TEP BWQ Groundwater Monitoring Field Form

Project Information			
Project:	TEP	Sample Purpose:	2nd Sub. Rule 609
Site Name (Pad/Facility):	Tomphins	Site API or Facility ID:	438312
Station Name:	Tomphins MW-1	Sample Date:	7-12-2023
Sample Facility ID:	754072	Start Time:	1300
Field Sample ID:	Tomphins MW-1	End Time:	1420
Landowner Name:	Thomas Lynn Tomphins	Sample Time:	1400
Landowner Address:	0269 CR 309 Parachute	Sample Team:	TfM AJH
Water Right/Well Owner:	TEP	Observer:	
Well Permit:	290864	Lead Signature:	
Receipt Number:	3668314	Date:	7-12-2023

Station Information					
Station Description:	Well SW of ~~pond~~ pad, downslope past small spillway				
Approximate Distance to Well Pad (from well location):					
Station Type:	(Well) / Spring / Seep / Other:	Water Use:	Domestic / (Monitoring) /Other:		
Sampling Location:	KitchenTap / Pipe / Well House / Hose bib / Hydrant / WWL Tubing /Bailer/Other:				
GPS Well Location:	Zone	x	y	z	
GPS Sampling Location:	Zone	x -108.015052	y 39.460706	z 5494'	
Total Depth (ft):	123.78	Static Depth to Water (ft):	13.21	Well diameter (in):	4
Total Volume x 3 gal)	2160.52	Total Volume Purged (gal)	254		

Weather Conditions			
Sky:	Clear / (Scattered) / Cloudy / Overcast	Estimated Air Temp (deg F):	90
Precipitation:	(None) / Light / Moderate / Heavy	Precip Type: (None) / Rain / Sleet / Hail / Snow	
Wind:	Calm / (Light) / Mod / Strong	Wind Speed/Direction:	3mph east

Field Measurements

Parameter	Units	Reading	Time	Flag Code	Instrument	In-situ or Container	Comments
Water Temp	deg C	16.4	1400		45I	Container	
pH	s.u.	7.64	↓			↓	
Sp. Conductivity	uS/cm	460.2					
Conductivity	uS/cm	385.4					
DO Saturation	%	54.2					
DO	mg/L	5.13					
Baro Press	mmHg	629.2					
ORP	RmV	102.3.7					
Turbidity	NTU	5.34	AV	AV	MicroTPI		5.72, 5.35, 4.95
Discharge	Gpm/Cfs			NM			

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 615~~ / Rule 411 / Rule 907 / COA / Other	Rule 609	
Field Filtered:	Yes / (No)	Filter Size:	No. Filters used:

Flag Codes: AV (averaged value), E (estimated), EC (exceeds calibration range), I (insufficient sample), N/A (not applicable), NM (not measured), NS (not stabilized), OT (other flag, see comment or notes), Q (uncertain value), Y (calculated value), VAR (variable)

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Station ID: _____ Date: 7-12-23

Landowner Comments on water quality:

Additional information:

- RSh unpreserved

Calibration Information			Date: 7-12-23			Location:		
Instrument	Parameter	Units	Time	Calibration Standard Value	Calibration Standard Temp (°C)	Instrument Reading of Standard	Adjusted Reading	Comments
	pH	s.u.						
	pH	s.u.						
	pH	s.u.		See Dunn well				
	SpC	uS/cm						
	SpC	uS/cm			7-12-2023			
	DO	%						
	DO	%						
	ORP	RmV						
	Turbidity	NTU						

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WELL PURGING INFORMATION

Date: ~~10-13~~ 7-12-23	Well ID: Tompkins MW-1	Project: TEP BWQ	
Purge Method: 3 casings + stable parameters	Borehole/Casing Radius (r) (in)/(ft): 2		
Total Depth, ft (D_t): 123.78	Static Depth to Water, ft (D_w): 13.21	Sample/Pump Depth (ft):	
Water column height, h (ft): $D_t - D_w$: 110.57		Total Volume x 3 (gal or ft^3):	
Total Volume (gal or ft^3): 72.17 gal		(1 ft^3 = 7.48 gal): 216.52 gal	

Borehole/Casing Volume = $\pi \cdot r^2 \cdot (D_t - D_w)$ = ft³ **Or** Borehole/Casing Volume = $\pi \cdot r^2 \cdot (D_t - D_w) \cdot 7.48$ = gal

With r = in, h = ft: Calculation: $\pi \cdot r^2 \cdot (D_t - D_w)$:: $r^2 * h * 0.0218 = ft^3$ **Or** $r^2 * h * 0.1632$ = gallons

$7.48\left(\left(\pi\left(\frac{2}{12}\right)^2\right)(110.57)\right)$

Purge #	Time	Temp (°C) ±0.2°C ± 3%	DO (%)	DO (mg/L) ± 10%	SpC (uS/cm) ± 3%	Cond (uS/cm)	pH (s.u.) ± 0.1 s.u.	ORP (RmV) ± 10 RmV	Water Clarity (Poor/Mod/Good) or NTUs ± 10% OR <5	Effervescence (None /Slight/ Mod/Heavy)	Volume Purged (gal)	Cumulative Volume Purged (gal)
1	1333	18.4	119.5	9.65	486.0	439.0	7.16	494.3	6.97	NIA	24	24
~~2~~	~~1335~~	~~21.2~~	~~41.8~~	~~3.64~~	~~29.8~~							
2	1335	17.4	47.6	4.41	469.0	402.9	7.19	600.9	6.94		24	48
3	1337	17.3	51.3	4.76	465.3	397.1	7.32	720.0	8.44		24	72
4	1339	17.6	47.4	4.41	464.0	392.6	7.39	908.8	7.26		24	96
5	1341	17.9	47.8	5.09	463.6	392.0	7.42	983.0	9.05		24	120
6	1343	16.7	55.3	5.29	463.9	392.0	7.44	998.6	9.29		24	134
7	1345	17.2	67.0	6.24	462.4	388.9	7.50	1005.3	5.11		24	158
8	1347	16.6	67.6	6.29	461.0	387.3	7.55	1011.2	13.73		24	182
9	1349	16.6	69.2	5.65	461.9	388.5	7.58	1013.0	9.16		24	206
10	1351	16.7	56.4	5.45	460.6	388.2	7.59	1015.8	8.00		24	230
11	1353	16.7	69.1	6.13	460.9	386.0	7.64	1016.8	7.47		24	254

12 gal / min