ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-72BR-200-LF_S

Date	08/22/2019	Sampler	Andrew Pham
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	0
Purge Volume Units	Ml	Depth to Water (ft bmp)	57.53
Water Quality Meter	YSI	Gallons in Well	140.66
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	195.51
Casing Material	PVC	Odor	None
Casing Diameter (in)	5	Pump Intake Depth (ft bmp)	152
Water Column in Well	137.98	Total Volume to Remove	0.0
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/22/2019	MS/MSD Sample ID	
Sample Time	14:20	MS/MSD Sample Time	
Sample ID	MW-72BR-200-LF_S-Q319	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	26	Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:01	500	1500	30.2	8.00	13196	131.6	0.56	28	57.60	7.79	8.40
14:04	500	3000	29.8	8.18	13992	117.7	0.36	27	57.60	8.00	9.11
14:07	500	4500	30.0	8.18	13882	110.8	0.29	28	57.60	8.02	9.03
14:10	500	6000	30.3	8.18	13920	106.5	0.24	27	57.60	8.18	9.08
14:13	500	7500	30.4	8.18	13992	105.2	0.24	27	57.61	8.18	9.07
14:16	500	9000	30.3	8.19	13979	103.4	0.25	26	57.61	8.19	9.10

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?			X	
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-83-180

Date	08/22/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	73.24
Water Quality Meter	YSI	Gallons in Well	17.53
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	180.70
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	170
Water Column in Well	107.46	Total Volume to Remove	17.53
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/22/2019	MS/MSD Sample ID	
Sample Time	10:14	MS/MSD Sample Time	
Sample ID	MW-L-180-Q319	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:55	500	1500	30.0	7.93	10935	70.5	0.74	78	73.30	6.17	7.08
09:58	500	3000	30.5	7.99	10993	92.8	0.56	29	73.30	6.17	7.13
10:01	500	4500	30.6	8.01	10956	110.2	0.47	15	73.30	6.17	7.13
10:04	500	6000	30.5	8.01	10979	117.6	0.45	9	73.30	6.17	7.13
10:07	500	7500	30.6	8.01	10956	120.1	0.44	9	73.30	6.17	7.13
10:10	500	9000	30.7	8.00	10965	121.8	0.42	9	73.30	6.17	7.13
10:13	500	10500	30.8	8.00	10974	122.0	0.40	9	73.30	6.17	7.13

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?		X		
Action Completed?			X	

Photos and Drawings

MW-85-217

Date	08/22/2019	Sampler	Andrew Pham
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	0
Purge Volume Units	Ml	Depth to Water (ft bmp)	113.25
Water Quality Meter	YSI	Gallons in Well	16.91
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	216.92
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	206
Water Column in Well	103.67	Total Volume to Remove	0.0
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/22/2019	MS/MSD Sample ID	
Sample Time	11:08	MS/MSD Sample Time	
Sample ID	MW-N-217-Q319	Double Filter Turbidity	
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	10	Purge Date	08/22/2019

Field Parameters

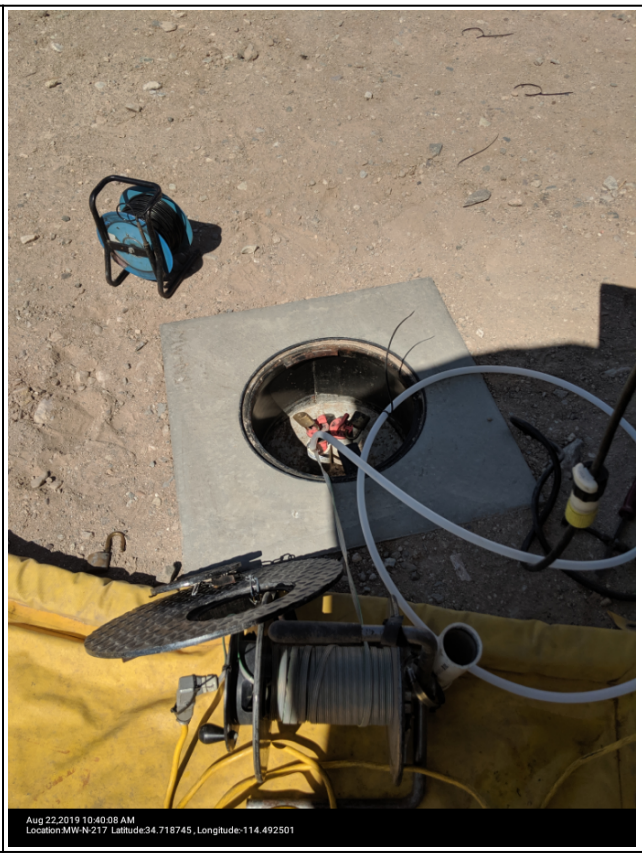
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:44	500	1500	30.6	8.17	11315	94.5	0.79	585	113.30	6.64	7.70
10:47	500	3000	30.3	8.04	12047	115.4	0.41	408	113.30	6.75	7.69
10:50	500	4500	30.3	8.05	12060	126.2	0.30	228	113.30	6.79	7.67
10:53	500	6000	30.9	8.05	11920	130.6	0.27	106	113.30	6.98	7.72
10:56	500	7500	31.1	8.05	12235	136.1	0.22	40	113.30	6.87	7.69
10:59	500	9000	31.4	8.05	12027	142.4	0.19	11	113.33	6.90	7.81
11:02	500	10500	31.4	8.05	11956	144.3	0.19	10	113.33	6.91	7.79
11:05	500	12000	31.5	8.05	12064	145.6	0.18	10	113.33	6.85	7.90

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings



MW-75-117

Date	08/19/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	16.87
Water Quality Meter	YSI	Gallons in Well	16.44
Sampling Type	Volume Purge – Grundfos RF2	Measured Well Depth (ft bmp)	117.68
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	107
Water Column in Well	100.81	Total Volume to Remove	16.44
		EB Sample ID	MW-701-Q319
Did Well Dewater?	No	EB Time	15:30
Sample Date	08/19/2019	MS/MSD Sample ID	
Sample Time	13:28	MS/MSD Sample Time	
Sample ID	MW-B-117-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	08/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:07	500	2000	30.1	8.21	12216	-75.1	0.20	23	16.90	6.95	7.94
13:11	500	4000	30.1	8.23	12203	-12.6	0.16	15	16.90	6.93	7.94
13:15	500	6000	30.2	8.23	12229	-7.6	0.15	12	16.90	6.94	7.94
13:19	500	8000	30.2	8.23	12228	-0.9	0.15	9	16.90	6.94	7.95
13:23	500	10000	30.2	8.23	12226	1.9	0.14	8	16.90	6.94	7.95
13:27	500	12000	30.3	8.22	12257	3.3	0.14	8	16.90	6.94	7.95

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-75-033

Date	08/19/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	16.64
Water Quality Meter	YSI	Gallons in Well	2.86
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	34.17
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	28
Water Column in Well	17.53	Total Volume to Remove	2.86
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/19/2019	MS/MSD Sample ID	
Sample Time	13:25	MS/MSD Sample Time	
Sample ID	MW-B-33-Q319	Double Filter Turbidity	
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	08/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:01	500	1500	30.8	7.60	5495	159.8	0.17	46	16.20	2.94	3.50
13:04	500	3000	30.6	7.59	5422	157.9	0.16	30	16.20	2.91	3.51
13:07	500	4500	30.7	7.56	5273	149.0	0.18	18	16.20	2.90	3.52
13:10	500	6000	30.8	7.55	5415	140.4	0.19	9	16.20	2.90	3.52
13:13	500	7500	31.0	7.54	5371	138.8	0.18	9	16.20	2.90	3.52
13:16	500	9000	31.1	7.54	5377	136.8	0.19	9	16.20	2.90	3.52
13:19	500	10500	31.1	7.54	5388	130.5	0.24	9	16.20	2.90	3.52

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?			X	
Evidence of well subsidence?			X	
Well Labeled on Casing or Pad?			X	
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?		X		
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-89-183

Date	08/21/2019	Sampler	Andrew Pham
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	0
Purge Volume Units	Ml	Depth to Water (ft bmp)	130.22
Water Quality Meter	YSI	Gallons in Well	8.79
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	184.13
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	174
Water Column in Well	53.91	Total Volume to Remove	0.0
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/21/2019	MS/MSD Sample ID	
Sample Time	12:13	MS/MSD Sample Time	
Sample ID	MW-U-183-Q319	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	10	Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:40	500	1500	31.5	7.46	6848	92.3	2.54	1000	130.35	3.65	4.52
11:43	500	300	30.8	7.57	6880	123.1	2.62	1000	130.35	3.72	4.45
11:46	500	4500	32.0	7.53	6883	131.6	2.66	1000	130.35	3.76	4.49
11:49	500	6000	32.4	7.54	6918	135.4	2.70	461	130.35	3.70	4.47
11:52	500	7500	32.2	7.56	6884	139.7	2.71	190	130.38	3.73	4.49
11:55	500	9000	32.1	7.58	6909	142.7	2.68	83	130.35	3.71	4.49
11:58	500	10500	32.1	7.58	6907	145.1	2.69	52	130.38	3.75	4.49
12:01	500	12000	32.1	7.59	6945	147.8	2.65	33	130.38	3.73	4.48
12:04	500	13500	32.0	7.60	6895	150.2	2.63	11	130.38	3.78	4.47
12:07	500	15000	32.3	7.60	6902	152.3	2.60	10	130.38	3.80	4.45
12:10	500	16500	32.5	7.60	6915	154.3	2.58	10	130.38	3.82	4.44

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		

Item	Yes	No	NA	Notes
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-84-057

Date	08/20/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	44.22
Water Quality Meter	YSI	Gallons in Well	2.13
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	57.30
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	50
Water Column in Well	13.08	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/20/2019	MS/MSD Sample ID	
Sample Time	13:38	MS/MSD Sample Time	
Sample ID	MW-M-57-Q319	Double Filter Turbidity	
Single Filter Turbidity	4	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	08/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:16	500	1500	30.4	7.69	1472	160.4	5.10	1000	44.28	0.73	0.95
13:19	500	3000	30.5	7.68	1490	160.7	5.09	302	44.28	0.73	0.95
13:22	500	4500	30.6	7.69	1512	161.4	5.08	147	44.28	0.73	0.95
13:25	500	6000	30.7	7.69	1520	162.5	5.05	32	44.28	0.73	0.95
13:28	500	7500	30.7	7.69	1555	163.0	5.03	14	44.28	0.73	0.95
13:31	500	9000	30.7	7.69	1560	164.1	5.04	10	44.28	0.73	0.95
13:34	500	10500	30.7	7.69	1574	164.4	5.05	10	44.28	0.73	0.95
13:37	500	12000	30.7	7.69	1580	164.8	5.05	10	44.28	0.73	0.95

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-84-095

Date	08/20/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	0
Purge Volume Units	Ml	Depth to Water (ft bmp)	44.14
Water Quality Meter	YSI	Gallons in Well	8.42
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	95.76
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	90
Water Column in Well	51.62	Total Volume to Remove	0.0
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/20/2019	MS/MSD Sample ID	
Sample Time	12:45	MS/MSD Sample Time	
Sample ID	MW-M-95-Q319	Double Filter Turbidity	3
Single Filter Turbidity	5	Post Sampling Turbidity	
Without Filter Turbidity	23	Purge Date	08/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:10	500	1500	31.3	7.48	5176	27.6	0.40	1000	44.19	2.74	3.80
12:13	500	3000	31.2	7.50	5107	35.1	0.42	1000	44.19	2.74	3.80
12:16	500	4500	31.5	7.51	5119	45.4	0.52	1000	44.19	2.74	3.80
12:19	500	6000	30.4	7.55	5264	60.1	0.39	232	44.19	2.74	3.80
12:22	500	7500	31.0	7.54	5266	65.6	0.37	101	44.19	2.74	3.80
12:34	500	13500	31.5	7.55	5292	67.4	0.25	23	44.19	2.74	3.80
12:37	500	15000	31.5	7.54	5311	68.0	0.24	23	44.19	2.74	3.80
12:40	500	16500	31.5	7.54	5320	68.5	0.25	23	44.19	2.74	3.80
14:25	500	9000	31.0	7.54	5270	66.0	0.31	52	44.19	2.74	3.80
14:28	500	10500	31.3	7.55	5288	66.8	0.28	35	44.19	2.74	3.80
14:31	500	12000	31.5	7.55	5289	66.9	0.26	24	44.19	2.74	3.80

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		

Item	Yes	No	NA	Notes
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-84-132

Date	08/20/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	0
Purge Volume Units	Ml	Depth to Water (ft bmp)	44.78
Water Quality Meter	YSI	Gallons in Well	14.47
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	133.49
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	129
Water Column in Well	88.71	Total Volume to Remove	0.0
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/20/2019	MS/MSD Sample ID	
Sample Time	12:30	MS/MSD Sample Time	
Sample ID	MW-M-132-Q319	Double Filter Turbidity	
Single Filter Turbidity	4	Post Sampling Turbidity	
Without Filter Turbidity	18	Purge Date	08/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:10	500	1500	32.8	8.05	7004	-73.3	0.30	23	44.80	3.89	4.64
12:13	500	3000	33.7	7.82	7114	-97.6	0.31	21	44.82	3.90	4.67
12:16	500	4500	33.2	7.68	7155	-112.6	0.29	19	44.82	3.90	4.67
12:19	500	6000	33.2	7.64	7208	-117.9	0.23	18	44.82	3.90	4.67
12:22	500	7500	33.2	7.63	7256	-120.5	0.22	18	44.82	3.90	4.67
12:25	500	9000	33.1	7.62	7353	-126.3	0.20	18	44.82	3.90	4.67
12:28	500	10500	33.2	7.62	7455	-128.8	0.21	18	44.82	3.90	4.67

