the capability of producing 475,000 gallons of wine per year. The parcel is currently developed with a vineyard manager's office, 47.5± acres of vineyard, miscellaneous structures associated with vineyard operations and access roads. The project also proposes a Lot Line Adjustment increasing the parcel size to 63.97± acres. Refer to the attached Use Permit drawings for the existing and proposed development.

Along with the proposed wine production at the site, the project proposes a moderate staffing and marketing plan which includes the following for the proposed winery: 30 year around full-time employees, 5 seasonal dayshift (harvest) employees and 5 seasonal swing shift (harvest) employees and the following for the proposed Visitors Center: 15 year around full-time employees and 5 part-time employees. 1 additional year around full-time employee is added to account for the onsite Vineyard Manager. The project proposes to offer private tours and tastings for a maximum number of 150 guests per day Monday through Wednesday and 300 guests per day Thursday through Sunday. The project also proposed to offer Large Events for a maximum of 150 guests that may occur Monday through Sunday up to an annual maximum of 8 events – no more than 2 large events may occur in a given month – no more than 1 large event may occur on any given day. The winery may also hold an event related to the Auction Napa Valley. In no case shall the daily combined tours and tastings and marketing event visitation exceed 300 guests. All marketing events will serve food provided by an offsite caterer.

EXHIBITS

The associated USGS "Topographic Site Location Map" shows the project site, the locations of the existing "Project well", the "Replacement Project well", as well as the approximate property line locations. Information regarding the location of existing wells and structures are shown on the associated Use Permit Drawings prepared by Bartelt Engineering.

GROUNDWATER OVERVIEW

According to the Napa County Watershed Information & Conservation Council (WICC), the parcel is primarily located in the St. Helena Groundwater Subarea of Napa County. The Napa County Groundwater Monitoring Program tested wells in this area in 2014 and 2015. The observed groundwater depth in these wells ranged from 44 feet to 240 feet below ground surface. Ground elevations range from 90 feet to 150 feet, mean sea level.



The groundwater availability in this subarea is reported to be stable and as the well for this project is on the valley floor, a recharge analysis will not be conducted at this time.

Water Use Criteria

TABLE 1: SCREENING CRITERIA	
Parcel Zoning	Agricultural Preserve (AP)
Project Parcel Location	Napa Valley Floor
Parcel Size (Existing)	54.64± acres
Parcel Size (Proposed)	63.97± acres
Water Use Criteria	1 acre-feet per acre per year
Well and Spring Interference	None Anticipated
Groundwater/Surface Water Interaction	No
Screening Tier	Tier 1

The subject parcel is located within the Agricultural Preserve (AP) Zoning District subwatershed area of the Mouth of Napa River watershed. Per the PBES Water Availability Analysis (WAA)-Guidance Document dated May 12, 2015 the water use criteria for a parcel located in the Napa Valley Floor and not designated as a groundwater deficient area without any well or spring interference must follow Tier 1 requirements.

WATER DEMAND

The total water demand for the existing and proposed uses for the project is calculated below based on the Guidelines for Estimating Residential and Non-residential Water Use from the WAA Guidance Document (2015):

TABLE 2A: EXISTING WATER DEMAND						
Description	Estimated Water Usage (acre-feet/year)					
Vineyard Manager's Office	0.01					
Vineyard (47.5± acres)						
Irrigation	14.25					
Heat and Frost Protection	23.75					
Total Existing Water Demand =	38.01					



TABLE 2B: PROPOSED WATER DEMAND	
Description	Estimated Water Usage (acre-feet/year)
Winery (475,000 gallons per year)	
Process Water	10.21
Employees	0.55
Landscaping Water ¹	1.32
Visitors Center	
Employees and Kitchen	0.55
Landscaping Water ¹	0.85
Vineyard Manager's Office	0.01
Vineyard (45.7± acres)	
Irrigation	13.71
Heat and Frost Protection	22.85
Tours and Tastings	0.13
(150 guests per day; M, T, W)	0.13
Tours and Tastings	0.34
(300 guests per day; Th, F, Sa, Su)	0.54
Large Events plus Auction Napa Valley	0.02
(9 events per year; 150 guests per event and 10 event staff)	
Subtotal =	50.54
Vineyard Irrigation Credit for Treated Wastewater Reuse	-8.75
Total Proposed Water Demand =	41.79

As shown in Table 2A and Table 2B, the water demand is estimated to increase from 38.01 to 50.54 acre feet per year as part of the proposed improvements. Treated winery process wastewater is proposed to be beneficially reused as a source for vineyard irrigation. Reusing treated process wastewater for vineyard irrigation will reduce the proposed water demand by 8.75 acre-feet/year to 41.79 acre feet per year. Refer to the Onsite Wastewater Dispersal Feasibility Study prepared by Bartelt Engineering for further information regarding the proposed reuse of treated winery process wastewater for vineyard irrigation.

ALLOWABLE WATER ALLOTMENT²

The following calculation is based on the fact that the entire parcel lies in an area designated as "Valley Floor".

1.0 acre-feet/acre of water is allotted for parcels located on the Valley Floor.

¹ Landscape irrigation estimates provided by CBH Design, Inc.

² Calculation based on the Napa County Policy for water usage.



EXISTING PARCEL CONFIGURATION

Allowable water allotment = $54.64 \pm acres \times 1.0 \text{ acre-feet/year} = 54.64 \pm acre-feet/year$

PROPOSED PARCEL "1" CONFIGURATION

Allowable water allotment = $63.97 \pm$ acres x 1.0 acre-feet/year = $63.97 \pm$ acre-feet/year

The above analysis shows that the projected water usage will be more than the current water usage and less than the allowable water allotment for the subject parcel.

SOURCE WATER INFORMATION

The parcel currently sources water from a number of existing onsite wells. The "Project well" is located northwest of the proposed winery facility in the proximity of the existing irrigation wells. The project proposes to use the "Project well" as the water source for the proposed project which must be capable of meeting the water demand shown in Table 2B. If it is determined that a new well will need to be drilled for the project, the "Replacement Project well" would be located southwest of the proposed winery facility.

According to the Property Owner, the wells serving this parcel are capable of producing flow rates in excess of 100 gallons per minute (gpm). Well water will be used to satisfy irrigation, domestic, production, and fire protection requirements. Groundwater will be pumped from the "Project well" or "Replacement Project well" into onsite storage tanks for use.

Prior to use, domestic water is proposed to be stored in a 40,000± gallon storage tank. Treated Process Wastewater used for irrigation is proposed to be stored in a 126,000 gallon storage tank and fire protection water is also proposed to be stored in a separate 126,000 gallon storage tank.

Well Description

At the time this study was prepared, it was not determined if any of the existing on-site wells were constructed with a minimum 50-foot seal. It will be necessary to verify the construction of the "Project well" prior to construction of the proposed winery and Visitors Center. If the existing "Project well" was not constructed with a 50-foot minimum annular seal, it will most likely be necessary to drill a "Replacement Project well" to comply with the annular seal depth requirement and satisfy domestic and production demands. If the construction of a new "Replacement Project well" is required, the proposed project will use the existing well(s) to pump groundwater to proposed onsite vineyard irrigation pond, irrigation tank(s) and fire protection storage tank and the new constructed well will be used to pump groundwater to proposed domestic storage tank(s).

