TEP BWQ Groundwater Monitoring Field Form

Project Information			
Project:	TEP BWQ	Sample Purpose:	Rule 615 2nd Sub / 6th Year CoA
Site Name (Well Pad):	Watson Ranch B, Watson Ranch, Yates	Site API:	05-045-19100 / 05-045-18713 / 05-045-22748
Station Name:	Foster 92020	Sample Date:	5/18/21
COGCC Facility ID:	753984	Start Time:	1110
Field Sample ID:	Foster 92020	End Time:	1420
Landowner Name:	Michelle Foster	Sample Time:	1340
Landowner Address:	600 Ponderosa Cir Parachute	Sample Team:	TDS
Water Right/Well Owner:	Michelle Foster	Sampler:	TDS
Water Right/Well Permit:	92020	Lead Signature/Date:	5/20/21
Receipt Number:	9114469		

Station Information					
Station Description:	Hydrant next to well (well is inside wishing well structure)				
Approximate Distance to Well Pad (from well location):	1550ft / 1925ft / 2600ft				
Station Type: Well / Spring / Seep / Other:		Water Use: Domestic / Irrigation /			
Sampling Location: Kitchen Tap / Pipe / Well House / Hose bib / Hydrant / Other:					
GPS Well Location: Zone	x 39.430991	y -108.018931	z 1706.52m		
GPS Sampling Location: Zone	x 39.430985	y -108.01892	z 1706.60m		
Total Depth (ft):	185	Static Depth to Water (ft):	90*	Well diameter (in):	5 9/16
Total Volume x 3 (gal)	35968	Total Volume Purged (gal)	367		

Weather Conditions			
Sky:	Clear / Scattered / Cloudy / Overcast	Estimated Air Temp (deg F):	65°F
Precipitation:	None / Light / Moderate / Heavy	Precip Type: None / Rain / Sleet / Hail / Snow	
Wind:	Calm / Light / Mod / Strong	Wind Speed/Direction:	Q

Field Measurements

Parameter	Units	Reading	Time	Flag Code	Instrument	In-situ or Container	Comments
Water Temp	deg C	12.8	1350		YSI Pro1	Container	
pH	s.u.	7.50					
Sp. Conductivity	uS/cm	1152					
Conductivity	uS/cm	894					
DO Saturation	%	64.9					
DO	mg/L	6.68					
Baro Press	mmHg	615.3					
ORP	RmV	61.4					
Turbidity	NTU	8.80	1353	AV	MicroTPI		8.87, 9.05, 8.48
Discharge	gpm	0.48	1357		Bucket		2:06 / 1 gal

Color:	Clear / White / Yellow / Brown / Green / Blue / Other	Light / Med / Dark	
Odor:	None / Mild / Mod / Strong		
Effervescence:	None / Mild / Mod / Strong	Bubbles:	None / Low / Mod / High
Sediment:	None / Light / Mod / Heavy	VOA Headspace:	None / ≤ Pea Size / ≥ Pea Size
Lab Analysis:	Rule 609 / COA 9 / COA 22 / Other		
Field Filtered:	Yes / No	Filter Size: N/A	No. Filters used: N/A

Flag Codes: NM (not measured), E (estimated), N/A (not applicable), I (insufficient sample), Q (uncertain value), Y (calculated value), AV (averaged value), EC (exceeds calibration range), P (probe malfunction), NS (not stabilized), VAR (variable), OT (other flag to be defined later)

TEP BWQ Groundwater Monitoring Field Form

Landowner Comments on water quality:
No treatment prior to hydrant

Additional information:
* Unable to open well. Static depth to water is from well construction report.