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-84-193

Date	08/20/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	44
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	185
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	08/20/2019	EB Sample ID	
Sample Time	14:10	EB Time	
Sample ID	MW-M-193-Q319	MS/MSD Sample ID	
Single Filter Turbidity	3	MS/MSD Sample Time	
Without Filter Turbidity	9	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:57	500	1500	31.8	7.56	12178	-159.1	0.39	18	44.65	6.89	7.91
14:00	500	3000	31.6	7.67	11849	-116.7	0.26	9	44.65	5.90	6.84
14:03	500	4500	31.7	7.85	16133	-70.7	0.33	9	44.65	5.90	6.84
14:06	500	6000	31.8	7.85	16144	-69.4	0.38	9	44.65	5.90	6.84
14:09	500	7500	31.7	7.84	16161	-68.6	0.42	9	44.65	5.90	6.84

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-87-192

Date	08/20/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	90.49
Sampling Type	Low Flow – Grundfos RF2	Gallons in Well	16.8
Casing Material	PVC	Measured Well Depth (ft bmp)	193.48
Casing Diameter (in)	2	Odor	None
Water Column in Well	102.99	Pump Intake Depth (ft bmp)	183
		Total Volume to Remove	
Did Well Dewater?	No	EB Sample ID	
Sample Date	08/20/2019	EB Time	
Sample Time	09:34	MS/MSD Sample ID	
Sample ID	MW-R-192-Q319	MS/MSD Sample Time	
Single Filter Turbidity	1	Double Filter Turbidity	
Without Filter Turbidity	8	Post Sampling Turbidity	
		Purge Date	08/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:13	500	2000	30.3	8.41	9374	-140.6	0.17	96	90.55	5.16	6.05
09:17	500	4000	30.6	8.44	9139	-117.5	0.22	28	90.55	5.09	6.01
09:21	500	6000	30.6	8.44	9210	-116.3	0.21	15	90.55	5.10	6.02
09:25	500	8000	30.6	8.43	9206	-114.6	0.21	9	90.55	5.10	6.02
09:29	500	10000	30.6	8.43	9205	-113.2	0.20	8	90.55	5.10	6.02
09:33	500	12000	30.6	8.42	9204	-113.0	0.20	8	90.55	5.10	6.02

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-87-275

Date	08/20/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	90.30
Water Quality Meter	YSI	Gallons in Well	30.33
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	276.26
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	265
Water Column in Well	185.96	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/20/2019	MS/MSD Sample ID	
Sample Time	08:32	MS/MSD Sample Time	
Sample ID	MW-R-275-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	08/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:07	500	2000	30.6	8.44	11675	-119.5	0.22	32	90.41	6.58	7.59
08:11	500	4000	30.9	8.47	11773	-120.9	0.19	47	90.41	6.71	7.63
08:15	500	6000	30.8	8.43	11851	-122.1	0.19	29	90.41	6.70	7.65
08:19	500	8000	30.8	8.41	11812	-124.6	0.20	16	90.41	6.69	7.70
08:23	500	10000	30.9	8.40	11820	-126.3	0.20	10	90.41	6.69	7.70
08:27	500	12000	30.9	8.39	11822	-126.9	0.20	9	90.41	6.69	7.70
08:31	500	14000	30.9	8.39	11823	-127.3	0.21	9	90.41	6.69	7.70

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-87-109

Date	08/20/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	90.21
Water Quality Meter	YSI	Gallons in Well	3.43
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	111.22
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	100
Water Column in Well	21.01	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/20/2019	MS/MSD Sample ID	
Sample Time	11:15	MS/MSD Sample Time	
Sample ID	MW-R-109-Q319	Double Filter Turbidity	1
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	15	Purge Date	08/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:42	300	1200	31.1	8.39	2350	54.6	3.21	439	90.25	1.19	1.52
10:46	300	2400	31.2	8.36	2219	55.0	3.59	309	90.25	1.13	1.41
10:50	300	3600	31.4	8.36	2198	56.1	3.80	112	90.25	1.12	1.40
10:54	300	4800	31.4	8.36	2159	57.0	3.89	69	90.25	1.12	1.40
10:58	300	6000	31.4	8.36	2150	57.6	3.95	35	90.25	1.12	1.40
11:02	300	7200	31.5	8.36	2175	59.3	3.86	29	90.25	1.11	1.41
11:06	300	8400	31.5	8.36	2179	59.6	3.83	16	90.25	1.11	1.41
11:10	300	9600	31.6	8.36	2181	60.3	3.86	15	90.25	1.11	1.41
11:14	300	10800	31.6	8.36	2181	60.6	3.86	15	90.25	1.11	1.41

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-87-139

Date	08/07/2019	Sampler	Spencer Doolittle,Nara Tep
Weather Conditions	Sunny	Color	Brown,Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	89.88,90.12
Water Quality Meter	YSI	Gallons in Well	8.31,8.33
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	140.80,141.17
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	135,129
Water Column in Well	50.92,51.05	Total Volume to Remove	
		EB Sample ID	MW-779-Q319
Did Well Dewater?	No	EB Time	14:45
Sample Date	08/07/2019,08/20/2019	MS/MSD Sample ID	
Sample Time	11:16,12:46	MS/MSD Sample Time	
Sample ID	MW-R-139-Q319	Double Filter Turbidity	1
Single Filter Turbidity	45,2	Post Sampling Turbidity	
Without Filter Turbidity	1000,24	Purge Date	08/07/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:03	500	1500	34.5	7.35	9286	-54.3	3.87	1000	90.69		
11:06	500	3000	36.7	7.28	9611	-56.7	3.12	1000	90.75		
11:09	500	4500	36.6	7.31	9611	-56.1	2.92	1000	90.75		
11:12	500	6000	36.6	7.32	9619	-51.6	2.83	1000	90.79		
11:15	500	7500	36.7	7.34	9638	-49.8	2.79	1000	90.79		
12:09	100	400	32.1	8.05	7604	45.4	0.80	58	90.15	4.12	4.94
12:13	100	800	32.6	8.09	7609	45.9	0.65	49	90.15	4.12	4.94
12:17	100	1200	32.9	8.10	7598	46.0	0.68	43	90.15	4.12	4.94
12:21	100	1600	33.0	8.10	7598	46.1	0.68	38	90.15	4.12	4.94
12:25	100	2000	33.0	8.10	7596	48.3	0.67	32	90.15	4.12	4.94
12:29	100	2400	33.1	8.10	7595	48.6	0.67	29	90.15	4.12	4.94
12:33	100	2800	33.1	8.10	7596	48.7	0.65	27	90.15	4.12	4.94
12:37	100	3200	33.1	8.10	7596	49.0	0.65	25	90.15	4.12	4.94
12:41	100	3600	33.1	8.10	7596	49.1	0.66	24	90.15	4.12	4.94
12:45	100	4000	33.1	8.10	7597	49.3	0.66	24	90.15	4.12	4.94

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		

Item	Yes	No	NA	Notes
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-86-140

Date	08/21/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	11.80
Water Quality Meter	YSI	Gallons in Well	21.27
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	142.23
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	135
Water Column in Well	130.43	Total Volume to Remove	21.27
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/21/2019	MS/MSD Sample ID	
Sample Time	10:09	MS/MSD Sample Time	
Sample ID	MW-O-140-Q319	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:53	500	1500	22.6	7.90	11738	-246.9	0.27	12	11.88	6.80	7.78
09:56	500	3000	23.0	7.82	14512	-253.8	0.19	10	11.88	8.55	9.59
09:59	500	4500	22.4	7.89	14135	-249.7	0.16	9	11.88	8.21	9.21
10:02	500	6000	22.6	7.91	14182	-268.3	0.09	9	11.88	8.21	9.21
10:05	500	7500	22.5	7.93	14283	-268.5	0.10	9	11.88	8.21	9.21
10:08	500	9000	22.5	7.93	14288	-268.5	0.12	9	11.88	8.21	9.21

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-86-120

Date	08/21/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	11.88
Water Quality Meter	YSI	Gallons in Well	18.01
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	122.29
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	110
Water Column in Well	110.41	Total Volume to Remove	18.01
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/21/2019	MS/MSD Sample ID	
Sample Time	08:52	MS/MSD Sample Time	
Sample ID	MW-O-120-Q319	Double Filter Turbidity	
Duplicate Sample ID	Mw-912-q319	Post Sampling Turbidity	
Dup Sample Time	09:02	Purge Date	08/21/2019
Single Filter Turbidity	7		
Without Filter Turbidity	40		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:30	500	1500	21.9	8.09	11410	-57.5	0.48	75	11.84	6.43	7.44
08:33	500	3000	22.1	8.04	12160	-101.9	0.28	43	11.84	7.10	8.03
08:36	500	4500	21.7	8.02	12438	-100.1	0.25	58	11.84	7.10	8.03
08:39	500	6000	21.8	8.00	12510	-100.5	0.25	53	11.84	7.10	8.06
08:42	500	7500	21.8	7.98	12528	-101.2	0.23	48	11.84	7.10	8.06
08:45	500	9000	21.8	7.99	12530	-101.8	0.25	45	11.84	7.10	8.06
08:48	500	10500	21.9	7.98	12544	-102.0	0.25	42	11.84	7.10	8.06
08:51	500	12000	22.0	7.98	12550	-102.2	0.25	40	11.84	7.10	8.06

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		

Item	Yes	No	NA	Notes
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-86-066

Date	08/21/2019	Sampler	Andrew Pham
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	0
Purge Volume Units	Ml	Depth to Water (ft bmp)	11.71
Water Quality Meter	YSI	Gallons in Well	9.28
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	68.62
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	50
Water Column in Well	56.91	Total Volume to Remove	0.0
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/21/2019	MS/MSD Sample ID	
Sample Time	08:40	MS/MSD Sample Time	
Sample ID	MW-O-66-Q319	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:22	400	1200	22.9	8.17	3054	-7.9	1.96	30	11.81	1.59	1.98
08:25	400	2400	23.7	8.11	3047	-13.3	1.76	16	11.81	1.59	1.98
08:28	400	3600	23.6	8.12	3088	-14.0	1.67	11	11.81	1.61	1.98
08:31	400	4800	23.7	8.07	3145	-12.5	1.60	8	11.82	1.64	2.04
08:34	400	6000	24.1	8.02	3208	-11.1	1.47	8	11.82	1.68	2.09
08:37	400	7200	24.0	8.02	3299	-6.7	1.44	8	11.82	1.80	2.20

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?		X		
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-86-030

Date	08/21/2019	Sampler	Andrew Pham
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	0
Purge Volume Units	Ml	Depth to Water (ft bmp)	12.02
Water Quality Meter	YSI	Gallons in Well	3.4
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	32.88
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	22
Water Column in Well	20.86	Total Volume to Remove	0.0
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/21/2019	MS/MSD Sample ID	
Sample Time	09:45	MS/MSD Sample Time	
Sample ID	MW-O-30-Q319	Double Filter Turbidity	
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	40	Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:05	400	1200	23.0	7.51	1223	75.9	0.76	1000	12.10	0.61	0.79
09:08	400	2400	23.2	7.47	1223	78.0	0.92	1000	12.10	0.61	0.79
09:11	400	3600	23.4	7.47	1220	86.2	0.62	1000	12.10	0.61	0.79
09:14	400	4800	24.0	7.41	1223	94.0	0.42	1000	12.11	0.61	0.79
09:17	400	6000	24.0	7.40	1220	94.4	0.38	1000	12.11	0.61	0.79
09:20	400	7200	24.2	7.40	1226	94.2	0.60	847	12.11	0.61	0.79
09:23	400	8400	24.2	7.40	1222	93.7	0.69	626	12.11	0.61	0.79
09:26	400	9600	24.2	7.41	1217	93.6	0.82	409	12.11	0.61	0.79
09:29	400	10800	24.2	7.41	1219	92.3	0.90	177	12.11	0.61	0.79
09:32	400	12000	24.2	7.42	1213	91.7	0.90	88	12.12	0.60	0.79
09:35	400	13200	24.2	7.42	1218	91.2	0.80	42	12.12	0.60	0.79
09:38	400	14440	24.1	7.42	1210	91.2	0.75	39	12.12	0.60	0.79
09:41	400	15600	24.3	7.42	1214	91.4	0.71	40	12.13	0.60	0.79

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?		X		
Traffic Poles Intact?			X	

Item	Yes	No	NA	Notes
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-76-218

Date	08/23/2019	Sampler	Andrew Pham
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	0
Purge Volume Units	Ml	Depth to Water (ft bmp)	26.82
Water Quality Meter	YSI	Gallons in Well	31.44
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	219.56
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	208
Water Column in Well	192.74	Total Volume to Remove	0.0
		EB Sample ID	MW-783-Q319
Did Well Dewater?	No	EB Time	10:00
Sample Date	08/23/2019	MS/MSD Sample ID	
Sample Time	09:45	MS/MSD Sample Time	
Sample ID	MW-C-218-Q319	Double Filter Turbidity	
Duplicate Sample ID	MW-911-Q319	Post Sampling Turbidity	
Dup Sample Time	09:55	Purge Date	08/23/2019
Single Filter Turbidity	2		
Without Filter Turbidity	33		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:26	500	1500	29.9	8.82	17913	127.4	1.20	35	27.00	10.54	11.66
09:29	500	3000	29.6	8.57	17215	130.9	0.90	34	27.00	9.96	11.15
09:32	500	4500	29.5	8.43	17494	134.5	0.78	33	27.00	10.45	11.61
09:35	500	6000	29.5	8.44	19138	123.6	0.57	36	27.00	11.31	12.49
09:38	500	7500	29.5	8.44	19046	121.6	0.47	34	27.01	11.48	12.51
09:41	500	9000	29.5	8.44	19062	120.5	0.41	33	27.01	11.51	12.54