Under proposed conditions, groundwater will be pumped from the "Project well" or "Replacement Project well" into onsite storage tanks and then supplied to the Visitors Center and production facility. The tank(s) will allow stored water to be distributed as appropriate.



Yield Test

Yield tests were performed on 2 of the existing wells that are believed to have been constructed with the required 50-foot minimum seal at the time of drilling. Prior to the start of the yield test, static water level was recorded at 40 feet below surface. A sustained yield of over 100 gallons per minute (gpm) was recorded after 6 and 4 hours of continuous pumping.

Water System Classification

A Non-Transient – Non-Community Water System (NTNCWS) is identified as a water system that has less than 5 connections, serves less than 25 yearlong residents³, serves 25 people per day at least 60 days per year and serves 25 or more of the same people at least 6 months out of the year. The 10 seasonal employees are not considered yearlong residents. Although the proposed project serves less than 5 connections and serves less than 25 yearlong residents; it does serve 25 or more of the same people per day at least 60 days per year and a commercial kitchen is proposed. Therefore, under PBES guidelines, the Benjamin Ranch Winery may be required to operate and maintain a regulated non-transient-non-community water system (NTNCWS) as a result of the proposed Use Permit Application. Refer to the Technical, Managerial and Financial (TMF) Capacity Worksheet included with the Use Permit Application for further information.

Neighboring Water Source(s)

Based on review of neighboring property records at Napa County PBES and discussions with PBES staff, there appears to be 1 adjacent well and 1 neighboring well located within 500 feet of the location of the "Project well" all of which are also owned by the applicant and are used for irrigation. The proposed location of the "Replacement Project well" is located such that none of the existing wells fall within 500 feet of its location. Refer to the associated Use Permit Drawings prepared by Bartelt Engineering for location of the existing onsite wells, neighboring wells, "Replacement Project well", and nearby creek.

Water Quality

Water quality results were not available for the "Project well" prior to completion of this WAA.

SUMMARY

The groundwater demand generated as a result of the proposed development is estimated to increase from 38.01 acre-feet per year (see Table 2A) to 41.79 acre-feet per year and is well below the allowable of 63.97± acre-feet per year for the proposed parcel configuration (see Table 2B). The "Project well" has a reported yield rate of 100 gpm which is more than capable of meeting the proposed water demand and the "Replacement Project well" is anticipated to have a similar yield rate.

³ Yearlong resident is considered an individual served by the water system for 183 or more days annually and does not include seasonal employees.



CONCLUSION

The estimated water demand for the parcel associated with the proposed Benjamin Ranch Winery Use Permit Application is projected to be less than the allowable water allotment in accordance with the Napa County Water Availability Policy.

The above analysis shows that the groundwater demand for the proposed project can feasibly be sourced by the existing "Project well" or "Replacement Project well". Furthermore, the estimated available water for the subject parcel satisfies the Tier 1 Water Use Criterion of the Napa County Water Availability Analysis.



ATTACHMENTS

Appendix A – Water Budget Worksheet, Benjamin Ranch – Winery Building

Appendix B – Water Efficient Landscape Worksheet, Benjamin Ranch – Winery Building

Appendix A – Water Budget Worksheet – Benjamin Ranch Winery Visitors Center

Appendix B – Water Efficient Landscape Worksheet – Benjamin Ranch Winery Visitors Center

USGS "Topographic Site Location Map"

Well Completion Reports (5)

REFERENCES

Napa County 2015, May 12. Water Availability (WAA) - Design, Construction and Guidance Document.

Napa County Watershed Information & Conservation Council (WICC). (n.d.). Retrieved from www.napawatershed.org

