

# TEP BWQ Groundwater Monitoring Field Form

Project Information		
Project: <u>Watson Ranch B, Watson Ranch, Yates</u>	Sample Purpose: <u>Rule 615 2nd Sub/6th Year COA</u>	
Site Name (Well Pad): <u>TEP BWQ</u>	Site API: <u>05-045-19100/05-045-18713/05-045-22747</u>	
Station Name: <u>Grand Valley Historical Society 264602</u>	Sample Date: <u>5/17/21</u>	
COGCC Facility ID: <u>753986</u>	Start Time: <u>0840</u>	
Field Sample ID: <u>GVHS 264602</u>	End Time: <u>1110</u>	
Landowner Name: <u>Grand Valley Historical Society</u>	Sample Time: <u>1025</u>	
Landowner Address: <u>7235 CR 300, Pecos, NM</u>	Sample Team: <u>TDS, MAD</u>	
Water Right/Well Owner: <u>Grand Valley Historical Society</u>	Sampler: <u>MAD</u>	
Water Right/Well Permit: <u>264602</u>	Lead Signature/Date: <u>[Signature] 5/20/21</u>	
Receipt Number: <u>9502273</u>		

Station Information		
Station Description: <u>Hydrant next to Historical Schoolhouse</u>		
Approximate Distance to Well Pad (from well location): <u>1625ft / 125ft / 785ft</u>		
Station Type: <u>Well</u> / Spring / Seep / Other:	Water Use: <u>Domestic</u> / Irrigation /	
Sampling Location: <u>Kitchen Tap / Pipe / Well House / Hose bib / Hydrant</u> / Other:		
GPS Well Location: Zone	x <u>39.434399</u>	y <u>-108.029128</u> z <u>1659.92m</u>
GPS Sampling Location: Zone	x <u>39.434608</u>	y <u>-108.029146</u> z <u>1659.10m</u>
Total Depth (ft): <u>160</u>	Static Depth to Water (ft): <u>94.55</u>	Well diameter (in):
Total Volume x 3 (gal): <u>242.19</u>	Total Volume Purged (gal): <u>251</u>	<u>5.5</u>

Weather Conditions		
Sky: <u>Clear</u> / Scattered / Cloudy / Overcast	Estimated Air Temp (deg F): <u>55</u>	
Precipitation: <u>None</u> / Light / Moderate / Heavy	Precip Type: <u>None</u> / Rain / Sleet / Hail / Snow	
Wind: <u>Calm</u> / Light / <u>Mod</u> / Strong	Wind Speed/Direction: <u>0</u>	

Field Measurements							
Parameter	Units	Reading	Time	Flag Code	Instrument	In-situ or Container	Comments
Water Temp	deg C	<u>14.2</u>	<u>1040</u>		<u>YSI Pro1</u>	<u>Container</u>	
pH	s.u.	<u>7.64</u>	↓		↓	↓	
Sp. Conductivity	uS/cm	<u>675</u>					
Conductivity	uS/cm	<u>540</u>					
DO Saturation	%	<u>65.7</u>					
DO	mg/L	<u>6.47</u>					
Baro Press	mmHg	<u>620.9</u>					
ORP	RmV	<u>243.0</u>					
Turbidity	NTU	<u>1.95</u>		<u>AV</u>	<u>Micro Bucket</u>		<u>1.76, 1.76, 2.32</u>
Discharge	<u>gpm</u>	<u>1</u>					
Color:	<u>Clear</u> / White / Yellow / Brown / Green / Blue / Other					<u>Light</u> / Med / Dark	
Odor:	<u>None</u> / Mild / Mod / Strong						
Effervescence:	<u>None</u> / Mild / Mod / Strong			Bubbles:	<u>None</u> / Low / Mod / High		
Sediment:	<u>None</u> / Light / Mod / Heavy			VOA Headspace:	<u>None</u> / ≤ Pea Size / ≥ Pea Size		
Lab Analysis:	<u>Rule 609</u> / COA 9 / COA 22 / Other						
Field Filtered:	<u>Yes</u> / No	Filter Size:	<u>N/A</u>		No. Filters used:	<u>N/A</u>	

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)

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Landowner Comments on water quality:

*No treatment prior to hydrant.*

Additional information:

*Duplicate collected as "264602" at 1045*

*Temp: 13.7*

*pH: 7.71*

*SpC: 666*

*C: 524*

*DO<sub>1</sub>: 7.7*

*DO mg/L: 7.30*

*ORP: 232.0*

*Turbidity: 1.42, 5.61, 0.76*

*Discharge: 1 gpm*

*1103: DTW post sample ' 94.66ft BTOc*

Calibration Information			Date: <i>5/17/21</i>			Location: <i>office</i>		
Instrument	Parameter	Units	Time	Calibration Standard Value	Calibration Standard Temp (°C)	Instrument Reading of Standard	Adjusted Reading	Comments
<i>YSI Pro1</i>	pH	s.u.	<i>0643</i>	<i>7.00</i>	<i>21.5</i>	<i>6.74</i>		
	pH	s.u.	<i>0645</i>	<i>10.01</i>	<i>21.5</i>	<i>9.76</i>		
	pH	s.u.	<i>0648</i>	<i>4.01</i>	<i>21.5</i>	<i>3.51</i>	<i>3.98</i>	
	SpC	uS/cm	<i>0641</i>	<i>2606</i>	<i>21.8</i>	<i>3194</i>	<i>2006</i>	
	SpC	uS/cm						
	DO	%	<i>0655</i>	<i>036.5</i>	<i>21.0</i>	<i>95.8</i>	<i>83.8</i>	
	DO	%						
	ORP	RmV	<i>0657</i>	<i>256.09</i>	<i>5.7</i>	<i>295.3</i>		
	Turbidity	NTU						

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## Well Purging Information

Date: 5/17/21 Purge Method: 3 casing volumes and Parameter Stability

Total Depth, ft (d<sub>t</sub>): 160 Static Depth to Water, ft (d<sub>w</sub>): 94.55 Sample/Set Depth (ft):

Casing Radius (in): 2.75

Total Volume (gal or ft<sup>3</sup>): 80.73 Total Volume x 3 (gal or ft<sup>3</sup>): 242.19

1 ft<sup>3</sup> = 7.48 gal

Casing Volume =  $\pi r^2(d_t - d_w)$

$$\pi \left( \frac{2.75}{12} \right)^2 (160 - 94.55) (7.48) = 80.73$$

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	Effervescence (None/Slight/Mod/Heavy)	Volume Purged (gal)	Cum Vol Purged (gal)
0	0840											
1	0845	13.1	7.64	347.5	268.4	68.4	7.18	228.5	71.03	none	4098	0
2	0850	13.0	7.64	343.3	264.9	66.6	7.01	171.9	46.89	none	4118	6
3	0855	13.1	7.63	338.9	261.8	64.3	6.74	159.0	58.17	none	4128	20
4	0900	13.3	7.63	335.3	260.1	62.3	6.54	246.0	43.62	none	4143	30
5	0905	13.3	7.63	332.1	258.0	62.2	6.52	235.7	28.51	none	4158	45
6	0910	13.3	7.63	330.6	256.9	62.2	6.50	171.4	11.10	none	4173	60
7	0915	13.3	7.63	330.2	256.7	62.8	6.55	141.0	6.58	none	4188	75
8	0920	13.3	7.64	330.0	258.4	63.8	6.65	203.0	3.42	none	4203	90
9	0925	13.3	7.64	602.4	464.3	64.4	6.73	243.9	2.34	none	4228	105
10	0930	13.3	7.64	636.8	495.0	66.0	6.90	243.5	2.62	none	4233	120
11	0935	13.3	7.64	639.8	497.3	66.1	6.89	251.2	4.27	none	4258	135
12	0940			Flow cell stopped working								160
13	0945	13.5	7.64	655	509	67.0	7.06	270.0	13.69	none	4260	162
14	0950	13.5	7.64	642	500	62.8	7.18	255.0	9.23	none	4270	172
15	0955	13.4	7.64	663	517	67.7	7.02	253.2	9.17	none	4283	185
16	1000	13.5	7.65	655	511	65.2	6.90	247.9	5.56	none	4296	198
17	1005	13.5	7.65	647	505	64.0	6.64	246.3	4.38	none	4309	211
18	1010	13.6	7.65	641	501	63.3	6.64	232.7	3.44	none	4323	225
19	1015	13.6	7.65	638.0	498.6	62.8	6.52	225.3	4.83	none	4335	237
20	1020	13.6	7.65	633.6	495.6	62.8	6.49	205.2	3.47	none	4349	251