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?			X	
Well Casing Intact?			X	
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-76-181

Date	08/23/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	26.95
Water Quality Meter	YSI	Gallons in Well	25.36
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	182.45
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	178
Water Column in Well	155.5	Total Volume to Remove	25.36
		EB Sample ID	Mw-784-Q319
Did Well Dewater?	No	EB Time	10:50
Sample Date	08/23/2019	MS/MSD Sample ID	
Sample Time	10:42	MS/MSD Sample Time	
Sample ID	MW-C-181-Q319	Double Filter Turbidity	
Single Filter Turbidity	5	Post Sampling Turbidity	
Without Filter Turbidity	23	Purge Date	08/23/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:20	500	1500	29.4	8.02	16905	147.1	0.67	1000	26.99	9.86	10.93
10:23	500	3000	28.7	7.87	17314	158.9	0.52	228	26.99	10.04	11.27
10:26	500	4500	29.4	7.88	17487	122.2	0.20	90	26.99	10.04	11.27
10:29	500	6000	29.4	7.88	17481	118.3	0.21	33	26.99	10.04	11.27
10:32	500	7500	29.3	7.89	17488	112.0	0.21	24	26.99	10.04	11.27
10:35	500	9000	29.1	7.91	17572	108.9	0.22	24	26.99	10.04	11.27
10:38	500	10500	29.2	7.92	17612	106.5	0.22	25	26.99	10.04	11.27
10:41	500	12000	29.2	7.92	17655	104.4	0.21	23	26.99	10.04	11.27

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?			X	
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-76-156

Date	08/23/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	28.53
Water Quality Meter	YSI	Gallons in Well	20.88
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	156.55
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	145
Water Column in Well	128.02	Total Volume to Remove	20.88
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/23/2019	MS/MSD Sample ID	
Sample Time	09:46	MS/MSD Sample Time	
Sample ID	MW-C-156-Q319	Double Filter Turbidity	
Single Filter Turbidity	6	Post Sampling Turbidity	
Without Filter Turbidity	20	Purge Date	08/23/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:26	500	1500	30.1	8.31	13811	-186.6	0.41	14	28.58	7.87	8.77
09:29	500	3000	30.2	8.25	14026	-190.4	0.28	35	28.58	7.87	8.77
09:32	500	4500	29.8	8.19	14856	-200.2	0.22	26	28.58	7.87	8.77
09:35	500	6000	29.8	8.10	15482	-202.3	0.21	22	28.58	7.87	8.77
09:38	500	7500	29.8	8.10	15242	-204.5	0.21	20	28.58	7.87	8.77
09:41	500	9000	29.9	8.11	15426	-209.8	0.20	19	28.58	7.87	8.77
09:44	500	10500	30.0	8.11	15466	-211.5	0.20	20	28.58	7.87	8.77

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?			X	
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

C-BNS

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	15
Casing Material	PVC	Odor	None
Comments	2102139.96 N, 7616948.68 E	Pump Intake Depth (ft bmp)	
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	08/21/2019	EB Sample ID	
Sample Time	11:50	EB Time	
Sample ID	C-BNS-Q319	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	2	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:49	500		22.1	8.15	951	66.2	7.12	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-NR3-D

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	10
Comments	2106757.26 N, 7611725.41 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	9
Sample Date	08/22/2019	Total Volume to Remove	
Sample Time	12:00	EB Sample ID	
Sample ID	C-NR3-D-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:59	500		22.1	8.03	961	78.6	7.36	2		0.47	0.62

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-NR4-D

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	11
Comments	2108625.26 N, 7607997.90 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	10
Sample Date	08/22/2019	Total Volume to Remove	
Sample Time	12:45	EB Sample ID	
Sample ID	C-NR4-D-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:44	500		22.9	8.44	949	64.9	6.93	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-R22A-D

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	6
Comments	2101638.70 N, 7616969.49 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	5
Sample Date	08/21/2019	Total Volume to Remove	
Sample Time	10:45	EB Sample ID	
Sample ID	C-R22A-D-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:44	500		21.8	8.11	958	68.9	7.83	2		0.47	0.62

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-R27-D

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Sampling Type	River Sample	Gallons in Well	
Comments	2102559.25 N, 7616717.45 E	Measured Well Depth (ft bmp)	6
Did Well Dewater?	No	Odor	None
Sample Date	08/21/2019	Pump Intake Depth (ft bmp)	5
Sample Time	12:30	Total Volume to Remove	
Sample ID	C-R27-D-Q319	EB Sample ID	
Duplicate Sample ID	MW-905-Q319	EB Time	
Dup Sample Time	12:40	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	3	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:29	500		22.7	8.13	952	64.9	7.41	3		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-TAZ-D

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	14
Comments	2100869.26 N, 7618856.16 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	13
Sample Date	08/21/2019	Total Volume to Remove	
Sample Time	08:35	EB Sample ID	
Sample ID	C-TAZ-D-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	3	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:34	500		21.5	8.09	952	61.9	7.51	3		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-54-195

Date	08/22/2019	Sampler	Andrew Pham
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	0
Purge Volume Units	Ml	Depth to Water (ft bmp)	10.94
Water Quality Meter	YSI	Gallons in Well	29.37
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	191.02
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	181
Water Column in Well	180.08	Total Volume to Remove	0.0
		EB Sample ID	MW-54-195-EB-0819
Did Well Dewater?	No	EB Time	07:15
Sample Date	08/22/2019	MS/MSD Sample ID	
Sample Time	07:50	MS/MSD Sample Time	
Sample ID	MW-54-195-Q319	Double Filter Turbidity	1
Single Filter Turbidity	2	Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:31	500	1500	27.5	8.32	17750	25.8	0.53	15	11.00	10.43	11.54
07:34	500	3000	27.5	8.32	17739	30.2	0.46	14	11.00	10.42	11.54
07:37	500	4500	27.6	8.31	17738	34.4	0.34	14	11.00	10.43	11.52
07:40	500	6000	27.6	8.32	17750	35.8	0.22	13	11.02	10.44	11.54
07:43	500	7500	27.6	8.32	17727	36.8	0.19	13	11.02	10.42	11.52
07:46	500	9000	27.6	8.33	17742	37.2	0.15	12	11.02	10.43	11.54

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

MW-57-050

Date	08/19/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Gal	Depth to Water (ft bmp)	51.72
Water Quality Meter	YSI	Gallons in Well	0.0
Sampling Type	Volume Purge – Grundfos RF2	Measured Well Depth (ft bmp)	51.72
Casing Material	PVC	Odor	
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	
Water Column in Well	0.0	Total Volume to Remove	
		EB Sample ID	
Comments	Well is dry	EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:02											

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Aug 19,2019 11:58:08 AM
Location:MW-57-050 Latitude:34.875803 , Longitude:-114.808151

MW-58-065

Date	08/19/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	
Casing Material	PVC	Casing Volume to Remove	
Casing Diameter (in)	2	Depth to Water (ft bmp)	66.60
Water Column in Well	0.54	Gallons in Well	0.09
		Measured Well Depth (ft bmp)	67.14
Comments	Well is insufficient	Odor	
Did Well Dewater?	NA	Pump Intake Depth (ft bmp)	
Sample Date	08/19/2019	Total Volume to Remove	
Sample ID	MW-58-065-Q319	EB Sample ID	EB-702-Q319
		EB Time	15:30
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:31	0	0							66.60		

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	
Remarks				

Photos and Drawings

Aug 19,2019 02:29:50 PM
Location:MW-58-065 Latitude:34.71399 , Longitude:-114.490378

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-58BR

Date	08/19/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	66.51
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	None
Casing Diameter (in)	6	Pump Intake Depth (ft bmp)	
Comments	Dedicated QED	Total Volume to Remove	
Did Well Dewater?	No	EB Sample ID	
Sample Date	08/19/2019	EB Time	
Sample Time	14:58	MS/MSD Sample ID	
Sample ID	MW-58BR-Q319	MS/MSD Sample Time	
Duplicate Sample ID	MW-901-Q319	Double Filter Turbidity	
Dup Sample Time	15:08	Post Sampling Turbidity	
Single Filter Turbidity	1	Purge Date	08/19/2019
Without Filter Turbidity	3		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:29	200	800	30.5	8.04	9364	47.9	0.44	23	66.62	5.20	6.07
14:33	200	1600	30.4	7.99	9360	45.9	0.34	13	66.68	5.20	6.07
14:37	200	2400	30.4	7.96	9353	45.3	0.31	6	66.70	5.21	6.07
14:41	200	3200	30.5	7.95	9350	45.0	0.34	4	66.71	5.20	6.07
14:45	200	4000	30.5	7.94	9350	44.3	0.34	3	66.71	5.20	6.07
14:49	200	4800	30.6	7.94	9348	44.1	0.32	3	66.72	5.19	6.07
14:53	200	5600	30.6	7.94	9346	44.0	0.31	3	66.72	5.19	6.07
14:57	200	6400	30.6	7.93	9345	43.6	0.30	3	66.72	5.19	6.07

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-64BR

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	119.30
Water Quality Meter	YSI	Gallons in Well	203.61
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	258.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	6	Pump Intake Depth (ft bmp)	
Water Column in Well	138.7	Total Volume to Remove	
		EB Sample ID	
Comments	Dedicated QED	EB Time	
Did Well Dewater?	No	MS/MSD Sample ID	
Sample Date	08/22/2019	MS/MSD Sample Time	
Sample Time	14:54	Double Filter Turbidity	
Sample ID	MW-64BR-Q319	Post Sampling Turbidity	
Single Filter Turbidity	1	Purge Date	08/22/2019
Without Filter Turbidity	3		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:25	200	800	33.1	7.80	14697	7.1	0.27	9	119.41	8.42	9.56
14:29	200	1600	33.4	7.76	14650	11.4	0.23	6	119.48	8.35	9.52
14:33	200	2400	33.4	7.75	14663	12.9	0.20	5	119.53	8.35	9.52
14:37	200	3200	33.4	7.75	14680	9.6	0.19	5	119.55	8.37	9.55
14:41	200	4000	33.4	7.75	14683	10.6	0.19	4	119.53	8.37	9.55
14:45	200	4800	33.6	7.73	14685	11.0	0.18	4	119.56	8.37	9.55
14:49	200	5600	33.6	7.73	14689	11.6	0.18	3	119.56	8.37	9.55
14:53	200	6400	33.6	7.72	14690	11.9	0.17	3	119.56	8.37	9.55

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-72-080

Date	08/22/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	57.54
Water Quality Meter	YSI	Gallons in Well	3.44
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	78.61
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	73
Water Column in Well	21.07	Total Volume to Remove	3.44
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/22/2019	MS/MSD Sample ID	
Sample Time	13:44	MS/MSD Sample Time	
Sample ID	MW-72-080-Q319	Double Filter Turbidity	
Single Filter Turbidity	7	Post Sampling Turbidity	
Without Filter Turbidity	29	Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:19	500	1500	28.9	7.97	15628	167.8	0.99	116	57.60	9.19	10.29
13:22	500	3000	29.0	7.97	15632	167.8	0.91	83	57.60	9.19	10.28
13:25	500	4500	29.0	7.98	15660	168.4	0.91	63	57.60	9.19	10.28
13:28	500	6000	29.0	7.98	15660	168.9	0.93	50	57.60	9.19	10.28
13:31	500	7500	28.9	7.98	15705	169.1	0.99	36	57.60	9.19	10.28
13:34	500	9000	29.0	7.98	15732	169.4	1.00	35	57.60	9.19	10.28
13:37	500	10500	28.9	7.97	15774	169.9	1.04	34	57.60	9.19	10.28
13:40	500	12000	28.9	7.97	15751	170.0	1.05	35	57.60	9.19	10.28
13:43	500	13500	29.0	7.98	15720	170.2	1.06	33	57.60	9.19	10.28

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-73-080

Date	08/22/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	50.33
Water Quality Meter	YSI	Gallons in Well	4.75
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	79.45
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	75
Water Column in Well	29.12	Total Volume to Remove	4.75
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	08/22/2019	MS/MSD Sample ID	
Sample Time	14:50	MS/MSD Sample Time	
Sample ID	MW-73-080-Q319	Double Filter Turbidity	
Single Filter Turbidity	7	Post Sampling Turbidity	
Without Filter Turbidity	45	Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:34	200	600	28.7	7.67	11824	134.0	1.14	55	51.55	6.70	7.66
14:37	200	1200	28.9	7.65	12044	132.0	1.00	50	51.60	6.70	7.66
14:40	200	1800	29.0	7.64	12211	131.0	1.03	48	51.77	6.70	7.66
14:43	200	2400	29.0	7.63	12255	130.8	1.05	45	51.80	6.70	7.66
14:46	200	3000	28.9	7.63	12301	129.8	1.06	45	51.82	6.70	7.66
14:49	200	3600	28.9	7.63	12313	129.5	1.03	45	51.82	6.70	7.66

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?		X		
Action Completed?			X	

Photos and Drawings

PE-01

Date	08/07/2019	Sampler	Spencer Doolittle,Andrew Pham
Weather Conditions	Sunny	Color	Clear
Purge Method	Extraction Port	Casing Volume to Remove	
Purge Volume Units	Ml,Gal	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Extraction port	Measured Well Depth (ft bmp)	
Casing Material	Stainless Steel	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	
Sample Date	08/07/2019,08/22/2019	Total Volume to Remove	
Sample Time	12:30,12:10	EB Sample ID	
Sample ID	PE-01-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	1,2	MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	08/07/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:10	1	5	33.6	7.57	98.1	158.2	0.44	2		0.04	0.06
12:30			33.1	7.50	2707	-11.1	1.09	1			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?			X	
Standing or Ponded Water?			X	
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?			X	
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?	X			
PVC Cap Present?			X	
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

Aug 22,2019 12:03:42 PM
Location:PE-01 Latitude:34.719794 , Longitude:-114.491089