			APPENDIX	γ Δ							
			WATER BUDGET W								
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			ENJAMIN KANCH WINERT	- WINERT BUI	LDING						
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	water bud	get. Your Estimated Total Water	Use must be less than your Ma	aximum Applied \	Water Allowance.	. vvi	ii allow you to meet your				
		ENTER DATA IN	LAVENDER-SHADED CELLS OF	NLY. CALCULATI	ONS ARE AUTON	IAI	ric.				
1.)	Maximun	Applied Water Allowance (MAV	VA)								
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	MAWA =	(ETo) (0.62) [(0.6x LA) + (0.4 x SI	_A)]					-			
	Where:										
		nual Net Reference Evapotranspira	ation (inches)								
		nversion factor (to gallons) Adjustment Factor									
		Regustment Factor Iscape Area including SLA (square	(feet)								
		tion of the landscape area identification		uare feet)							
		additional ET adjustment factor for									
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		44.1 (Annual ETo)									
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		(Annual Rainfall)		(Effective	Rainfall)	Н		-			
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		Annual Net Reference Evapotrans	spiration – Annual E10	- Ellective Ra	IIIIaii	-	38.10				
	B.)	Adjusted Landscape Area Calcula	ition								
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		(Lanuscape Area, Including SEA)	Adjustment Factor						_		
		0	x 0.4			=	0		+		
		(Special Landscape Area)	Adjustment Factor								
									_		
				Sum of Adjusted	Landscape Area	=	26687	ļ —	+		
	MAWA =	38.10	x 0.62 x	266	687	_	630396.00 gallons			_	
	IVI/AVV/A —	30.10	X 0.02 X	200	301	_	030390.00 qalions	-			
2.)	Estimate	d Total Water Use (ETWU)									
		Not Every transport of the Colon letter						-			
	A.)	Net Evapotranspiration Calculatio	n								
		Annual Net Reference Evapotrans	spiration = Annual ETo	- Effective Ra	infall	=	38.10		_		
			<u> </u>								
	B.)	Adjusted Landscape Area Calcula	tion, excluding SLA								
		44470	0.2			=	13,343.40	-	+		
		44478 (Low Water Use Area, sq.ft.)	x 0.3 Plant Factor			-	13,343.40	-			
		0	x 0.6			=	0				
		(Moderate Water Use Area, sq.ft.)	Plant Factor	ļ							
		0	1.0			=	0	1			
		(High Water Use Area, sq.ft.)	x 1.0 Plant Factor			=	U		_		
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				Sum of Adjusted	d Landscape Area	=	13,343				
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	ETWU =	38.10	x 0.62 x	13,343	0.85	=	370821 gallons				
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			Irrigation Efficiency Factor		'						
			% of total landscape area irrig								
			0-25%	0.71				-			
			<u>26-50%</u> 51-75%	0.75 0.80				-			
			76-100%	0.85		Н					
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		Appendix	- Campie VI	ater Emicient La	ndscape Workshee			
			BENJAMIN R	ANCH WINERY - V	Winery Building			
		WA	TER EFFICIEI	NT LANDSCAPE V	VORKSHEET			
	This work	sheet is filled out by t	ne project applicant	and it is a required elemer	t of the Landscape Document	ation Package.		
Reference Eva	potranspiration (ETo)	44.1					
Hydrozone # /	Plant Factor (PF)	Irrigation	Irrigation	ETAF	Landscape Area (sq. ft	.) ETAF x Area	Estimated Total	
Planting Description ^a		Method ^b	Efficiency (IE)c	(PF/IE)	1		Water Use (ETWU) ^e	
			-	. , ,	_			
Regular Lands	cape Areas					-		
ZONES								
#1	0.3	DRIP	0.85	0.35	546	192.7	5,269	
‡ 2	0.3	DRIP	0.85	0.35	4075	1438.2	39,324	V1
# 3	0.3	DRIP	0.85	0.35	2832	999.5	27,329	L3
#4	0.3	DRIP	0.85	0.35	4131	1458.0	39,865	M6
‡ 5	0.3	DRIP	0.85	0.35	4200	1482.4	40,530	H - 1.0
‡ 6	0.3	DRIP	0.85	0.35	70	24.7	676	
# 7	0.3	DRIP	0.85	0.35	1205	425.3	11,628	
#8	0.3	DRIP	0.85	0.35	615	217.1	5,935	
#9	0.3	DRIP	0.85	0.35	2191	773.3	21,143	
#10	0.3	DRIP	0.85	0.35	486	171.5	4,690	
#11	0.3	DRIP	0.85	0.35	5213	1839.9	50,306	
#12	0.3	DRIP	0.85	0.35	4889	1725.5	47,179	
#13	0.3	DRIP	0.85	0.35	5724	2020.2	55,237	
#14	0.3	DRIP	0.85	0.35	3187	1124.8	30,755	
#15	0.3	DRIP	0.85	0.35	4527	1597.8	43,686	
#16	0.3	DRIP	0.85	0.35	587	207.2	5,665	
				Totals	44,478	15,698	429,218	
Special Lands	cape Areas							
NONE				1	0	0		
				1	0	0		
				1	0	0		
				Tota	ls	0	0	
						ETWU Tota	429,218	
					Maximum Allowed Water	er Allowance (MAWA)	630,396	
^a Hydrozone #/Plar	nting Description	bIrrigation Meth	od ^c Irrigation	Efficiency	dETWU (Annual (Gallons Required) = Eto	x 0.62 x ETAF x	
E.g	nting Description	overhead spray	0.75 for	spray head	Area			
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			APPENDI	ΧA					
			WATER BUDGET V	VORKSHEET					
			BENJAMIN RANCH WINER	Y - Visitor's Cent	er				
	The follow	ving calculations will help you dete	ermine your site-specific water but	dget and establish	a planting mix that	will a	llow you to meet your		
	water bud	get. Your Estimated Total Wate	r Use must be less than your M LAVENDER-SHADED CELLS O						
1.)	Maximum	1 Applied Water Allowance (MA)	MA)	NLY. CALCULAT	IONS ARE AUTOR	IATIC	•		
1.,	maximum	TAPPHED Water Allowance (MA							
	MAWA =	(ETo) (0.62) [(0.6x LA) + (0.4 x S	LA)]						
	Where:					_			
		nual Net Reference Evapotranspir	ation (inches)						
	0.62 = Co	nversion factor (to gallons)							
		Adjustment Factor dscape Area including SLA (square	- fA)			-			
		rtion of the landscape area identifi		nuare feet)					
		additional ET adjustment factor fo							
	A.)	Net Evapotranspiration Calculation	on .			_			
		44 10				_			
		24.00 (Annual Rainfall)	x .25 =	(Effective	00 e Rainfall)	+			
		(remountainan)		Linectivi					
		Annual Net Reference Evapotran	spiration = Annual ETo	- Effective Ra	infall	- [38.10		
	B.)	Adjusted Landscape Area Calcula	ation			-			
		31987	x 0.6			= -	19192		
		31987 (Landscape Area, including SLA)	x 0.6 Adjustment Factor				10102		
		0 (Special Landscape Area)	x 0.4 Adjustment Factor			=	0		
		(Special Landscape Area)	Adjustment Factor			-			
				Sum of Adjuster	d Landscape Area	- I	19192	 	
							10102		
	MAWA =	38.10	x 0.62 x	19	192	-	453358.00 gallons		
	MAWA =		x 0.62 x	19		-			
2)		38.10	x 0.62 x	19		-			
2.)			x 0.62 x	19		-			
2.)	Estimated	38.10		19		=			
2.)	Estimated A.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation	on .		192	-	453358.00 gallons		
2.)	Estimated A.)	38.10 d Total Water Use (ETWU)	on .	- Effective Ra	192	=			
2.)	Estimated A.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation	on spiration = Annual ETo		192	-	453358.00 gallons		
2.)	Estimated A.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculatic Annual Net Reference Evapotran Adjusted Landscape Area Calculation	n spiration = Annual ETo ation, excluding SLA		192	=	453358.00 gallons		
