MARVIN CHAPMAN, P.E.

CHAPMAN ENGINEERING

PO BOX 2756 McKinleyville, CA 95519 707-839-0298 chapman@tidepool.com



Big Rock Farms, Inc. Tonya Smith APN 217-271-005 Apps# 12565

Well Evaluation Report

Purpose

The purpose of this report is to evaluate the existing groundwater well potential for hydrologic connectivity and impact on nearby surface waters per the request of Humboldt County Planning Department. The groundwater well will be used for commercial cannabis irrigation and the County is requesting an impact assessment of this commercial use on hydrologic resources as required by CEQA.

Existing Permitted Groundwater Well

The existing permitted groundwater well was installed in October 2017 by Vics Well Drilling Inc. and was permitted by the Humboldt County Department of Health + Human Services - Land Use Program in July 2017 (Permit #17/-0031).

As stated in the Well Completion Report filed with CA Department of Water Resources (DWR), the well is located at lat/ long (40.2806880, -123.6390080) and the casing is 180 feet deep. The well bore depth was 185 feet and is characterized by water bearing strata between 125' and 165' below ground surface. Above and below the water bearing strata are hard claystone layers with no water present. At time of installation, the static water level of the well was 72' below ground surface. A pump test was conducted for a 6 hour duration and there was zero (0') drawdown of water levels with an estimated well yield of 35 gallons per minute.

Area Geology

The well is located in a Franciscian Formation geologic zone as mapped on the Redding, 1962 (GAM 11) of the California Geologic Atlas.

Area Hydrology and Surface Waters

The Blocksburg area receives approximately 50 - 65 inches on average of rain per year (PRISM Data).

Review of the DWR Well Completion Report Map Application online shows that there are no other registered wells in the vicinity within a 2000 feet of the existing well.

A field inspection was conducted by staff on October 20, 2023 to identify surface water sources in the well vicinity. Refer to the map (page 5) and schematic (page 6) that follow the well completion report below. The nearest existing surface water feature is a seasonal creek that is 350 ft horizontal distance from the existing well, and the bottom of creek channel elevation is approximately 80 ft above the water bearing strata as stated in the well completion report (see schematic, page 6).

Commercial Cannabis Water Use

The table below shows the proposed well water use for the commercial cannabis project - an estimated 200,000 gallons (0.61 acre-feet) per year.

MONTH	GALLONS
JAN	0
FEB	0
MAR	5,000
APR	10,000
MAY	15,000
JUN	19,000
JUL	32,000
AUG	35,000
SEP	42,000
OCT	35,000
NOV	0
DEC	0
TOTAL	193,000

Impact Assessment

In my professional opinion, the proposed use of the existing well for commercial cannabis is acceptable. The use of the well poses a minimal impact on existing water resources. The well and its proposed use exhibits a low probability for hydrologic connectivity or negative impact on adjacent surface water resources. The project will not substantially adversely affect an existing water or hydrologic resource.

State of California Well Completion Report Form DWR 188 Submitted 1/3/2018 WCR2018-000053