R-19

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	3
Comments	2103323.50 N, 7616202.31 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	2
Sample Date	08/22/2019	Total Volume to Remove	
Sample Time	09:10	EB Sample ID	
Sample ID	R-19-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:09			22.2	8.13	954	60.3	7.59	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

R-28

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	3
Comments	2103076.57 N, 7616324.97 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	2
Sample Date	08/21/2019	Total Volume to Remove	
Sample Time	13:15	EB Sample ID	
Sample ID	R-28-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	3	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:14	500		23.0	8.13	958	62.9	7.79	3		0.47	0.62

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

R63

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	3
Comments	2100798.24 N, 7617352.72 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	2
Sample Date	08/21/2019	Total Volume to Remove	
Sample Time	10:15	EB Sample ID	
Sample ID	R63-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	3	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:14	500		22.2	8.15	956	66.9	7.46	3		0.47	0.62

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

RMP-AB1

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Comments	2101638.70 N, 7616969.49 E	Casing Volume to Remove	
Sample Date	08/21/2019	Depth to Water (ft bmp)	
Sample Time	10:30	Gallons in Well	
Sample ID	RMP-AB1-Q319	Measured Well Depth (ft bmp)	
		Odor	None
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:25											

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

RMP-AB2

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Comments	2103076.57 N, 7616324.97 E	Casing Volume to Remove	
Did Well Dewater?	No	Depth to Water (ft bmp)	
Sample Date	08/21/2019	Gallons in Well	
Sample Time	13:30	Measured Well Depth (ft bmp)	
Sample ID	RMP-AB2-Q319	Odor	None
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:30											

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

RMP-AB3

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Comments	2108625.26 N, 7607997.90 E	Casing Volume to Remove	
Sample Date	08/22/2019	Depth to Water (ft bmp)	
Sample Time	13:15	Gallons in Well	
Sample ID	RMP-AB3-Q319	Measured Well Depth (ft bmp)	
		Odor	None
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:15											

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

RRB

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Surface water	Measured Well Depth (ft bmp)	
Comments	2104536.53 N, 7615238.97 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	
Sample Date	08/22/2019	Total Volume to Remove	
Sample Time	09:35	EB Sample ID	
Sample ID	RRB-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	3	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:35			21.6	8.02	981	57.9		3		0.47	0.62

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

SW1

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Surface water	Measured Well Depth (ft bmp)	
Comments	2101306.62 N, 7616724.26 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	
Sample Date	08/21/2019	Total Volume to Remove	
Sample Time	14:30	EB Sample ID	
Sample ID	SW1-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	8	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:30			23.6	7.98	1020	62.7	3.62	8		0.50	0.66

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

SW2

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Surface water	Measured Well Depth (ft bmp)	
Comments	2101076.21 N, 7616905.93 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	
Sample Date	08/21/2019	Total Volume to Remove	
Sample Time	14:50	EB Sample ID	
Sample ID	SW2-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	6	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:50			23.3	8.01	1016	56.9	4.68	6		0.50	0.65

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

TW-03D

Date	08/07/2019	Sampler	Spencer Doolittle,Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Extraction Port	Casing Volume to Remove	
Purge Volume Units	Ml,Gal	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Extraction port	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	None
Comments	Port sample	Pump Intake Depth (ft bmp)	
Did Well Dewater?	NA	Total Volume to Remove	
Sample Date	08/07/2019,08/22/2019	EB Sample ID	
Sample Time	12:20,12:25	EB Time	
Sample ID	TW-03D-Q319	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	1,3	Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	08/07/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:20			29.9	7.24	9196	7.9	2.17	1			
12:20	1	5	26.4	7.68	5623	118.4	1.90	3		2.48	2.89

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?			X	
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?			X	
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?		X		
Action Completed?			X	
Remarks				

Photos and Drawings

C-CON-D

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	12
Comments	2105632.84 N, 7614087.61 E	Odor	None
Sample Date	08/22/2019	Pump Intake Depth (ft bmp)	11
Sample Time	10:05	Total Volume to Remove	
Sample ID	C-CON-D-Q319	EB Sample ID	
Single Filter Turbidity	1	EB Time	
Without Filter Turbidity	2	MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:04			22.0	8.12	948	61.6	7.24	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-CON-S

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	12
Comments	2105632.84 N, 7614087.61 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	08/22/2019	Total Volume to Remove	
Sample Time	10:20	EB Sample ID	
Sample ID	C-CON-S-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:19	500		22.2	8.15	946	65.7	7.09	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-I-3-D

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	13
Comments	2101055.46 N, 7617745.00 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	12
Sample Date	08/21/2019	Total Volume to Remove	
Sample Time	09:20	EB Sample ID	
Sample ID	C-I-3-D-Q319	EB Time	
Duplicate Sample ID	MW-904-Q319	MS/MSD Sample ID	
Dup Sample Time	09:30	MS/MSD Sample Time	
Single Filter Turbidity	1	Double Filter Turbidity	
Without Filter Turbidity	3	Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:19	500		21.4	8.12	951	67.6	7.58	3		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-I-3-S

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	13
Comments	2101055.46 N, 7617745.00 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	08/21/2019	Total Volume to Remove	
Sample Time	09:50	EB Sample ID	
Sample ID	C-I-3-S-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:49	500		21.4	8.13	952	65.8	7.12	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-MAR-D

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	6
Comments	2102571.80 N, 7617737.85 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	5
Sample Date	08/22/2019	Total Volume to Remove	
Sample Time	08:30	EB Sample ID	
Sample ID	C-MAR-D-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	8	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:29	500		22.0	8.15	947	49.6	7.79	8		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-MAR-S

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	6
Comments	2102571.80 N, 7617737.85 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	08/22/2019	Total Volume to Remove	
Sample Time	08:45	EB Sample ID	
Sample ID	C-MAR-S-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	5	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:44	500		22.1	8.16	956	51.6	7.76	5		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-NR1-D

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	8
Comments	2106026.49 N, 7613284.78 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	7
Sample Date	08/22/2019	Total Volume to Remove	
Sample Time	10:50	EB Sample ID	
Sample ID	C-NR1-D-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:49	500		22.2	8.11	948	64.9	7.12	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-NR1-S

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	8
Comments	2106026.49 N, 7613284.78 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	08/22/2019	Total Volume to Remove	
Sample Time	11:05	EB Sample ID	
Sample ID	C-NR1-S-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:04	500		22.1	8.15	946	65.9	7.08	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-NR3-S

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	10
Comments	2106757.26 N, 7611725.41 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	08/22/2019	Total Volume to Remove	
Sample Time	12:15	EB Sample ID	
Sample ID	C-NR3-S-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:14	500		22.5	8.10	947	66.9	6.93	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-NR4-S

Date	08/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	11
Comments	2108625.26 N, 7607997.90 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	08/22/2019	Total Volume to Remove	
Sample Time	13:05	EB Sample ID	
Sample ID	C-NR4-S-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:04	500		22.9	8.16	950	61.0	6.82	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-R22A-S

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	6
Comments	2101638.70 N, 7616969.49 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	08/21/2019	Total Volume to Remove	
Sample Time	11:05	EB Sample ID	
Sample ID	C-R22A-S-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:04	500		22.3	8.15	952	71.6	7.50	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

C-R27-S

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	6
Comments	2102559.25 N, 7616717.45 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	08/21/2019	Total Volume to Remove	
Sample Time	12:55	EB Sample ID	
Sample ID	C-R27-S-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	3	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:54	500		23.1	8.15	955	66.0	7.48	3		0.47	0.62

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-TAZ-S

Date	08/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	14
Comments	2100869.26 N, 7618856.16 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	08/21/2019	Total Volume to Remove	
Sample Time	08:50	EB Sample ID	
Sample ID	C-TAZ-S-Q319	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	08/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:49	500		21.4	8.11	954	65.9	7.63	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-78-142

Date	09/26/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	46.80
Water Quality Meter	YSI	Gallons in Well	15.53
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	142.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	132
Water Column in Well	95.2	Total Volume to Remove	
		EB Sample ID	EB-704-Q319
Did Well Dewater?	No	EB Time	16:00
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	15:37	MS/MSD Sample Time	
Sample ID	MW-E-142-LF-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	15	Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:20	500	2000	29.7	7.42	12498	110.7	0.80	38	46.90	7.38	8.41
15:24	500	4000	29.9	7.43	12541	100.7	0.64	25	46.90	7.36	8.39
15:28	500	6000	29.9	7.41	12569	95.9	0.56	20	46.90	7.44	8.47
15:32	500	8000	29.9	7.42	12598	93.8	0.52	18	46.90	7.44	8.47
15:36	500	10000	29.9	7.42	12631	91.0	0.48	15	46.90	7.44	8.47

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?	X			
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

MW-78-072

Date	09/26/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	46.20
Water Quality Meter	YSI	Gallons in Well	4.17
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	71.77
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	60
Water Column in Well	25.57	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	14:33	MS/MSD Sample Time	
Sample ID	MW-E-72-LF-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:16	500	2000	29.8	7.61	2482	68.1	7.44	20	46.28	1.35	1.71
14:20	500	4000	29.8	7.56	2483	71.1	7.17	14	46.33	1.35	1.71
14:24	500	6000	29.9	7.52	2486	74.4	7.03	10	46.33	1.35	1.71
14:28	500	8000	29.9	7.50	2489	77.0	6.97	8	46.33	1.35	1.71
14:32	500	10000	29.9	7.50	2494	75.3	6.83	8	46.36	1.33	1.68

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?	X			
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-79-104

Date	09/26/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	45.84
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	99
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	09/27/2019	EB Sample ID	EB-706-Q319
Sample Time	11:09	EB Time	11:30
Sample ID	MW-F-104-Q319	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	3	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:52	500	2000	29.7	7.58	8630	120.7	1.20	6	45.94	5.01	5.86
10:56	500	4000	29.8	7.58	8633	116.5	1.29	5	45.94	5.01	5.86
11:00	500	6000	29.9	7.59	8642	115.2	1.34	3	45.94	5.01	6.87
11:04	500	8000	30.0	7.59	8638	112.8	1.27	3	45.94	5.01	6.87
11:08	500	10000	30.0	7.59	8644	110.7	1.23	3	45.94	5.01	6.87

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-79-060

Date	09/27/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	45.94
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	55
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	09/27/2019	EB Sample ID	
Sample Time	10:15	EB Time	
Sample ID	MW-F-60-Q319	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	18	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/27/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:58	500	2000	29.7	7.49	3347	81.0	3.74	48	46.04	1.85	2.31
10:02	500	4000	29.9	7.50	3333	81.4	3.84	28	46.06	1.84	2.30
10:06	500	6000	29.7	7.51	3325	82.5	3.99	22	46.10	1.84	2.29
10:10	500	8000	29.8	7.51	3319	83.4	4.12	20	46.13	1.84	2.29
10:14	500	10000	29.9	7.51	3312	84.0	4.18	18	46.13	1.84	2.29

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Item	Yes	No	NA	Notes
Remarks				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-80-057

Date	09/27/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	48.69
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	52
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	09/27/2019	EB Sample ID	
Sample Time	08:11	EB Time	
Sample ID	MW-G-57-Q319	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	12	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/27/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:54	500	2000	29.4	7.90	5433	107.9	4.14	22	48.74	3.12	3.77
07:58	500	4000	29.7	7.83	5419	107.0	4.51	17	48.78	3.09	3.74
08:02	500	6000	29.8	7.80	5413	106.2	4.54	13	48.81	3.09	3.73
08:06	500	8000	29.9	7.78	5411	104.5	4.57	12	48.81	3.09	3.73
08:11	500	10000	29.9	7.77	5402	102.4	4.60	12	48.84	3.09	3.73

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-80-082

Date	09/27/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	49.11
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	77
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	09/27/2019	EB Sample ID	
Sample Time	09:21	EB Time	
Sample ID	MW-G-82-Q319	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	8	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/27/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:04	500	2000	29.4	7.44	9405	124.8	4.33	20	49.23	5.52	6.43
09:08	500	4000	29.4	7.44	9411	116.2	4.15	15	49.23	5.52	6.42
09:12	500	6000	29.5	7.43	9418	112.1	4.06	10	49.23	5.52	6.42
09:16	500	8000	29.6	7.43	9415	109.0	4.01	8	49.23	5.52	6.42
09:20	500	10000	29.6	7.43	9421	106.2	3.97	8	49.23	5.52	6.42

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?	X			
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-83-245

Date	09/25/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	73.90
Water Quality Meter	YSI	Gallons in Well	27.91
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	245.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	240
Water Column in Well	171.1	Total Volume to Remove	
		EB Sample ID	EB-789-Q319
Did Well Dewater?	No	EB Time	15:00
Sample Date	09/25/2019	MS/MSD Sample ID	
Sample Time	14:30	MS/MSD Sample Time	
Sample ID	MW-L-245-Q319	Double Filter Turbidity	
Duplicate Sample ID	MW-910-Q319	Post Sampling Turbidity	
Dup Sample Time	14:40	Purge Date	09/25/2019
Single Filter Turbidity	1		
Without Filter Turbidity	2		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:09	500	2000	29.8	9.16	18372	-59.6	0.35	9	74.02	10.75	11.89
14:13	500	4000	29.8	8.93	18604	-29.6	0.49	3	74.02	10.96	12.11
14:17	500	6000	30.1	8.89	18745	-14.9	0.26	2	74.02	11.03	12.21
14:21	500	8000	30.3	8.86	18847	-13.9	0.21	2	74.02	11.09	12.26
14:25	500	10000	30.3	8.86	18871	-13.2	0.20	2	74.02	11.09	12.26
14:29	500	12000	30.3	8.86	18849	-13.0	0.20	2	74.02	11.09	12.26