2.)	Estimated A.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculatic Annual Net Reference Evapotran Adjusted Landscape Area Calculation	n spiration = Annual ETo ation, excluding SLA		192	-	453358.00 gallons		
2.)	Estimated A.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation 31887	on spiration = Annual ETo ation, excluding SLA x, Q.3		192	=	453358.00 gallons		
2.)	Estimated A.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation 31887	on spiration = Annual ETo ation, excluding SLA x, Q.3		192	=	453358.00 gallons		
2.)	Estimated A.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation 31887	n spiration = Annual ETo ation, excluding SLA		192	=	453358.00 gallons 38.10		
2.)	Estimated A.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculatic Annual Net Reference Evapotran Adjusted Landscape Area Calculatic 3.1987. (Low Water Use Area, sq.ft.) 0. (Moderate Water Use Area, sq.ft.)	spiration = Annual ETo ation, excluding SLA x 0.3. Plant Factor x 0.6. Plant Factor		192		453358.00 gallons 38.10 9596		
2.)	Estimated A.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculatic Annual Net Reference Evapotran Adjusted Landscape Area Calculatic 3.1987. (Low Water Use Area, sq.ft.) 0. (Moderate Water Use Area, sq.ft.)	on spiration = Annual ETo ation, excluding SLA x, Q.3		192	=	453358.00 gallons 38.10		
2.)	Estimated A.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculatic Annual Net Reference Evapotran Adjusted Landscape Area Calculatic 3.1987. (Low Water Use Area, sq.ft.) 0. (Moderate Water Use Area, sq.ft.)	spiration = Annual ETo ation, excluding SLA x 0.3. Plant Factor x 0.6. Plant Factor	- Effective Ra	192	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0		
2.)	Estimated A.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculatic Annual Net Reference Evapotran Adjusted Landscape Area Calculatic 3.1987. (Low Water Use Area, sq.ft.) 0. (Moderate Water Use Area, sq.ft.)	spiration = Annual ETo ation, excluding SLA x 0.3. Plant Factor x 0.6. Plant Factor	- Effective Ra	192	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596		
2.)	Estimated A.) B.)	38.10 d Total Water Use (ETWU) Net Evapotransoiration Calculatic Annual Net Reference Evapotran Adjusted Landscape Area Calcult	on spiration = Annual ETo ation, excluding SLA	- Effective Ra	192	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0		
2.)	Estimated A.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculatic Annual Net Reference Evapotran Adjusted Landscape Area Calculatic 3.1987. (Low Water Use Area, sq.ft.) 0. (Moderate Water Use Area, sq.ft.)	on spiration = Annual ETo ation, excluding SLA	- Effective Ra	192	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0		
2.)	Estimated A.) B.) C.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation (Low Water Use Area. sq.ft.) (Moderate Water Use Area. sq.ft.) (Fight Water Use Area. sq.ft.) Special Landscape A	spiration = Annual ETo ation, excluding SLA x 9.3. Plant Factor x .1.9. Plant Factor Plant Factor A x .1.9. Plant Factor	- Effective Ra	192	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0 0 9.596		
2.)	Estimated A.) B.)	38.10 d Total Water Use (ETWU) Net Evapotransoiration Calculatic Annual Net Reference Evapotran Adjusted Landscape Area Calcult	on spiration = Annual ETo ation, excluding SLA	- Effective Ra Sum of Adjuster 0 9,596	192 infall I Landscape Area	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0		
2.)	Estimated A.) B.) C.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation (Low Water Use Area. sq.ft.) (Moderate Water Use Area. sq.ft.) (Fight Water Use Area. sq.ft.) Special Landscape A	spiration = Annual ETo ation, excluding SLA x 9.3. Plant Factor x .1.9. Plant Factor Plant Factor A x .1.9. Plant Factor	- Effective Ra Sum of Adjuste 0	linfall d Landscape Area	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0 0 9.596		
2.)	Estimated A.) B.) C.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation (Low Water Use Area. sq.ft.) (Moderate Water Use Area. sq.ft.) (Fight Water Use Area. sq.ft.) Special Landscape A	spiration = Annual ETo ation, excluding SLA x 9.3. Plant Factor x .1.9. Plant Factor Plant Factor A x .1.9. Plant Factor	- Effective Ra Sum of Adjuste 0	192 infall I Landscape Area	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0 0 9.596		
2.)	Estimated A.) B.) C.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation 31987	on. spiration = Annual ETo ation, excluding SLA	- Effective Ra Sum of Adjuste 0	linfall d Landscape Area	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0 0 9.596		
2.)	Estimated A.) B.) C.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation 31987	0	- Effective Ra Sum of Adjuster 0	linfall d Landscape Area	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0 0 9.596		
2.)	Estimated A.) B.) C.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation 31987	nn spiration = Annual ETo ation, excluding SLA	- Effective Ra Sum of Adjuster 0 9,596	linfall d Landscape Area	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0 0 9.596		
2.)	Estimated A.) B.) C.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation 31987	nn spiration = Annual ETo ation, excluding SLA	Sum of Adjuster 9,596 9,596 ated with Drip 0,71 0,75	linfall d Landscape Area	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0 0 9.596		
2.)	Estimated A.) B.) C.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation 31987	Day Day	- Effective Ra Sum of Adjuster 0 9,596 0,71 0,71 0,75 0,80	linfall d Landscape Area	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0 0 9.596		
2.)	Estimated A.) B.) C.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation 31987	nn spiration = Annual ETo ation, excluding SLA	Sum of Adjuster 9,596 9,596 ated with Drip 0,71 0,75	linfall d Landscape Area	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0 0 9.596		
2.)	Estimated A.) B.) C.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation 31987	Day Day	- Effective Ra Sum of Adjuster 0 9,596 0,71 0,71 0,75 0,80	linfall d Landscape Area	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0 0 9.596		
2.)	Estimated A.) B.) C.)	38.10 d Total Water Use (ETWU) Net Evapotranspiration Calculation Annual Net Reference Evapotran Adjusted Landscape Area Calculation 31987	Day Day	- Effective Ra Sum of Adjuster 0 9,596 0,71 0,71 0,75 0,80	linfall d Landscape Area	= = = = = = = = = = = = = = = = = = = =	453358.00 gallons 38.10 9596 0 0 9.596		