owners wen Num	nber 1	Date Work Beg	gan 10/28/2017	Date Work Ended 10/29/2017			
Local Permit Agen	cy Humboldt County Depart	ment of Health & Human Serv	ices - Land Use Program				
Secondary Permit	Agency	Permit Nun	nber 17/-0031	Permit Date 07/17/2017			
Well Owner	(must remain confide	ential pursuant to Wa	ater Code 13752)	Planned Use and Activity			
Name TONYA	SMITH			Activity New Well			
Mailing Address	366 DEER PATH DRIVE		Planned Use Water Supply Irrigation -				
				Agriculture			
City GEYSERVI	ILLE	State CA	Zip 95441				
		Well Le	ocation				
Address 28306	8 ALDTER POINT RD.	100 g. 10	APt	V 217-271-005			
City BLOCKS	BURG Zip	95514 County H	lumboldt Tow	/nship 02 S			
Latitude	N	Longitude	W Ran	ge 05 E			
Deg.	Min. Sec.	Deg. Mi	n. Sec. Sec.	tion 20			
Dec. Lat. 40.280	06880	Dec. Long123.6390080	Bas	eline Meridian Humboldt			
Vertical Datum	F	orizontal Datum WGS84	Gro	und Surface Elevation 1743			
Location Accuracy	/ Locatio	n Determination Mathed	Elev	vation Accuracy 10 Ft			
			L/01	GPS			
	Borehole Informa	tion	Water Lev	el and Yield of Completed Well			
Orientation Vert	tical	Specify	Depth to first water	125 (Feet below surface)			
Drilling Method	Downhole Rotary Drilling	Fluid Air	Depth to Static				
<u>+</u>	Hammer		Water Level	72 (Feet) Date Measured 10/29/2017			
Total Depth of Bor	195	E-d	Estimated Yield*	35 (GPM) Test Type Air Lift			
roten Deput of Dot	ang 185	Feet	Test Length	6 (Hours) Total Drawdown 0 (feet)			
Total Dopth of Cor	malated Multi tan	E	*Mou not be represent	address of a second life in the second			
Total Depth of Cor	mpleted Well 180	Feet	*May not be represent	ative of a well's long term yield.			
Total Depth of Cor	mpleted Well 180	Geologic	*May not be represent	ative of a well's long term yield.			
Depth from Surface Feet to Feet	Material Type	Feet Geologic Material Color	*May not be represent	ative of a well's long term yield. Material Description			
Depth from Surface Feet to Feet 0 65	Material Type Sandstone	Feet Geologic Material Color Brown	*May not be represent	ative of a well's long term yield. Material Description			
Depth from Surface Feet to Feet 0 65 65 125	Material Type Sandstone Claystone	Feet Geologic Material Color Brown Blue	*May not be represent	ative of a well's long term yield. Material Description			
Depth from Surface Feet to Feet 0 65 65 125 125 155	Material Type Sandstone Claystone Conglomerate	Feet Geologic Material Color Brown Blue Blue Blue	*May not be represent	ative of a well's long term yield. Material Description			
Depth from Surface Feet to Feet 0 65 65 125 125 155 155 165	Material Type Sandstone Claystone Conglomerate Clayey Gravel	Feet Geologic Material Color Brown Blue Blue Blue Blue Blue Blue Blue	*May not be represent	Ative of a well's long term yield. Material Description			

						Casing	IS	1.1.1					
Casing #	Depth fro Feat 1	m Surface o Feet	Casing	Type Material	Casings Specifications		Wall Thicknes (inches)	s Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description		
1	0	120	Blank	PVC	OD: 4.5 Thickne	OD: 4.500 in. Thickness: 0.337 in.		4.5					
1	120	185	Screen	PVC	OD: 4.500 in. Thickness: 0.337 in.		0.337	4.5	Milled Slots	32	.032 SLOT	032 SLOT W/4.5* CA	
					A	nnular Ma	terial			S. C. Materia	a ne la la se	61.631	
Depth from Surface Fill Fill Type Deta Feet to Feet				ils Filter Pack Size			Size	Description					
0	22	Bentor	nite No	Non Hydrated Bentonite				ADDED WATER WHILE CHIPS			DUMPIN		
22	185	Filter P	ack Of	her Gravel Pack				3/8 PEA GRAVEL			pre-washed pea gravel		
Depth from Surface Borehole Diameter (inches) Feet to Feet			I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief Name VICS WELL DRILLING INC										
Depth from Surface Borehole Diameter (inches)			I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and better Name VICS WELL DRILLING INC										
0	0 185 10.63					- Person, Firm or Corporation							
					3807 SIERRA HWY UNIT #6				ACTON	CA	CA 93510		
					Signed electronic signature received C-67 Licensed Water Well Contractor				01/03/20 Date Sign	18 8 ed C-57 Lic	State Zip 886439 C-57 License Number		
-		At	tachm	ents	1999			DW	/R Use	Only	and the second	1	
APP. PERMIT.pdf - Permit TONYA SMITH WELL PLOT PLAN #1.jpg - Location Map			CSG #	State Well Number S			te Code Local Well Numbe						
FONYA SMITH DRILLERS REPORT.docx - Other				1		N			IV				
						Latin TRS: APN:	tude Deg	/Min/Sec		Longitu	ide Deg/M	in/Sec	

AREA MAP OF HYDROLOGIC FEATURES





SCHEMATIC SHOWING WELL + NEAREST SURFACE WATER PROFILES SHOW LOW PROBABILITY FOR HYDROLOGIC CONNECTIVITY