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-83-90

Date	09/25/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	73.27
Water Quality Meter	YSI	Gallons in Well	3.02
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	91.77
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	82
Water Column in Well	18.5	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/25/2019	MS/MSD Sample ID	
Sample Time	11:05	MS/MSD Sample Time	
Sample ID	MW-L-90-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
		Purge Date	09/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:48	500	2000	30.9	7.64	2320	71.4	4.40		73.40	1.27	1.62
10:52	500	4000	30.8	7.56	2328	75.9	4.33		73.40	1.26	1.60
10:56	500	6000	30.7	7.54	2331	77.2	4.35		73.40	1.26	1.61
11:00	500	8000	30.7	7.53	2333	79.4	4.31		73.40	1.26	1.61
11:04	500	10000	30.7	7.53	2334	81.0	4.28		73.40	1.26	1.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-83-180

Date	09/25/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	73.27
Water Quality Meter	YSI	Gallons in Well	17.41
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	180.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	170
Water Column in Well	106.73	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/25/2019	MS/MSD Sample ID	
Sample Time	13:57	MS/MSD Sample Time	
Sample ID	MW-L-180-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	24	Purge Date	09/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:40	500	2000	30.2	7.74	11587	103.5	0.99	38	73.34	7.01	8.00
13:44	500	4000	30.2	7.76	11624	100.2	0.91	32	73.34	7.01	8.00
13:48	500	6000	30.4	7.77	11682	97.8	0.80	28	73.34	7.03	8.02
13:52	500	8000	30.4	7.78	11752	94.4	0.77	26	73.34	7.05	8.03
13:56	500	10000	30.4	7.80	11795	89.2	0.73	24	73.34	7.05	8.04

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-83-225

Date	09/25/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	74.16
Water Quality Meter	YSI	Gallons in Well	24.6
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	225.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	215
Water Column in Well	150.84	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/25/2019	MS/MSD Sample ID	
Sample Time	14:55	MS/MSD Sample Time	
Sample ID	MW-L-225-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	09/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:38	500	2000	30.4	7.96	16582	101.7	1.01	10	74.28	10.08	11.18
14:42	500	4000	30.5	7.98	16602	96.5	0.79	5	74.28	10.15	11.29
14:48	500	6000	30.6	8.00	16642	94.2	0.64	5	74.28	10.18	11.32
14:50	500	8000	30.6	8.00	16672	91.7	0.59	5	74.28	10.19	11.32
14:54	500	10000	30.6	8.00	76681	90.0	0.56	5	74.28	10.19	11.32

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-85-129

Date	09/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	114.11
Water Quality Meter	YSI	Gallons in Well	2.79
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	131.24
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	121
Water Column in Well	17.13	Total Volume to Remove	
		EB Sample ID	EB-787-Q319
Did Well Dewater?	No	EB Time	15:50
Sample Date	09/24/2019	MS/MSD Sample ID	
Sample Time	15:32	MS/MSD Sample Time	
Sample ID	MW-N-129-Q319	Double Filter Turbidity	
Duplicate Sample ID	MW-909-Q319	Post Sampling Turbidity	
Dup Sample Time	15:42	Purge Date	09/24/2019
Single Filter Turbidity	1		
Without Filter Turbidity	9		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:11	500	2000	31.9	7.33	2121	50.3	5.75	91	114.19	1.06	1.37
15:15	500	4000	32.1	7.34	2110	49.8	5.60	56	114.19	1.05	1.37
15:19	500	6000	32.0	7.34	2077	49.3	5.64	23	114.19	1.06	1.34
15:23	500	8000	32.3	7.33	2112	50.1	5.40	10	114.19	1.07	1.35
15:27	500	10000	32.4	7.33	2116	50.9	5.42	9	114.19	1.07	1.35
15:31	500	12000	32.4	7.33	2117	51.3	5.43	9	114.19	1.07	1.35

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-85-217

Date	09/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Green
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	113.41
Water Quality Meter	YSI	Gallons in Well	16.98
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	217.51
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	206
Water Column in Well	104.1	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/24/2019	MS/MSD Sample ID	
Sample Time	14:42	MS/MSD Sample Time	
Sample ID	MW-N-217-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:17	500	2000	31.4	7.91	13142	32.4	0.16	82	113.60	7.48	8.54
14:21	500	4000	31.4	7.91	13147	32.2	0.15	49	113.60	7.50	8.54
14:25	500	6000	31.4	7.89	13103	31.7	0.15	31	113.60	7.49	8.54
14:29	500	8000	31.5	7.89	13127	30.7	0.14	19	113.60	7.47	8.52
14:33	500	10000	31.6	7.89	13115	30.1	0.14	10	113.60	7.48	8.52
14:37	500	12000	31.6	7.89	13120	29.9	0.14	9	113.60	7.48	8.52
14:41	500	14000	31.6	7.89	13121	29.5	0.13	9	113.60	7.48	8.52

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-85-237

Date	09/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Yellow
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	113.52
Water Quality Meter	YSI	Gallons in Well	20.33
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	238.18
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	231
Water Column in Well	124.66	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/24/2019	MS/MSD Sample ID	
Sample Time	13:44	MS/MSD Sample Time	
Sample ID	MW-N-237-Q319	Double Filter Turbidity	1
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	18	Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:46											
13:19	500	2000	29.8	8.11	16170	49.1	0.37	259	113.66	9.59	10.80
13:23	500	4000	31.3	8.03	18376	43.9	0.25	78	113.68	10.79	11.96
13:27	500	6000	31.2	7.94	18536	39.6	0.24	36	113.68	10.88	12.03
13:31	500	8000	31.2	7.91	18523	38.8	0.24	23	113.68	10.74	12.05
13:35	500	10000	31.3	7.89	18496	35.5	0.26	19	113.68	10.74	12.05
13:39	500	12000	31.3	7.89	18492	34.6	0.26	18	113.68	10.74	12.05
13:43	500	14000	31.3	7.89	18490	34.0	0.26	18	113.68	10.74	12.05

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-90-031

Date	09/23/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Yellow
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	4.05
Water Quality Meter	YSI	Gallons in Well	4.54
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	31.90
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	26.5
Water Column in Well	27.85	Total Volume to Remove	4.54
		EB Sample ID	EB-785-Q319
Did Well Dewater?	No	EB Time	15:30
Sample Date	09/23/2019	MS/MSD Sample ID	
Sample Time	15:16	MS/MSD Sample Time	
Sample ID	MW-W-31-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	09/23/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:59	500	2000	26.3	6.92	14419	-112.6	0.07	6	4.20	8.35	9.36
15:03	500	4000	26.3	6.95	14764	-113.9	0.06	5	4.20	8.55	9.59
15:07	500	6000	26.3	6.96	14739	-113.9	0.05	5	4.20	8.55	9.61
15:11	500	8000	26.4	6.96	14741	-114.3	0.05	4	4.20	8.55	9.62
15:15	500	10000	26.4	6.96	14743	-114.9	0.05	4	4.20	8.55	9.62

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-75-117

Date	09/27/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	17.05
Water Quality Meter	YSI	Gallons in Well	16.3
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	117.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	107
Water Column in Well	99.95	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/27/2019	MS/MSD Sample ID	
Sample Time	08:58	MS/MSD Sample Time	
Sample ID	MW-B-117-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	09/27/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:37	500	2000	27.7	7.74	11490	-10.6	0.21	3	17.11	6.51	7.46
08:41	500	4000	27.7	7.75	11438	0.1	0.14	2	17.11	6.48	7.44
08:45	500	6000	27.7	7.75	11439	2.8	0.14	2	17.11	6.48	7.42
08:49	500	8000	27.8	7.75	11431	7.9	0.13	2	17.11	6.46	7.42
08:53	500	10000	27.8	7.75	11428	8.6	0.13	2	17.11	6.46	7.42
08:57	500	12000	27.8	7.75	11426	9.1	0.12	2	17.11	6.46	7.42

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-75-033

Date	09/27/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	16.90
Water Quality Meter	YSI	Gallons in Well	2.82
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	34.20
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	25
Water Column in Well	17.3	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/27/2019	MS/MSD Sample ID	
Sample Time	08:16	MS/MSD Sample Time	
Sample ID	MW-B-33-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	09/27/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:55	500	2000	27.4	7.59	4906	20.6	0.77	53	16.99	2.60	3.18
07:59	500	4000	27.4	7.60	4897	20.1	0.73	30	16.99	2.61	3.17
08:03	500	6000	27.4	7.60	4895	22.4	0.75	14	16.99	2.61	3.18
08:07	500	8000	27.4	7.61	4873	28.1	0.78	9	16.99	2.60	3.17
08:11	500	10000	27.4	7.61	4872	29.0	0.78	8	16.99	2.60	3.17
08:15	500	12000	27.4	7.61	4870	29.3	0.78	8	16.99	2.60	3.17

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-10D

Date	09/25/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	74.90
Water Quality Meter	YSI	Gallons in Well	8.57
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	127.45
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	115
Water Column in Well	52.55	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/25/2019	MS/MSD Sample ID	
Sample Time	08:38	MS/MSD Sample Time	
Sample ID	MW-10D-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	09/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:21	500	2000	30.0	7.51	4075	14.9	1.29	24	74.99	2.15	2.66
08:25	500	4000	30.2	7.50	4088	12.5	1.28	12	75.01	2.15	2.64
08:29	500	6000	30.2	7.50	4090	11.9	1.28	6	75.01	2.15	2.64
08:33	500	8000	30.2	7.49	4093	11.0	1.26	5	75.01	2.15	2.64
08:37	500	10000	30.2	7.49	4094	10.6	1.26	5	75.01	2.15	2.64

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?			X	
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-89-183

Date	09/26/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	130.32
Water Quality Meter	YSI	Gallons in Well	8.59
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	183.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	173
Water Column in Well	52.68	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	11:32	MS/MSD Sample Time	
Sample ID	MW-U-183-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:11	500	2000	30.8	7.54	7271	40.1	4.07	2	130.40	3.98	4.73
11:15	500	4000	30.9	7.53	7317	39.8	3.88	2	130.40	3.98	4.75
11:19	500	6000	30.9	7.53	7297	38.6	3.50	1	130.40	3.98	4.75
11:23	500	8000	30.9	7.53	7295	37.9	3.45	1	130.40	3.98	4.75
11:27	500	10000	30.9	7.52	7293	37.5	3.43	1	130.40	3.98	4.75
11:31	500	12000	30.9	7.52	7290	36.8	3.43	1	130.40	3.98	4.75

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-89-273

Date	09/26/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	130.30
Water Quality Meter	YSI	Gallons in Well	23.28
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	273.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	263
Water Column in Well	142.7	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	10:24	MS/MSD Sample Time	
Sample ID	MW-U-273-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:59	500	2000	31.8	7.61	7253	11.0	2.68	57	130.36	3.95	4.72
10:04	500	4000	32.0	7.69	7446	28.9	3.59	21	130.36	4.01	4.80
10:07	500	6000	31.9	7.70	7450	35.9	4.60	12	130.36	4.06	4.84
10:11	500	8000	31.9	7.75	7446	37.3	4.82	8	130.36	4.07	4.84
10:15	500	10000	31.9	7.76	7448	38.6	4.86	6	130.36	4.07	4.84
10:19	500	12000	31.9	7.76	7450	39.0	4.90	5	130.36	4.07	4.84
10:23	500	14000	31.9	7.76	7451	39.5	4.92	5	130.36	4.08	4.84

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-84-057

Date	09/24/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	44.27
Water Quality Meter	YSI	Gallons in Well	2.08
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	57.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	51
Water Column in Well	12.73	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/24/2019	MS/MSD Sample ID	
Sample Time	13:47	MS/MSD Sample Time	
Sample ID	MW-M-57-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	19	Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:30	500	2000	30.5	7.84	1897	60.4	5.62	28	44.40	0.67	0.90
13:34	500	4000	30.7	7.87	1902	55.4	5.29	25	44.40	0.67	0.90
13:38	500	6000	30.8	7.89	1896	52.8	5.02	21	44.40	0.67	0.90
13:42	500	8000	30.8	7.90	1909	48.6	5.08	22	44.40	0.68	0.90
13:46	500	10000	30.8	7.92	1931	44.8	5.12	19	44.40	0.68	0.90

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-84-095

Date	09/24/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	44.17
Water Quality Meter	YSI	Gallons in Well	8.29
Casing Diameter (in)	2	Measured Well Depth (ft bmp)	95.00
Water Column in Well	50.83	Odor	None
		Pump Intake Depth (ft bmp)	85
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	09/24/2019	EB Sample ID	EB-788-Q319
Sample Time	14:39	EB Time	15:00
Sample ID	MW-M-95-Q319	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	15	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:22	500	2000	30.0	7.54	5936	29.7	0.69	24	44.27	3.43	4.03
14:26	500	4000	30.2	7.57	5921	24.4	0.58	20	44.27	3.34	4.03
14:30	500	6000	30.2	7.58	5897	19.9	0.47	17	44.27	3.34	4.03
14:34	500	8000	30.2	7.59	5842	17.4	0.43	17	44.27	3.34	4.03
14:38	500	10000	30.2	7.59	5769	15.1	0.39	15	44.27	3.34	4.03

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-84-132

Date	09/25/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	44.84
Water Quality Meter	YSI	Gallons in Well	14.54
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	134.00
Casing Material	PVC	Odor	
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	122
Water Column in Well	89.16	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/25/2019	MS/MSD Sample ID	
Sample Time	08:32	MS/MSD Sample Time	
Sample ID	MW-M-132-Q319	Double Filter Turbidity	
Duplicate Sample ID	MW-908-Q319	Post Sampling Turbidity	
Dup Sample Time	08:42	Purge Date	09/25/2019
Single Filter Turbidity	1		
Without Filter Turbidity	1		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:15	500	2000	29.2	7.74	8208	120.8	0.80	5	44.90	4.17	4.94
08:19	500	4000	29.6	7.72	8682	110.4	0.65	2	44.90	5.28	6.16
08:23	500	6000	29.8	7.71	9012	92.8	0.57	1	44.90	5.28	6.16
08:27	500	8000	30.0	7.71	9205	89.8	0.48	1	44.90	5.31	6.19
08:31	500	10000	30.1	7.71	9384	82.4	0.44	1	44.90	5.34	6.24