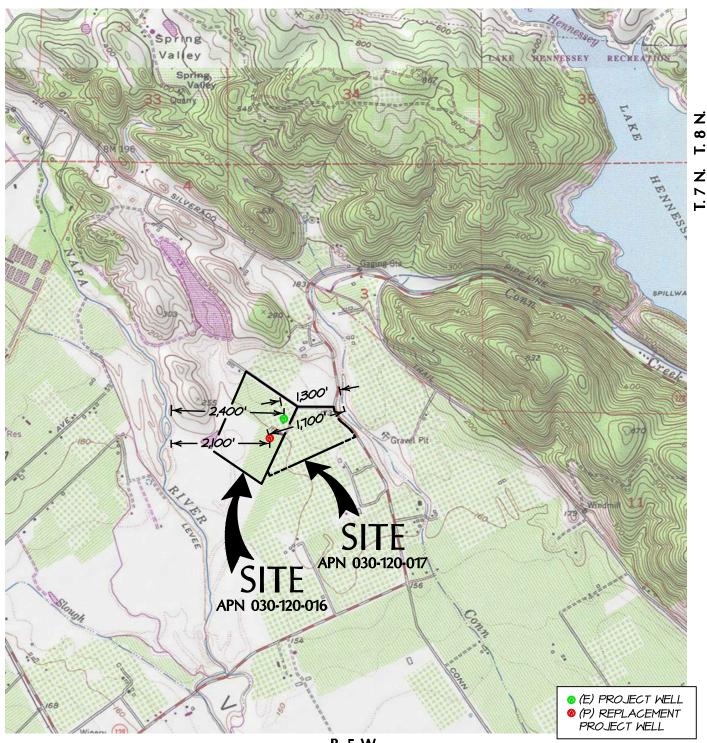
		- 1-1-1	– Sample W		Lain			i	
			BENJAMIN R	ANCH WINEF	Y - Vi	stor's (Center		
			TER EFFICIE						
	This work	sheet is filled out by th	ne project applicant a	and it is a required	element o	of the Land	scape Documentatio	n Package.	
Defenses Fue		FT-)							
Hydrozone # /	Plant Factor (PF)	L IO) Irrigation	44.1 Irrigation	ETAF		Lande	cape Area (sq. ft.)	ETAF x Area	Estimated Tota
Planting Description ^a	Fianti actor (FT)	Method ^b	Efficiency (IE) ^c	(PF/IE)		Lanus	cape Area (34. it.)	LIAI XAIG	Water Use (ETWU)º
Regular Lands	L scape Areas							<u> </u>	
ZONES	T								
#1	0.3	DRIP	0.85	0.35		1155		407.6	11,146
#2	0.3	DRIP	0.85	0.35		890		314.1	8,589
# 3	0.3	DRIP	0.85	0.35		1665		587.6	16,067
‡ 4	0.3	DRIP	0.85	0.35		1995		704.1	19,252
* 5	0.3	DRIP	0.85	0.35		1394		492.0	13,452
*************************************	0.3	DRIP	0.85	0.35		3060		1080.0	29,529
‡7	0.3	DRIP	0.85	0.35		5220		1842.4	50,374
#8	0.3	DRIP	0.85	0.35		1980		698.8	19,107
# 9	0.3	DRIP	0.85	0.35		1218		429.9	11,754
#10	0.3	DRIP	0.85	0.35		1073		378.7	10,355
#11	0.3	DRIP	0.85	0.35		1026		362.1	9,901
#12	0.3	DRIP	0.85	0.35		1512		533.6	14,591
#13	0.3	DRIP	0.85	0.35		1297		457.8	12,516
#13 #14	0.3	DRIP	0.85	0.35		1080		381.2	10,422
*14 * 15	0.3	DRIP	0.85	0.35		212		74.8	2,046
						_			
#16 "47	0.3	DRIP	0.85	0.35		2346		828.0	22,639
# 17	0.1	DRIP	0.85	0.12		2775		326.5	8,926
# 18	0.1	DRIP	0.85	0.12		2089		245.8	6,720
				Totals			31,987	10,145	277,386
Special Lands	cape Areas							1.	1
NONE	_			1				0	
	_			1		0		0	
				1		0		0	
					Totals			0	0
								ETWU Total	277,386
		ļ				Maximun	n Allowed Water A	llowance (MAWA)º	516,424
^a Hydrozone #/Pla E.g 1.) front lawn 2.) low water use p 3.) medium water u	nting Description plantings use planting	blrrigation Meth overhead spray or drip		spray head			Area where 0.62	ons Required) = Eto x is a conversion factor t per acre per year to ga ir.	hat converts
								İ	
TAF O-1						0.62) [(ET where 0.6	tallons Allowed) TAF x LA) + ((1-ETAF) 32 is a conversion factor gallons per square	ctor that converts acre-i	nches per acre
						0.62) [(ET where 0.6 per year area in so feet, and ETA	TAF x LA) + ((1-ETAF 62 is a conversion factor to gallons per square quare feet, SLA is the	(i) x SLA)] foot per year, LA is the total special landscape at areas and 0.45 for r	total landscape e area in square
Regular Landso						0.62) [(ET where 0.6 per year area in so feet,	TAF x LA) + ((1-ETAF 62 is a conversion factor to gallons per square quare feet, SLA is the	ctor that converts acre-i foot per year, LA is the total special landscape	total landscape e area in square
Regular Landso Total ETAF x		10,145			= (Eto) (0.62) [(ET where 0.6 per year area in so feet, and ETA areas.	AF x LA) + ((1-ETAF 52 is a conversion fact to gallons per square quare feet, SLA is the F is .55 for residenti	tor that converts acre-i foot per year, LA is the total special landscape al areas and 0.45 for i	total landscape e area in square non-residential
Regular Landso Total ETAF x Area	cape Areas	10,145 31,987			= (Eto) (where 0.6 per year area in so feet, and ETAl areas.	AF x LA) + ((1-ETAF 32 is a conversion fact to gallons per square quare feet, SLA is the F is .55 for residenti for Regular Lan	tor that converts acre-i foot per year, LA is the total special landscape al areas and 0.45 for u	total landscape e area in square non-residential
Regular Landso Total ETAF x Area Total Area	cape Areas (B)				e (Eto) (where 0.6 per year area in so feet, and ETAI areas.	AF x LA) + ((1-ETAF 52 is a conversion fact to gallons per square quare feet, SLA is the F is .55 for residenti	ctor that converts acre-ifoot per year, LA is the total special landscape at areas and 0.45 for the decape at areas and 0.45 for the decape Areas mureas	total landscape e area in square non-residential
Regular Landso Total ETAF x Area Total Area	cape Areas (B) (A)	31,987			e (Eto) (where 0.6 per year area in so feet, and ETAI areas.	AF x LA) + ((1-ETAH) to gallons per square quare feet, SLA is the f is .55 for residenti for Regular Lan for residential au	ctor that converts acre-ifoot per year, LA is the total special landscape at areas and 0.45 for the decape at areas and 0.45 for the decape Areas mureas	total landscape e area in square non-residential
Regular Landso fotal ETAF x Area Fotal Area Average ETAF	Cape Areas (B) (A) B ÷ A	31,987			e (Eto) (where 0.6 per year area in so feet, and ETAI areas.	AF x LA) + ((1-ETAH) to gallons per square quare feet, SLA is the f is .55 for residenti for Regular Lan for residential au	ctor that converts acre-ifoot per year, LA is the total special landscape at areas and 0.45 for the decape at areas and 0.45 for the decape Areas mureas	total landscape e area in square non-residential
Regular Landso Total ETAF x Area Total Area Average ETAF	(B) (A) B ÷ A	31,987 0.32			e (Eto) (where 0.6 per year area in so feet, and ETAI areas.	AF x LA) + ((1-ETAH) to gallons per square quare feet, SLA is the f is .55 for residenti for Regular Lan for residential au	ctor that converts acre-ifoot per year, LA is the total special landscape at areas and 0.45 for the decape at areas and 0.45 for the decape Areas mureas	total landscape e area in square non-residential
Regular Landso Total ETAF x Area Total Area Average ETAF All Landscape A Total ETAF x Area	(B) (A) (A) (B ÷ A) Areas (B+D)	31,987 0.32 10,145			e (Eto) (where 0.6 per year area in so feet, and ETAI areas.	AF x LA) + ((1-ETAH) to gallons per square quare feet, SLA is the f is .55 for residenti for Regular Lan for residential au	ctor that converts acre-ifoot per year, LA is the total special landscape at areas and 0.45 for the decape at areas and 0.45 for the decape Areas mureas	total landscape e area in square non-residential
ETAF Calculat Regular Landso Total ETAF x Area Total Area Average ETAF All Landscape / Total ETAF x Area Total Area Sitewide ETAF	(B) (A) B ÷ A	31,987 0.32			e (Eto) (where 0.6 per year area in so feet, and ETAI areas.	AF x LA) + ((1-ETAH) to gallons per square quare feet, SLA is the f is .55 for residenti for Regular Lan for residential au	ctor that converts acre-ifoot per year, LA is the total special landscape at areas and 0.45 for the decape at areas and 0.45 for the decape Areas mureas	total landscape e area in square non-residential