Calibration Information			Date: 5/18/21			Location: office		
Instrument	Parameter	Units	Time	Calibration Standard Value	Calibration Standard Temp (°C)	Instrument Reading of Standard	Adjusted Reading	Comments
YSI Pro1	pH	s.u.	1009	7.00	22.1	7.06		
	pH	s.u.	1012	4.01	22.2	4.00		
	pH	s.u.	1013	10.01	22.1	~~10~~ 9.95	9.98	
	SpC	uS/cm	1008	430	22.5	403.6	429.1	
	SpC	uS/cm						
	DO	%	1017	637.2	21.2	81.6	83.9	
	DO	%						
	ORP	RmV						
	Turbidity	NTU						

TEP BWQ Groundwater Monitoring Field Form

Well Purging Information

Date: 5/18/21	Purge Method: 3 casings and Parameter Stabilization	
Total Depth, ft (d_t): 185	Static Depth to Water, ft (d_w): 90*	Sample/Set Depth (ft):
Casing ~~Radius~~ Diameter (in): 5 9/16"		
Total Volume (gal or ft³): 119.86	Total Volume x 3 (gal or ft³): 359.58	

1 ft³ = 7.48 gal

Casing Volume = $\pi r^2(d_t-d_w)$ $\pi\left(\frac{2.78125}{12}\right)^2(185-90)(7.48) = 119.86$

Purge #	Time	Temp (°C) ±0.2°C ± 3%	pH (s.u.) ± 0.1 s.u.	SpC (uS/cm) ± 3%	Cond (uS/cm)	DO (%)	DO (mg/L) ± 10%	ORP (RmV) ± 10 RmV	Water Clarity (Poor/Mod/ Good) or NTUs ± 10% OR <5	Efferves-cence (None /Slight/ Mod/Heavy)	Volume Purged (gal)	Cum Vol Purged (gal)
0	1130										4520	0
1	1135	11.8	7.38	1077	806	6.57	61.0	87.4	2.42	none	4531	11
2	1140	11.9	7.39	1075	806	60.2	6.48	84.9	3.23	none	4545	25
3	1145	11.9	7.39	1074	806	60.1	6.47	83.4	4.24	none	4559	39
4	1150	12.0	7.40	1074	807	59.8	6.43	81.1	4.03	none	4574	54
5	1155	12.1	7.40	1082	815	69.5	6.39	78.7	5.34	none	4589	69
6	1200	12.0	7.40	1093	826	69.9	6.40	74.9	6.33	none	4603	83
7	1205	12.0	7.40	1100	826	60.1	6.45	72.7	6.09	none	4618	98
8	1210	12.4	7.40	1105	837	60.3	6.47	70.8	7.11	none	4633	113
				YSI	popped	out						
9	1220	12.1	7.40	1229	778	63.6	6.81	70.9	6.57	none	4657	137
10	1225	12.4	7.40	1128	856	66.8	7.15	69.8	8.32	none	4672	152
11	1230	12.1	7.41	1075	813	67.4	7.19	69.7	10.09	none	4689	169
12	1235	12.2	7.41	1021	784	67.7	7.23	69.9	9.80	none	4704	184
13	1240	12.2	7.41	948	703	66.1	7.07	69.3	10.54	none	4719	199
14	1245	12.8	7.42	~~1123~~ ~~683~~	837	69.5	7.53	70.4	13.95	none	4735	215
15	1250	12.1	7.40	1128	852	71.1	7.64	71.5	13.88	none	4752	232
16	1255	12.3	7.40	1128	856	71.8	7.59	71.0	13.28	none	4766	246
17	1300	11.9	7.41	1135	850	67.1	7.21	71.0	11.86	none	4782	262
18	1305	12.0	7.41	1127	846	66.5	7.11	70.5	15.83	none	4798	278
19	1310	12.1	7.41	1043	795	64.9	6.93	71.9	15.12	none	4813	293
20	1315	12.1	7.41	986	721	64.0	6.86	71.2	18.84	none	4827	307
21	1320	12.1	7.42	897	830	65.2	7.04	71.7	17.07	none	4842	322
22	1325	12.1	7.41	1125	849	67.2	7.21	71.4	16.75	none	4857	337
23	1330	12.2	7.40	1133	865	67.6	7.18	70.2	19.92	none	4872	352
24	1335	12.3	7.41	1126	853	66.1	7.05	68.9	15.22	none	4887	367