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-84-193

Date	09/25/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	44.78
Water Quality Meter	YSI	Gallons in Well	24.37
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	194.18
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	183
Water Column in Well	149.4	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/25/2019	MS/MSD Sample ID	
Sample Time	09:26	MS/MSD Sample Time	
Sample ID	MW-M-193-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	09/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:09	500	2000	29.4	7.81	13021	99.8	0.81	8	44.86	7.45	8.48
09:13	500	4000	30.0	7.85	13048	94.9	0.76	5	44.86	7.76	8.82
09:17	500	6000	30.2	7.86	13084	91.9	0.73	2	44.86	7.78	8.84
09:21	500	8000	30.0	7.88	13104	88.4	0.76	2	44.86	7.78	8.84
09:25	500	10000	30.0	7.90	13124	86.9	0.80	2	44.86	7.78	8.82

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

MW-87-192

Date	09/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	90.51
Water Quality Meter	YSI	Gallons in Well	16.74
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	193.15
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	182
Water Column in Well	102.64	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/24/2019	MS/MSD Sample ID	
Sample Time	10:08	MS/MSD Sample Time	
Sample ID	MW-R-192-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:47	500	2000	30.1	7.75	9424	-91.9	0.31	38	90.60	5.23	6.11
09:51	500	4000	30.1	7.77	9204	-84.9	0.28	27	90.60	5.10	5.96
09:55	500	6000	30.7	7.78	9194	-80.2	0.30	16	90.60	5.09	5.96
09:59	500	8000	30.8	7.78	9153	-77.3	0.33	10	90.60	5.07	5.93
10:03	500	10000	30.8	7.78	9146	-75.9	0.33	9	90.60	5.07	5.93
10:07	500	12000	30.8	7.78	9145	-75.1	0.32	9	90.60	5.07	5.93

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-87-275

Date	09/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	90.41
Water Quality Meter	YSI	Gallons in Well	30.3
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	276.20
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	265
Water Column in Well	185.79	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/24/2019	MS/MSD Sample ID	
Sample Time	09:08	MS/MSD Sample Time	
Sample ID	MW-R-275-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:43	500	2000	30.7	7.83	11639	-19.6	0.43	21	90.59	6.59	7.54
08:47	500	4000	30.8	7.83	11734	-28.3	0.36	16	90.59	6.34	7.63
08:51	500	6000	30.8	7.84	11769	-32.9	0.32	12	90.6	6.65	7.65
08:55	500	8000	30.8	7.84	11786	-37.9	0.30	10	90.60	6.69	7.65
08:59	500	10000	30.8	7.84	11789	-38.6	0.29	9	90.60	6.72	7.70
09:03	500	12000	30.8	7.84	11788	-39.0	0.28	9	90.60	6.72	7.70
09:07	500	14000	30.8	7.84	11790	-39.6	0.28	9	90.60	6.72	7.70

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-87-109

Date	09/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	96.24
Water Quality Meter	YSI	Gallons in Well	2.41
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	111.02
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	99
Water Column in Well	14.78	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/24/2019	MS/MSD Sample ID	
Sample Time	11:12	MS/MSD Sample Time	
Sample ID	MW-R-109-Q319	Double Filter Turbidity	1
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	23	Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:51	300	1200	29.8	7.75	2596	31.0	3.29	55	90.30	1.32	1.66
10:55	300	2400	29.8	7.75	2313	39.9	4.29	37	90.30	1.17	1.50
10:59	300	3600	29.8	7.75	2319	40.1	4.70	26	90.30	1.18	1.51
11:03	300	4800	29.9	7.75	2323	42.9	4.77	24	90.30	1.18	1.51
11:07	300	6000	29.8	7.75	2287	42.0	4.83	23	90.30	1.17	1.49
11:11	300	7200	29.8	7.75	2289	41.3	4.85	23	90.30	1.17	1.49

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-87-139

Date	09/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	90.22
Water Quality Meter	YSI	Gallons in Well	8.3
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	141.12
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	134
Water Column in Well	50.9	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/24/2019	MS/MSD Sample ID	
Sample Time	12:12	MS/MSD Sample Time	
Sample ID	MW-R-139-Q319	Double Filter Turbidity	1
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	27	Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:51	100	400	33.8	7.32	7615	28.6	1.26	38	90.26	4.15	4.95
11:55	100	800	33.8	7.39	7596	23.9	1.03	34	90.26	4.13	4.93
11:59	100	1200	33.8	7.41	7584	20.9	0.99	30	90.26	4.13	4.92
12:03	100	1600	33.8	7.44	7583	20.1	0.96	28	90.26	4.13	4.92
12:07	100	2000	33.7	7.45	7580	19.8	0.96	27	90.26	4.13	4.92
12:11	100	2400	33.7	7.45	7581	18.6	0.95	27	90.26	4.13	4.92

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-86-140

Date	09/26/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	12.61
Water Quality Meter	YSI	Gallons in Well	20.78
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	140.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	135
Water Column in Well	127.39	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	10:55	MS/MSD Sample Time	
Sample ID	MW-O-140-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:38	500	2000	22.1	7.76	12215	100.4	1.22	6	12.70	3.09	3.70
10:42	500	4000	22.6	7.76	13724	-1.2	1.02	5	12.70	3.45	4.11
10:46	500	6000	22.5	7.82	14002	-39.0	0.80	5	12.70	3.64	4.29
10:50	500	8000	22.6	7.84	14285	-47.8	0.74	3	12.70	3.69	4.36
10:54	500	10000	22.6	7.85	14293	-54.2	0.69	3	12.70	3.69	4.38

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-86-120

Date	09/26/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	13.01
Water Quality Meter	YSI	Gallons in Well	17.45
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	120.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	110
Water Column in Well	106.99	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	13:16	MS/MSD Sample Time	
Sample ID	MW-O-120-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:59	500	2000	22.2	7.58	12489	97.8	0.80	8	13.20	3.47	4.18
13:03	500	4000	22.2	7.60	12504	90.4	0.67	6	13.20	3.50	4.19
13:07	500	6000	22.2	7.63	12513	85.9	0.63	4	13.20	3.53	4.21
13:11	500	8000	22.2	7.64	12524	81.0	0.59	4	13.20	3.53	4.21
13:15	500	10000	22.2	7.65	12624	77.9	0.55	4	13.20	3.47	4.19

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-86-066

Date	09/26/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	12.31
Water Quality Meter	YSI	Gallons in Well	9.25
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	69.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	56
Water Column in Well	56.69	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	12:33	MS/MSD Sample Time	
Sample ID	MW-O-66-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:16	500	2000	20.9	7.46	5915	92.3	0.65	5	12.42	1.61	2.01
12:20	500	4000	21.0	7.47	5955	75.9	0.57	3	12.42	1.66	2.06
12:24	500	6000	21.0	7.48	6001	66.0	0.51	3	12.42	1.68	2.08
12:28	500	8000	21.0	7.48	6043	62.4	0.48	3	12.42	1.68	2.08
12:32	500	10000	21.0	7.48	6084	59.7	0.44	3	12.42	1.68	2.08

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-86-030

Date	09/26/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	12.14
Water Quality Meter	YSI	Gallons in Well	3.34
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	32.60
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	22
Water Column in Well	20.46	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	11:49	MS/MSD Sample Time	
Sample ID	MW-O-30-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	34	Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:32	500	2000	22.8	7.53	1403	44.6	0.68	40	12.27	0.24	0.33
11:36	500	4000	22.8	7.44	1354	42.9	0.65	36	12.27	0.29	0.36
11:40	500	6000	22.8	7.39	1302	43.0	0.63	34	12.27	0.36	0.44
11:44	500	8000	22.8	7.36	1279	41.4	0.61	34	12.27	0.39	0.51
11:48	500	10000	22.9	7.35	1268	39.0	0.58	32	12.27	0.38	0.51

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-76-218

Date	09/24/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	27.00
Water Quality Meter	YSI	Gallons in Well	31.15
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	218.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	213
Water Column in Well	191.0	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/24/2019	MS/MSD Sample ID	
Sample Time	11:39	MS/MSD Sample Time	
Sample ID	MW-C-218-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	18	Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:22	500	2000	28.3	8.13	20498	70.9	0.89	32	27.10	12.97	14.02
11:26	500	4000	28.5	8.16	20571	55.4	0.55	26	27.10	12.97	14.05
11:30	500	6000	28.6	8.17	20613	46.2	0.49	20	27.10	13.03	14.07
11:34	500	8000	28.6	8.19	20689	42.4	0.46	18	27.10	13.03	14.07
11:38	500	10000	28.6	8.21	20775	37.0	0.42	18	27.10	13.03	14.07

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?			X	
Lock in Place?	X			
Evidence of well subsidence?			X	
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-76-181

Date	09/24/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	27.20
Water Quality Meter	YSI	Gallons in Well	25.09
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	181.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	176
Water Column in Well	153.8	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/24/2019	MS/MSD Sample ID	
Sample Time	10:29	MS/MSD Sample Time	
Sample ID	MW-C-181-Q319	Double Filter Turbidity	
Duplicate Sample ID	MW-913-Q319	Post Sampling Turbidity	
Dup Sample Time	10:34	Purge Date	09/24/2019
Single Filter Turbidity	1		
Without Filter Turbidity	22		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:12	500	2000	28.1	7.68	19089	69.0	1.25	35	27.25	11.92	13.04
10:16	500	4000	28.5	7.70	19124	45.9	0.84	25	27.25	11.92	13.04
10:20	500	6000	28.9	7.72	19208	39.4	0.60	24	27.25	11.94	13.11
10:24	500	8000	28.9	7.74	19262	36.0	0.45	22	27.25	11.94	13.11
10:28	500	10000	28.9	7.74	19289	33.5	0.2	22	27.25	11.94	13.11

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?			X	
Lock in Place?	X			
Evidence of well subsidence?			X	
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	

Item	Yes	No	NA	Notes
Well Casing Intact?			X	
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings

MW-76-156

Date	09/24/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	28.66
Water Quality Meter	YSI	Gallons in Well	21.04
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	157.68
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	151
Water Column in Well	129.02	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/24/2019	MS/MSD Sample ID	
Sample Time	08:34	MS/MSD Sample Time	
Sample ID	MW-C-156-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	24	Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:17	500	2000	27.8	7.77	16662	137.2	1.58	42	29.03	8.76	9.84
08:21	500	4000	28.0	7.86	16689	123.6	1.13	34	29.03	9.18	10.26
08:25	500	6000	28.1	7.88	16702	107.8	0.90	27	29.03	9.35	10.43
08:29	500	8000	28.2	7.90	16712	102.9	0.84	25	29.03	9.58	10.69
08:33	500	10000	28.2	7.91	16720	97.9	0.81	24	29.03	9.58	10.69

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?			X	
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-76-039

Date	09/23/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	27.50
Water Quality Meter	YSI	Gallons in Well	2.13
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	40.57
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	34
Water Column in Well	13.07	Total Volume to Remove	
		EB Sample ID	EB-786-Q319
Did Well Dewater?	No	EB Time	16:00
Sample Date	09/23/2019	MS/MSD Sample ID	
Sample Time	15:32	MS/MSD Sample Time	
Sample ID	MW-C-39-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	09/23/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:15	500	2000	29.6	7.40	3800	67.3	1.18	12	27.60	2.00	2.47
15:19	500	4000	30.1	7.42	3803	65.5	0.95	7	27.60	2.01	2.50
15:23	500	6000	29.8	7.44	3806	64.4	0.87	4	27.60	2.02	2.50
15:27	500	8000	29.7	7.46	3808	63.0	0.80	4	27.60	2.02	2.51
15:31	500	10000	29.6	7.50	3810	62.0	0.75	4	27.60	2.02	2.51

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-75-337

Date	09/27/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	18.46
Water Quality Meter	YSI	Gallons in Well	52.2
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	338.50
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	327
Water Column in Well	320.04	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/27/2019	MS/MSD Sample ID	
Sample Time	09:54	MS/MSD Sample Time	
Sample ID	MW-B-337-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	09/27/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:29	500	2000	29.2	7.90	25889	-192.6	0.10	82	18.55	15.72	16.82
09:33	500	4000	29.3	7.90	25900	-191.0	0.09	104	18.55	15.72	16.83
09:37	500	6000	29.4	7.89	26050	-188.6	0.08	50	18.55	15.82	16.93
09:41	500	8000	29.4	7.89	26048	-188.1	0.08	16	18.55	15.82	16.93
09:45	500	10000	29.4	7.89	26053	-187.6	0.08	9	18.55	15.82	16.93
09:49	500	12000	29.4	7.89	26056	-187.0	0.08	8	18.55	15.82	16.93
09:53	500	14000	29.5	7.89	26057	-187.3	0.08	8	18.55	15.82	16.93

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-82-112

Date	09/25/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	28.31
Water Quality Meter	YSI	Gallons in Well	13.92
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	113.68
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	104
Water Column in Well	85.37	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/25/2019	MS/MSD Sample ID	
Sample Time	11:18	MS/MSD Sample Time	
Sample ID	MW-H-112-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	09/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:01	500	2000	27.3	7.77	8270	-67.9	0.10	5	28.40	4.56	5.36
11:05	500	4000	27.1	7.76	8280	-65.9	0.09	3	28.40	4.56	5.38
11:09	500	6000	26.8	7.75	8277	-64.0	0.09	1	28.40	4.58	5.38
11:13	500	8000	26.8	7.75	8276	-63.5	0.08	1	28.40	4.58	5.38
11:17	500	10000	26.8	7.75	8274	-63.1	0.08	1	28.40	4.58	5.38