TOPOGRAPHIC SITE LOCATION INFORMATION



USGS 7.5 MINUTE QUADRANGLE "RUTHERFORD"

Scale: 1" = 2000'



R. 5 W.

CIVIL ENGINEERING · LAND PLANNING 1303 Jefferson Street, 200 B, Napa, CA 94559 www.barteltengineering.com · Telephone: 707-258-1301 ·

Benjamin Ranch Winery 8895 Conn Creek Road (SR 128) St. Helena, CA APN 030-120-016 & -017 Job No. 12-17

*The free	ê Adobe R	teader m	nay be u	used to viev	v and compl	ete this for	n. Howeve	r, software	must be purch	ased to con	nplete, sav						
File Ori	ile Original with DWR State of Califo							4		D	WR Use Or	1ly – D	o Not Fill In				
Page	Page of Well Completion Refer to Instruction P					tion Rep	ort		ı I	1 1 1 Ale	/	h ()					
Owner's Well Number No. e013250												Site Number					
Date Work Began 05/28/2011 Date Work Ended 6/7/2011 Local Permit Agency Napa County						Latitude Exploitude											
Local Po	ermit Age	ency <u>IV</u> F11-00	<u>apa C</u> 0183	Jounty	Permit	Date 5/2	3/11						APN/	TRS/O	ther		
Femili	vuilibei _				ogic Log							We	I Owner				
Or	ientation	, <u>@</u> V	ertical	OHo	rizontal	OAng	le Spec		- Name	SHOWER.	YERWEY.	1913/2016					
Drilling	Method h from S	<u> </u>	TA.	· they	De	Drilling scription	Fluid Phu	us PROTS	7	Address		<u> </u>					
Fee	t to	Feet		V Des	scribe materi			·	City 👤	in turio					Zip		
			<u> </u>										Location	1			
0	60		Brow	vn Clay						s <u>8901</u>					Mana		
60	200)	Rive	r Gravels				·····	1 8				N Longitu				
										e Deg.			N Longitu				
200	222		Brow	vn Clay											cimal Long cel <u>017-000</u>		
			Dive	- 0		·		· · · · · · · · · · · · · · · · · · ·							tion :		
222	300)	Rive	r Gravels	<u> </u>				Towns		ation Sk			000	Activity		
300	345		Brow	vn Clay		-, -, -, -, -, -, -, -, -, -, -, -, -, -			(Sketci	n must be dra	wn by hand : North	after form is	printed.)		Vew Well		
						****					140141	1	1		Modification/Repair O Deepen		
345	391		Gree	en Clay								į.	/	_ (O Other Destroy		
	- 440		0		! \/-!	ala Danie					\sim	السرا		٥١	Describe procedures and materials		
391	410		Gree	en Fractui	red Volca	IIC ROCK			-11		S. C. G. J.	1			Planned Uses		
410	452		Brow	n & Gree	n Volcan	c Rock		 	11	3		. 11 2	$\langle \rangle \parallel$		Water Supply		
									West	\si ² /		1/5	East]Domestic □Public Irrigation □Industria		
452	470		Brow	n Clay					_ §	1	1		ii)		Cathodic Protection		
					Describe procedures and materials under 'GEOLOGIC LOG' Planned Uses Water Supply Domestic Public Irrigation Industrial O Cathodic Protection Dewatering Heat Exchange												
					$\exists 11 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	=		III	,		leat Exchange njection						
						a 2011				(S)		WE	"	O N	Monitoring		
					SEP 0	6 5011				UM	1	1 1	;		Remediation Sparging		
	_				DEL	T. OF	aTNIT				Caush				est Well		
	_				DEF RONMENT	AL MANA	GEMEIN		lliustrate or	lescribe distanc nd attach a map	South e of well from re	oads, building	s, fences,		apor Extraction		
				EWA!	KOMME	·			Please be a	coursts and co	mplate.				Other		
									3 3				oleted W				
						·			Depth to	Depth to first water <u>55</u> (Feet below surface) Depth to Static							
		1		470				·	Water L	evel <u>40</u>					ured <u>06/07/2011</u>		
	epth of B	_		470		·	Feet		Estimat Test i e	ed Yield * ngth <u>6.0</u>	120.	GPI) Hou	/I) Test T		down 400 (Feet)		
Total D	epth of C	omplet	ed We	ell <u>404</u>		***************************************	Feet						's long ter				
					Cas	ings							Annula	r Ma	terial		
Sur	from	Boreho Diame	ter	Туре	Mate	riai	Wall Thickness		Screen Type	Slot Size	Sur	h from rface	Fill		Description		
Feet t	o Feet 60	(Inche 14.5		ank	PVC Sch. 8	<u> </u>	(Inches) F480-24	(Inches)	1	(Inches)	Feet 0	to Feet 56	Cement		Vol Clay		
60	108	14.5	Bla	ank	PVC Sch. 8		F480-24	8			56	464	Filter Pack				
108	464	14.5	Sc	reen	PVC Sch. 8)	F480-26	8	Milled Slots	0.032	- 						
										-	∄						
			\top							 	1						
		Attach	nmen	ts					(ertificat	ion Stat	ement					
	Geologic					I, the un	dersigned	certify th	at this report oration Inc.	is comple	te and ac	curate to	the best o	of my	knowledge and belief		
	Well Con: Seophysi		-	ıram		1	Person, F	irm or Corpo	ration	1/-	ovill-		^^		EC00		
	Soil/Wate			nalyses	l		Cantelow A	ddress	11 -	vac	aville City		CA State		Zip		
□ Other Signed																	
nach accil	ional inform	auvii, ii il	GAISIS.			L		, , , and , Y				Date Sigi	1 10 0 0-0	1 FICE	ense Number		