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?			X	
Photo Taken?	X			

Photos and Drawings

MW-82-168

Date	09/25/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	28.55
Water Quality Meter	YSI	Gallons in Well	22.93
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	169.12
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	161
Water Column in Well	140.57	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/25/2019	MS/MSD Sample ID	
Sample Time	12:04	MS/MSD Sample Time	
Sample ID	MW-H-168-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	09/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:47	500	2000	27.1	7.74	17762	-81.6	0.13	43	28.65	10.44	11.55
11:51	500	4000	27.0	7.74	17782	-71.6	0.14	13	28.65	10.43	11.55
11:55	500	6000	27.1	7.75	17760	-65.9	0.12	6	28.65	10.43	11.52
11:59	500	8000	27.1	7.75	17755	-63.9	0.12	5	28.65	10.43	11.52
12:03	500	10000	27.1	7.75	17753	-62.5	0.11	5	28.65	10.43	11.52

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?			X	
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?			X	
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-82-198

Date	09/25/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	28.36
Water Quality Meter	YSI	Gallons in Well	27.83
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	198.98
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	189
Water Column in Well	170.62	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/25/2019	MS/MSD Sample ID	
Sample Time	13:00	MS/MSD Sample Time	
Sample ID	MW-H-198-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	09/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:39	500	2000	27.1	8.21	18439	-80.7	0.13	104	28.46	10.88	11.96
12:43	500	4000	27.1	8.25	18626	-111.9	0.13	45	28.46	11.03	12.13
12:47	500	6000	27.2	8.27	18810	-115.9	0.12	23	28.46	11.10	12.21
12:51	500	8000	27.2	8.27	18796	-119.0	0.12	9	28.46	11.10	12.20
12:55	500	10000	27.2	8.27	18790	-121.6	0.12	8	28.46	11.10	12.20
12:59	500	12000	27.2	8.28	18780	-123.6	0.12	8	28.46	11.10	12.20

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?			X	

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-82-046

Date	09/25/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Yellow
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	28.25
Water Quality Meter	YSI	Gallons in Well	3.09
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	47.20
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	38
Water Column in Well	18.95	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/25/2019	MS/MSD Sample ID	
Sample Time	10:36	MS/MSD Sample Time	
Sample ID	MW-H-46-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	09/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:15	500	2000	27.9	7.40	12252	-88.9	0.17	187	28.39	6.99	7.95
10:19	500	4000	27.5	7.41	11934	-89.6	0.11	80	28.39	6.77	7.70
10:23	500	6000	27.6	7.41	11291	-90.6	0.12	13	28.39	6.35	7.32
10:27	500	8000	27.6	7.40	11259	-91.6	0.11	6	28.39	6.35	7.32
10:31	500	10000	27.6	7.40	11239	-91.9	0.11	5	28.39	6.35	7.32
10:35	500	12000	27.6	7.40	11226	-92.5	0.11	5	28.39	6.35	7.32

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?			X	
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?			X	

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-D-26

Date	09/27/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/27/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

TW-3D

Date	09/04/2019	Sampler	Spencer Doolittle
Weather Conditions	Sunny	Color	Clear
Purge Method	Extraction Port	Casing Volume to Remove	
Water Quality Meter	YSI	Depth to Water (ft bmp)	
Sampling Type	Extraction port	Gallons in Well	
Sample Date	09/04/2019	Measured Well Depth (ft bmp)	
Sample Time	12:30	Odor	None
Sample ID	TW-3D-Q319	Pump Intake Depth (ft bmp)	
Single Filter Turbidity	1	Total Volume to Remove	
Without Filter Turbidity	1	EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	09/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:24			23.1	7.31	9.088	61.9	3.42	1		5.05	5.9020

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-01D

Date	09/30/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/30/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Oct 02,2019 12:48:04 PM
Location:CW-01D Latitude:0 , Longitude:0

C-CON

Date	09/26/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-MAR

Date	09/24/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-09

Date	09/30/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	79.65
Water Quality Meter	YSI	Gallons in Well	4.8
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	87.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	85
Water Column in Well	7.35	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/30/2019	MS/MSD Sample ID	
Sample Time	12:45	MS/MSD Sample Time	
Sample ID	MW-09-Q319	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	09/30/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:23	.2	500	29.6	7.36	3351	230.9	6.63	2	79.77	1.73	2.17
12:26	2	1500	29.9	7.35	3349	230.5	6.60	2	79.77	1.72	2.17
12:29	2	3000	29.9	7.35	3344	230.4	6.60	2	79.77	1.73	2.17
12:32	2	4500	29.8	7.35	3345	230.2	6.60	1	79.77	1.73	2.17
12:35	2	6000	29.7	7.35	3344	229.9	6.60	1	79.77	1.73	2.17
12:38	2	7500	29.8	7.34	3338	228.5	6.60	1	79.77	1.73	2.17

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-10

Date	09/30/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	74.23
Water Quality Meter	YSI	Gallons in Well	69.01
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	180
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	84
Water Column in Well	105.77	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/30/2019	MS/MSD Sample ID	
Sample Time	14:30	MS/MSD Sample Time	
Sample ID	MW-10-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	09/30/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:08	.2	500	30.7	7.37	3007	171.1	6.99	21	74.25	1.55	1.95
14:11	.2	1500	31.4	7.41	3011	167.4	6.78	14	74.25	1.55	1.95
14:14	.2	3000	31.5	7.40	3005	168.8	6.68	10	74.25	1.55	1.95
14:17	.2	4500	31.6	7.40	3004	168.7	6.68	9	74.25	1.55	1.95
14:20	.2	6000	31.5	7.40	2997	168.4	6.67	9	74.25	1.55	1.95
14:23	.2	7500	31.5	7.40	2993	167.9	6.67	9	74.28	1.55	1.95

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-11

Date	09/30/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	66.05
Water Quality Meter	YSI	Gallons in Well	10.73
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	82.5
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	72.5
Water Column in Well	16.45	Total Volume to Remove	
		EB Sample ID	EB-707-Q319
Did Well Dewater?	No	EB Time	15:35
Sample Date	09/30/2019	MS/MSD Sample ID	
Sample Time	15:20	MS/MSD Sample Time	
Sample ID	MW-11-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	09/30/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:03	.2	500	31.5	7.43	2587	166.4	9.10	8	66.10	1.32	1.68
15:06	.2	1500	31.6	7.43	2587	166.7	9.05	7	66.10	1.32	1.68
15:09	.2	3000	31.7	7.44	2589	166.2	9.05	5	66.10	1.32	1.68
15:12	.2	4500	31.8	7.44	2591	165.7	9.05	5	66.10	1.32	1.68
15:15	.2	6000	31.8	7.45	2591	164.3	9.02	5	66.10	1.32	1.68
15:18	.2	7500	31.9	7.45	2590	164.9	9.03	5	66.10	1.32	1.68

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-38S

Date	09/25/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	69.99
Water Quality Meter	YSI	Gallons in Well	4.62
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	98.30
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	82
Water Column in Well	28.31	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/25/2019	MS/MSD Sample ID	
Sample Time	09:26	MS/MSD Sample Time	
Sample ID	MW-38S-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	09/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:09	500	2000	30.9	8.01	1761	3.8	0.54	39	70.06	0.88	1.15
09:13	500	4000	30.9	7.98	1786	0.8	0.48	11	70.06	0.89	1.15
09:17	500	6000	30.9	7.98	1790	-1.0	0.46	6	70.06	0.89	1.15
09:21	500	8000	30.9	7.97	1792	-1.6	0.45	5	70.06	0.89	1.15
09:25	500	10000	30.9	7.97	1793	-1.9	0.45	5	70.06	0.89	1.15

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-62-110

Date	09/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Gal	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Grab Sample	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	None
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	
Comments	Flute well	Total Volume to Remove	
Did Well Dewater?	No	EB Sample ID	
Sample Date	09/25/2019	EB Time	
Sample Time	15:40	MS/MSD Sample ID	
Sample ID	MW-62-110-Q319	MS/MSD Sample Time	
Single Filter Turbidity	1	Double Filter Turbidity	
Without Filter Turbidity	3	Post Sampling Turbidity	
		Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:42	0.5	4.5	28.2	7.32	12896	16.9	0.21	4		7.50	8.53
07:51	0.5	1.5	28.1	7.81	13443	29.7	0.17	5		7.71	8.73
15:40			28.3	7.36	12790	15.9	0.25	3		7.50	8.51
16:15	0.5	3.0	28.9	7.26	13208	20.9	0.20	4		7.56	8.58

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?			X	
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Sep 24,2019 07:34:06 AM
Location:MW-62-110 Latitude:34.714696 , Longitude:-114.489916

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-63-065

Date	09/26/2019	Sampler	Matt trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	48.57
Water Quality Meter	YSI	Gallons in Well	2.38
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	63.14
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	56
Water Column in Well	14.57	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	08:18	MS/MSD Sample Time	
Sample ID	MW-63-065-Q319	Double Filter Turbidity	
Duplicate Sample ID	MW-903-Q318	Post Sampling Turbidity	
Dup Sample Time	08:28	Purge Date	09/26/2019
Single Filter Turbidity	1		
Without Filter Turbidity	11		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:01	500	2000	26.4	7.51	6609	145.2	3.89	24	48.64	3.87	4.57
08:05	500	4000	26.7	7.50	6651	136.4	3.60	18	48.70	3.91	4.64
08:09	500	6000	26.7	7.48	6652	129.0	3.57	15	48.76	3.91	4.64
08:13	500	8000	26.7	7.46	6689	126.8	3.62	13	48.80	3.93	4.65
08:17	500	10000	26.7	7.44	6750	123.4	3.69	11	48.84	3.93	4.66

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-65-160

Date	09/26/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	139.91
Water Quality Meter	YSI	Gallons in Well	4.09
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	165.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	155
Water Column in Well	25.09	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	14:28	MS/MSD Sample Time	
Sample ID	MW-65-160-Q319	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:07	200	800	30.6	7.37	4026	44.6	2.75	52	139.99	2.11	2.61
14:11	200	1600	30.6	7.39	4027	43.3	2.06	37	139.99	2.11	2.61
14:15	200	2400	30.6	7.39	4027	42.9	2.03	19	139.99	2.11	2.61
14:19	200	3200	30.6	7.39	4028	41.8	1.99	10	139.99	2.11	2.61
14:23	200	4000	30.7	7.40	4028	41.3	1.96	9	139.99	2.11	2.61
14:27	200	4800	30.7	7.40	4028	41.0	1.95	9	139.99	2.11	2.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-65-225

Date	09/26/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	139.76
Water Quality Meter	YSI	Gallons in Well	13.98
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	225.45
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	220
Water Column in Well	85.69	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	13:34	MS/MSD Sample Time	
Sample ID	MW-65-225-Q319	Double Filter Turbidity	
Duplicate Sample ID	MW-902-Q319	Post Sampling Turbidity	
Dup Sample Time	13:44	Purge Date	09/26/2019
Single Filter Turbidity	1		
Without Filter Turbidity	4		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:13	500	2000	31.5	7.34	9784	32.1	0.72	9	139.89	5.48	6.42
13:17	500	4000	31.7	7.35	10384	30.2	0.70	6	139.89	5.82	6.78
13:21	500	6000	31.7	7.35	10539	30.4	0.68	5	139.89	5.93	6.89
13:25	500	8000	32.0	7.35	10734	30.2	0.68	5	139.89	6.06	7.03
13:29	500	10000	32.0	7.34	10789	30.1	0.66	4	139.89	6.07	7.03
13:33	500	12000	32.0	7.34	10803	29.6	0.65	4	139.89	6.07	7.03

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-68-180

Date	09/26/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Yellow
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	164.45
Water Quality Meter	YSI	Gallons in Well	2.54
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	180.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	172
Water Column in Well	15.55	Total Volume to Remove	
		EB Sample ID	EB-703-Q319
Did Well Dewater?	No	EB Time	16:00
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	15:42	MS/MSD Sample Time	
Sample ID	MW-68-180-Q319	Double Filter Turbidity	1
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	26	Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:17	200	800	31.6	7.61	3569	51.6	4.67	89	164.50	1.85	2.31
15:21	200	1600	31.2	7.61	3555	52.7	4.76	52	164.50	1.85	2.30
15:25	200	2400	31.2	7.60	3530	53.9	4.70	35	164.50	1.85	2.30
15:29	200	3200	31.2	7.60	3532	54.3	4.65	29	164.50	1.85	2.30
15:33	200	4000	31.2	7.60	3531	55.0	4.63	27	164.50	1.85	2.30
15:37	200	4800	31.2	7.59	3529	55.3	4.60	26	164.50	1.85	2.30
15:41	200	5600	31.2	7.59	3526	56.1	4.58	26	164.50	1.85	2.30

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-69-195

Date	09/26/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	174.21
Water Quality Meter	YSI	Gallons in Well	3.49
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	195.61
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	186
Water Column in Well	21.4	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	09/26/2019	MS/MSD Sample ID	
Sample Time	08:38	MS/MSD Sample Time	
Sample ID	MW-69-195-Q319	Double Filter Turbidity	1
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	25	Purge Date	09/26/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:17	200	800	26.8	7.83	2551	25.0	1.53	87	174.30	1.31	1.65
08:21	200	1600	27.0	7.78	2559	18.8	1.44	49	174.30	1.31	1.66
08:25	200	2400	27.3	7.76	2560	17.6	1.41	36	174.30	1.31	1.66
08:29	200	3200	27.4	7.76	2560	17.1	1.40	26	174.30	1.31	1.66
08:33	200	4000	27.4	7.75	2563	16.5	1.38	25	174.30	1.31	1.66
08:37	200	4800	27.4	7.75	2565	16.1	1.37	25	174.30	1.31	1.66