For Local Requir		STATE OF		NIA N REPOR	T J J J	E ONLY —	DO NOT FILL IN				
Page of	W ISEL	Refer to Instri				TATE WELL NO.	STATION NO.				
Owner's Well No	•	No.	0918	3515		\mathbb{A}					
Date Work Began	, Ended		_		LATITUDE	$\langle X \rangle$	LONGITUDE				
Local Permit Ag	ency2/15/05 Napa	02/23/05			.	APN/TRS/C	THER				
Permit No	<u> F05-0037</u> Perm	nit Date/1_/	/26/05								
ORIENTATION (∠)	—— GEOLOGIC LOG ——		N		MELL C	WNER -					
ORIENTATION (E)	DŘILING	ANGLE(SF	´ I	lame lailing Address							
DEPTH FROM SURFACE	METHOD ROTAL DESCRIPTION	N PLUID <u>MUG</u>	0 775	And the second second							
Ft. to Ft.	Describe material, grain s	ize, color, etc.) - CI	TY (WELL LO	CATION—	STATE				
ļ	1		h.	ddress <u>880</u> 0	Con Creek						
-	I	(0)		The state of the s	t Helena, CA	<u>S</u>					
 0 8	- Brown Clay			ountyNapa	CA	Parcel	· · · · · · · · · · · · · · · · · · ·				
8 16	Gravel with Brown (Clay	T	PN Book 36	LZOUSL/ Range	Section					
			1 mm	at Co	N	Long	<u> </u>				
16 95	Brown Clay with Sm	III Gravel	<u> </u>		IN. SEC. CATION SKETCH -		— ACTIVITY (∠) —				
95 240	Gravel				— NORTH —	-	NEW WELL				
33 240	G. G. C.	73(C) *	'				MODIFICATION/REPAIR Deepen				
240 255	Gravel and Brown As	sh [®]			eeck RC	_	Other (Specify)				
255 308	Ocavel /	2		CONS		ا اسر	DESTROY (Describe				
-33 300					العر		Procedures and Materials Under "GEOLOGIC LOG")				
304 340	Hard grown Caly						USES (∠) WATER SUPPLY				
	11					X	Domestic Public				
340 370 -	i Brown Sands and Gre	avel —	WEST			EAST	Irrigation Industrial MONITORING				
270, 205	Green and Blue Grav	1		11.161	- u		TEST WELL				
370-355	Steen and olde draw	LET		400	77	<u> </u>	CATHODIC PROTECTION				
395 445	Hard Brown Clay	<u> </u>	(ju	\\$ \ \ \	7	Silver	HEAT EXCHANGE				
1					.] [5	INJECTION				
445 470	Compresse Brown, Rec	i, Green G	rave s			1	VAPOR EXTRACTION SPARGING				
1	1			Protects Departs -	SOUTH	do Perildinas	REMEDIATION				
(DE/		ences, Rivers, etc. and	Distance of Well from Roa I attach a map. Use additi E ACCURATE & COMP	onal paper if	OTHER (SPECIFY)				
i i	Well Test -	RE	CEIVE		LEVEL & YIELD		TED WELL				
1	400 Gpm at 260 Feet	A D D	0 0 0								
 	600 Gpm at 400 Feet	<u>APR</u>	J-K	DEPTH OF STATIC							
1	1	DI	COT Ad	WATER LEVEL	· ·	MEASURED	7999				
TOTAL DEPTH OF	BORING 470 (Feet)	ENVIRONMEN	TAL MANAG	STIMATED YIELD : GEMENT TEST LENGTH	and the second second						
	COMPLETED WELL 463 (Fee	et)		•	sentative of a well's lon		_ (12)				
		CASINO (C)	<u> </u>			AMNU	JLAR MATERIAL				
DEPTH FROM SURFACE	BORE- HOLE TYPE ()	CASING (S)		,	DEPTH FROM SURFACE	ANN	TYPE				
		/ INTERNAL DIAMETER	GAUGE OR WALL	SLOT SIZE IF ANY		CE- BEN- MENT TONITE	FILL FILTER PACK				
Ft. to Ft.	OlA. SECOND MATERIAL (Inches)		THICKNESS	(Inches)	Ft. to Ft.	(소) (소)	(エ) (TYPE/SIZE)				
0 65	14 / Plast	28	200		0 65	10 11	NO VOI CLOY				
06 123	127 14 1		1 1	<u> </u>	65:463		Well Fack				
122 4/2	12-1 11		1 1	 							
127 763		_		Very							
ATTAC	HMENTS (±)				TION STATEMENT						
Geologic	c Log	indersigned, certif	ry that this	report is complete	and accurate to the	pest of my kn	owieage and belief.				
	nstruction Diagram NAME _	PERSON, HRIM OR CORE	PONATION TO	elaration.	<u> </u>	· · ·					
1	sical Log(s)			8, Napa CA	94558	:					
Soil/Wat	ter Chemical Analyses ADDRESS	C	//	of.	CITY		STATE ZIP				
1	INFORMATION, IF IT EXISTS. Signed .	Jon	trul	lear		03/05/20	808508				
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS. Signed C-57 LICENSED WATER WILL CONTRACTOR DATE SIGNED / 2005 C-57 LICENSED NUMBER											

QUADRUPLICATE	STATE OF CALIFO	DRNIA	DWR USE ONLY -	DO NOT FILL IN
For Local Requirements	WELL COMPLETION			
Page of	Refer to Instruction F	Pamphlet	STATE WELL N	O./STATION NO.
Owner's Well No		251		
Date Work Began	Interior 7 C UI		LATITUDE	LONGITUDE
Local Permit Agency	(CM)			
Permit No.	Permit Date	<u>//</u>	APN/TRS	VOTHER *
SEOLOGIC	LOG		La work of days	
	PRIZONTAL ANGLE (SPECIFY)	Name_		
DRILLING METHOD	FLUID	Mailing Addre		
SURFACE D	ESCRUTION SE			
Describe mate	ridl, grøin size, color, etc.		WELL LOCATION	STATE ZIP
O DO DICIONIC		Address		
15 37 Mariel		City		
2000 ALUAN		Copinty / 1 / 1		>n -1)/) - 117
30 1/15 h	Jan	APN BookP	ageParcel <equation-block></equation-block>	00 120 017
00 100 Dace (C	TICH TO THE TOTAL TO THE TOTAL	Township F	RangeSection	
105/10 hard h		Latitude	NORTH Longitude	WEST OF S
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110116A DVALLAC	12 4 12 14 14 14 14		ORTH	NEW WELL
MOTEORIE		سلاريال	- J	MODIFICATION/REPAIR
16A22 Am	4		110	Deepen Other (Specify)
recession		31		
127 Salvan		X	15	DESTROY (Describe
	416 cr 311 11 11			DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")
At the second	3.72	<i>/</i> 1	7	PLANNED USES (∠)
		4	141 XZ	WATER SUPPLYPomestic Public
25275 how h	31116 14.1	+ 2000		Irrigation Industrial
The state of the s	STORY CHOOSE	WEST	TO 12 B	MONITORING
RISTORMAN	Occident de la		/N W	TEST WELL
		/	(V) 12	CATHODIC PROTECTION
Davido al ho	and the	\mathcal{L}		DIRECT PUSH
DO TO MO TO	City of the Control	·)/ Ki	INJECTION
<u> </u>			1 [7]	VAPOR EXTRACTION
1 2			OUTH	SPARGING
1 / 1	RECEIVED	Illustrate or Describe Distan	ce of Well from Roads, Buildings, th a map. Use additional paper if CURATE & COMPLETE.	PEMEDIATION OTHER (SPECIFY)
		necessary. PLEASE BE ACC	CURATE & COMPLETE.	
	MAY 1 6 2001	WATER LE	VEL & YIELD OF COMPI	LETED WELL
		DEPTH TO FIRST WATER	WK (FL) BELOW SURFACE	DE .
	DEPARTMENT OF ENVIRONMENTAL MANAGEMENT	DEPTH OF STATIC Z		
	THOUSEN!	. WATER LEVEL	(Ft.) & DATE MEASURED	Z
TOTAL DEPTH OF BORING 412 (Fe		·	(GPM) & TEST TYPE	
	eet) (Continue (Feet)	· ·	Hrs.) TOTAL DRAWDOWN	
TOTAL DEPTH OF COMPLETED WELL 7	(Feet)	* May not be representat	tive of a well's long-term yield.	, ·
DEPTH BORE	CASING (S)		DEDTU ANI	NULAR MATERIAL
FROM SURFACE HOLE TYPE ()			DEPTH AINI ROM SURFACE	TYPE
	MATERIAL / INTERNAL GAUGE GRADE DIAMETER OR WALL		CE- BEN-	FILTER PACK
Ft. to Ft.	GRADE DIAMETER OR WALL (Inches) THICKNES		Ft. to Ft. (\angle)	(IYPE/SIZE)
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	9//	 		
150 410 124 1	11 /1	F to 1 2	24 1410	Por Grove
				1 0//0-
				
		- 		
ATTACHMENTS (∠)		CERTIFICATION	STATEMENT,	
Geologic Log	I, the undersigned/centify that th	is report is complete and	accurate to tile best of my l	mowledge and belief.
Well Construction Diagram	NAME / W/ JAN	(WEII)	VIIIING	
Geophysical Log(s)	TREESON, FIRM, OR CORPORATION)	(TYPED OR PRINTED)	M ^	DI CONTRACTOR
Soil/Water Chemical Analyses	100/1/Trea	MM	1 XXXX	-U-14-DX
Other	ADDRESS		明2 コノ	STATE AV ZIV 77
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.	= 11 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2 2 2	~=	() () () () ()	1-41/0//
	Signed	·		
	Signed WELL DRILLER/AUTHORIZED REPRESI		DATE SIGNED	C-57 LICENSE NUMBER

QUADRUPLICATE

Use to comply with

local requirements

PAYCOL 030-120-017-000 6 Shop not fill in

DEPARTMENT OF WATER RESOURCES WATER WELL DRILLERS REPORT

284988

Notice of Intent No. . State Well No. Other Well No. (12) WELL LOG: Total depth 345ft. Completed depth 345t. (1) OWNER: Name Address J from ft. ft. Formation (Describe by color, character, size or material) City ± (2) LOCATION OF WELL (See instructions): Owner's Well Number Well address if different from above Range ___ Section __(_)_ Distance from cities, roads, railroads, fences, etc. rossouc (3) TYPE OF WORK: New Well Deepening Reconditioning Horizontal Well Destruction [(Describe destruction materials and procedures in Item 12) (4) PROPOSED USE Domestic Irrigation Industrial Test Well Municipal WELL LOCATION SKETCH (5) EQUIPMENT: GRAVINL RACK: Rotary [Reverse Cable I Other 🔲 (8) PERPOBATIONS: (7) CASING INSTALLED: Steel 🔲 Plastic parton Gage or Wall From ft. size 70. 19 0 ENVIRONMENTAL (9) WELL SEAL: Was surface sanitary seal provided? Yes \(\subseteq\) No \(\subseteq\). If yes, to depth. Were strata sealed against pollution? Yes No 🔲 Method of scaling Work started_ 19_4A Completed_ (10) WATER LEVELS: WELL DRILLER'S STATEMENT: Depth of first water, if known _ This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Standing level after well completion _ (11) WELL TESTS: Signed. Was well test made? Yes Pump If yes, by whom? Type of test Bailer 🔲 At end of test Depth to water at start of test ______ ft. NOIN Address Discharge _____ gal/min after Water temperature Chemical analysis made? Yes [] City. No 🔲 If yes, by whom? Was electric log made Yes □ If yes, attach copy to this report License No. Date of this report IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY DWR 188 (REV. 12-86)

QUADRUPLICATE For Local Requirements	WELL COMI		V REPORT	C DWR	I N JV	V_{\perp}	$T_{\rm L}$	OT FALL IN
Page of Owner's Well No		struction Pa	(& DO		11	Mark and
1 25 00	nded () -1 - ()	° 528	411	LATI	TUDE	1 - FN	, // .	ONGITUDE
Local Permit Agency MAPOL GO						<u> </u>	-	
Permit No. 2-18-177	Permit Date 1	6-10	757			APN/TE	S/OTHE	in
GEOLOGIC Le ORIENTATION (∠) VERTICAL HORIZO		SPECIFY) Na	ime	WET.	L OWNE	Pi —		
I DEPTH FROM I	(Ft) BELOW SUR	FACE M	ailing Address		Age.		7	
	CRIPTION ial, grain size, color, etc.	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		WEIT	LOCATI	ON	31.	ATE ZIP
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45 15 brown do	N a count	and the second	PN Book	Page				
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ACO SOUCK STA	comash	WEST	7	(02-V)	10	TS/	- PLA	ANNED USE(S)
1201315103000	to be to	<u>√ (</u>	- L	J	121	Ë	-	(∠) _ MONITORING
		* `-`	()	1	1×1		WATE	R SUPPLY Domestic
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DECIDE AMERICA	JA grace		67	į	M			Industrial
3XNHOWN KYOU	K) 		M) -	"TEST WELL"
	1		historia ex Deserth		from I and	marke	┨ ̄	CATHODIC PROTEC- TION OTHER (Specify)
400450 DYCAYE	(tel)	St	ich as Roads, Buili	dings, Fences, River URATE & COMPI	s, etc.	T MATE TO		
	-A		ILLING 11	101	_	_		
1 X C 1 1 X C	CO.D.M		THOD	LEVEL & VIE	LD OF C	FLUID _		D WELL -
3001	JOM.	DE	PTH OF STATIC	A —	B DATE ME			
		5	TIMATED YIELD.	# (/r)	& TEST 1		<i>-</i>	LIFT
TOTAL DEPTH OF BORING 450 (Feet)				(Hrs.) TOTAL				Ft.)
TOTAL DEPTH OF COMPLETED WELL 39	5 (Feet)	* /	May not be repres	entative of a well's	long-term	yield.		
DEPTH DODS	CASING(S)			DEPTH		ANNU	LAR	MATERIAL
FROM SURFACE HOLE TYPE ()	MATERIAL INTERNAL	GAUGE	SLOT SIZE	FROM SURFAC	<u> </u>		TY	PE
Ft. to Ft. CON.	MATERIAL / DIAMETER (Inches)	OR WALL THICKNESS	IF ANY	Ft. to Ft	CE- MENT		FILL	FILTER PACK (TYPE/SIZE)
	01.64	Marie Marie Carlos	(monba)		(~)	<u>(Ľ)</u>	<u>(∠)</u>	(TTT E) GIZE)
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			132_	<u> </u>		<u> </u>		
ATTACHMENTS (\leq)		-	CEPTIBLE	TION STATEM	ENT	<u></u>		
, ,	I, the undersigned, cer	c				st of m	y know	ledge and belief.
Geologic Log Well Construction Diagram	NAME TULL	1171	WICEL	-d)/1	1111	\mathbf{G}		·
Geophysical Log(s)	(PERSON, FIRM, OR O	ORPORATION) (TY	Land K	10 11	111	K1	1	611650
Soil/Water Chemical Analyses	ADDRESS (A	regn	2mt/		ga	<u> </u>	STATE	ZIP
Other	7-	HI	in	311	12-10	6-9	4	24867
ATTACH ADDITIONAL INFORMATION. IF IT EXISTS.	Signed WELL DRILLER/AUTHO	RIZED REPRESENT	ATIVE		DATE SIGN			C-57 LICENSE NUMBER