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

PE-01

Date	09/04/2019	Sampler	Spencer Doolittle
Weather Conditions	Sunny	Color	
Purge Method	Extraction Port	Casing Volume to Remove	
Purge Volume Units	Na	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Extraction port	Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:40			24.2	7.43	3068	63.2	3.62			1.58	1.9959

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

Oct 03,2019 08:49:18 AM
Location:PE-01 Latitude:0 , Longitude:0

C-BNS-D

Date	09/25/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-I-3-D

Date	09/24/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-I-3-S

Date	09/24/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	09/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-05M-LF

Date	10/03/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	93.66
Water Quality Meter	YSI	Gallons in Well	25.5
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	250.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	230
Water Column in Well	156.34	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	14:42	MS/MSD Sample Time	
Sample ID	OW-05M-LF-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-905-Q419	Post Sampling Turbidity	
Dup Sample Time	14:52	Purge Date	10/03/2019
Single Filter Turbidity	1		
Without Filter Turbidity	1		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:17	500	2000	29.1	7.79	7649	71.6	8.08	3	93.73	4.14	4.94
14:21	500	4000	29.1	7.79	7627	71.0	8.20	1	93.73	4.22	4.94
14:25	500	6000	29.1	7.78	7590	72.1	8.31	1	93.73	4.20	4.92
14:29	500	8000	29.1	7.78	7617	72.6	8.16	1	93.73	4.21	4.95
14:33	500	10000	29.1	7.78	7620	73.0	8.19	1	93.73	4.21	4.95
14:37	500	12000	29.2	7.78	7623	73.2	8.21	1	93.73	4.21	4.95
14:41	500	14000	29.2	7.78	7626	73.6	8.17	1	93.73	4.21	4.95

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-83-180

Date	10/25/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	74.19
Water Quality Meter	YSI	Gallons in Well	17.47
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	181.31
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	170
Water Column in Well	107.12	Total Volume to Remove	
		EB Sample ID	EB-785-1019
Did Well Dewater?	No	EB Time	09:30
Sample Date	10/25/2019	MS/MSD Sample ID	
Sample Time	08:54	MS/MSD Sample Time	
Sample ID	MW-L-180-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	10/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:33	500	2000	29.5	7.92	12073	30.1	0.50	50	74.29	6.86	7.83
08:37	500	4000	29.8	7.84	12060	15.6	0.47	21	74.29	6.84	7.83
08:41	500	6000	29.8	7.83	12042	13.4	0.46	9	74.29	6.85	7.83
08:45	500	8000	29.8	7.83	12040	12.6	0.46	5	74.29	6.85	7.83
08:49	500	10000	29.8	7.83	12038	12.1	0.44	4	74.29	6.85	7.83
08:53	500	12000	29.8	7.82	12039	12.0	0.43	4	74.29	6.84	7.83

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-85-217

Date	10/25/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	114.30
Water Quality Meter	YSI	Gallons in Well	16.82
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	217.40
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	206.5
Water Column in Well	103.1	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/25/2019	MS/MSD Sample ID	
Sample Time	08:10	MS/MSD Sample Time	
Sample ID	MW-N-217-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	6	Purge Date	10/25/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:45	500	2000	29.1	7.94	13130	78.9	0.25	61	114.40	7.49	8.54
07:49	500	4000	29.8	7.71	13102	53.9	0.21	33	114.40	7.48	8.50
07:53	500	6000	30.1	7.68	13060	44.1	0.21	20	114.40	7.45	8.49
07:57	500	8000	30.1	7.66	13083	41.7	0.20	11	114.40	7.45	8.49
08:01	500	10000	30.1	7.68	13066	39.0	0.19	7	114.40	7.47	8.48
08:05	500	12000	30.2	7.68	13063	38.6	0.19	6	114.40	7.47	8.48
08:09	500	14000	30.2	7.68	13061	37.9	0.18	6	114.40	7.47	8.48

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-75-117

Date	10/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	18.42
Water Quality Meter	YSI	Gallons in Well	16.26
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	118.11
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	107
Water Column in Well	99.69	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/21/2019	MS/MSD Sample ID	
Sample Time	12:38	MS/MSD Sample Time	
Sample ID	MW-B-117-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	10/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:17	500	2000	28.1	7.56	13013	-126.9	0.12	23	18.50	7.47	8.48
12:21	500	4000	28.1	7.59	13045	-124.6	0.12	20	18.50	7.46	8.48
12:25	500	6000	28.2	7.61	13073	-113.6	0.11	14	18.50	7.49	8.50
12:29	500	8000	28.2	7.61	13078	-107.0	0.11	10	18.50	7.49	8.50
12:33	500	10000	28.2	7.62	13080	-106.5	0.10	9	18.50	7.49	8.50
12:37	500	12000	28.2	7.62	13081	-105.9	0.10	9	18.50	7.49	8.50

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?		X		
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-75-033

Date	10/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	18.41
Water Quality Meter	YSI	Gallons in Well	2.67
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	34.80
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	26
Water Column in Well	16.39	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/21/2019	MS/MSD Sample ID	
Sample Time	13:35	MS/MSD Sample Time	
Sample ID	MW-B-33-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-923-1019	Post Sampling Turbidity	
Dup Sample Time	13:45	Purge Date	10/21/2019
Single Filter Turbidity	1		
Without Filter Turbidity	8		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:09	500	2000	29.0	7.50	4900	10.7	0.94	209	18.50	2.60	3.17
13:13	500	4000	29.1	7.53	4874	13.9	0.92	97	18.50	2.60	3.17
13:17	500	6000	29.0	7.56	4864	12.5	0.92	44	18.50	2.60	3.17
13:21	500	8000	29.1	7.60	4858	12.8	0.98	23	18.50	2.60	3.15
13:25	500	10000	29.1	7.61	4860	13.1	0.97	9	18.50	2.60	3.15
13:29	500	12000	29.1	7.61	4863	13.6	0.97	8	18.50	2.60	3.15
13:34	500	14000	29.1	7.61	4865	14.0	0.97	8	18.50	2.60	3.15

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?		X		
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-84-057

Date	10/23/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	44.88
Water Quality Meter	YSI	Gallons in Well	2.3
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	59.01
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	51
Water Column in Well	14.13	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/23/2019	MS/MSD Sample ID	
Sample Time	09:18	MS/MSD Sample Time	
Sample ID	MW-M-57-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-924-1019	Post Sampling Turbidity	
Dup Sample Time	09:28	Purge Date	10/23/2019
Single Filter Turbidity	1		
Without Filter Turbidity	8		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:57	500	2000	29.8	8.07	1923	31.6	5.91	109	44.96	0.97	1.27
09:01	500	4000	29.8	8.03	1924	35.6	5.87	33	44.96	0.97	1.25
09:05	500	6000	29.8	8.01	1923	38.6	5.85	14	44.96	0.97	1.25
09:09	500	8000	29.8	7.99	1923	40.2	5.89	9	44.96	0.97	1.25
09:13	500	10000	29.8	7.98	1923	42.1	5.88	8	44.96	0.97	1.25
09:17	500	12000	29.8	7.98	1922	42.6	5.86	8	44.96	0.97	1.25

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-84-095

Date	10/23/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	44.81
Water Quality Meter	YSI	Gallons in Well	8.27
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	95.50
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	85
Water Column in Well	50.69	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/23/2019	MS/MSD Sample ID	
Sample Time	08:32	MS/MSD Sample Time	
Sample ID	MW-M-95-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	10/23/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:11	500	2000	29.9	7.74	5934	-68.9	0.61	279	44.95	3.19	3.85
08:15	500	4000	29.8	7.75	5938	-70.1	0.56	87	44.95	3.20	3.86
08:19	500	6000	29.8	7.75	5932	-72.1	0.53	26	44.95	3.20	3.85
08:23	500	8000	29.8	7.77	5909	-76.8	0.45	9	44.95	3.19	3.86
08:27	500	10000	29.8	7.77	5931	-77.6	0.43	8	44.95	3.19	3.86
08:31	500	12000	29.8	7.78	5919	-77.9	0.42	8	44.95	3.19	3.86

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-84-132

Date	10/23/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	45.38
Water Quality Meter	YSI	Gallons in Well	14.47
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	134.12
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	122
Water Column in Well	88.74	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/23/2019	MS/MSD Sample ID	
Sample Time	10:40	MS/MSD Sample Time	
Sample ID	MW-M-132-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	10/23/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:23	500	2000	29.9	7.99	8997	-0.9	0.25	51	45.44	4.97	5.86
10:27	500	4000	30.0	7.92	8961	-5.3	0.23	21	45.44	5.10	5.86
10:31	500	6000	30.0	7.91	9019	-11.6	0.20	9	45.44	5.12	5.90
10:35	500	8000	30.0	7.91	9023	-13.0	0.19	8	45.44	5.12	5.90
10:39	500	10000	30.0	7.90	9024	-14.3	0.19	8	45.44	5.12	5.90

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-84-193

Date	10/23/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	45.25
Water Quality Meter	YSI	Gallons in Well	24.29
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	194.18
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	183
Water Column in Well	148.93	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/23/2019	MS/MSD Sample ID	
Sample Time	10:04	MS/MSD Sample Time	
Sample ID	MW-M-193-Q419	Double Filter Turbidity	1
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	23	Purge Date	10/23/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:43	500	2000	30.2	8.14	13370	5.9	0.66	64	45.30	7.63	8.68
09:47	500	4000	30.2	8.09	13367	4.6	0.68	38	45.30	7.65	8.68
09:51	500	6000	30.3	8.08	13326	2.9	0.68	24	45.30	7.62	8.68
09:55	500	8000	30.3	8.08	13323	1.6	0.66	24	45.30	7.62	8.68
09:59	500	10000	30.3	8.08	13320	1.3	0.65	23	45.30	7.62	8.68
10:03	500	12000	30.3	8.08	13319	1.1	0.65	23	45.30	7.62	8.68

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-87-192

Date	10/23/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	90.93
Water Quality Meter	YSI	Gallons in Well	16.67
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	193.15
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	182
Water Column in Well	102.22	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/23/2019	MS/MSD Sample ID	
Sample Time	12:02	MS/MSD Sample Time	
Sample ID	MW-R-192-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	10/23/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:41	500	2000	30.3	8.03	9738	-67.9	0.34	33	90.99	5.43	6.31
11:45	500	4000	30.5	7.99	9726	-53.9	0.28	13	90.99	5.42	6.31
11:49	500	6000	30.5	7.97	9740	-46.9	0.26	8	90.99	5.42	6.31
11:53	500	8000	30.5	7.97	9743	-43.1	0.26	5	90.99	5.42	6.31
11:57	500	10000	30.6	7.97	9741	-42.6	0.26	5	90.99	5.42	6.31
12:01	500	12000	30.6	7.96	9736	-41.2	0.25	5	90.99	5.42	6.31

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-87-275

Date	10/23/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	90.80
Water Quality Meter	YSI	Gallons in Well	30.24
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	276.20
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	265
Water Column in Well	185.4	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/23/2019	MS/MSD Sample ID	
Sample Time	11:24	MS/MSD Sample Time	
Sample ID	MW-R-275-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	10/23/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:03	500	2000	30.1	8.15	11460	-90.5	0.21	9	90.90	6.48	7.44
11:07	500	4000	30.2	8.09	11480	-72.0	0.33	4	90.90	6.48	7.45
11:11	500	6000	30.4	8.07	11506	-41.0	0.40	3	90.90	6.50	7.45
11:15	500	8000	30.4	8.07	11511	-38.3	0.42	3	90.90	6.50	7.45
11:19	500	10000	30.4	8.07	11515	-36.1	0.45	3	90.90	6.50	7.45
11:23	500	12000	30.4	8.06	11519	-35.5	0.46	3	90.90	6.50	7.45

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-87-109

Date	10/23/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	90.71
Water Quality Meter	YSI	Gallons in Well	3.33
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	111.13
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	100
Water Column in Well	20.42	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/23/2019	MS/MSD Sample ID	
Sample Time	12:34	MS/MSD Sample Time	
Sample ID	MW-R-109-Q419	Double Filter Turbidity	1
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	18	Purge Date	10/23/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:17	300	1200	29.6	8.11	2455	37.7	4.37	36	90.73	1.25	1.59
12:21	300	2400	29.7	8.07	2398	40.3	4.86	23	90.73	1.19	1.53
12:25	300	3600	29.7	8.06	2310	45.6	4.93	19	90.73	1.17	1.50
12:29	300	4800	29.7	8.06	2308	46.0	4.95	18	90.73	1.17	1.50
12:33	300	6000	29.7	8.06	2307	46.6	4.95	18	90.73	1.17	1.50

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-87-139

Date	10/23/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	90.62
Water Quality Meter	YSI	Gallons in Well	8.24
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	141.12
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	129
Water Column in Well	50.5	Total Volume to Remove	
		EB Sample ID	EB-783-1019
Did Well Dewater?	No	EB Time	15:30
Sample Date	10/23/2019	MS/MSD Sample ID	
Sample Time	13:34	MS/MSD Sample Time	
Sample ID	MW-R-139-Q419	Double Filter Turbidity	1
Duplicate Sample ID	MW-925-1019	Post Sampling Turbidity	
Dup Sample Time	13:44	Purge Date	10/23/2019
Single Filter Turbidity	2		
Without Filter Turbidity	15		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:05	100	400	30.4	7.87	7468	41.0	1.54	29	90.65	4.08	4.85
13:09	100	800	30.4	7.88	7464	39.7	1.35	23	90.65	4.08	4.84
13:13	100	1200	30.4	7.88	7440	37.6	1.27	19	90.65	4.08	4.83
13:17	100	1600	30.4	7.88	7435	35.9	1.23	18	90.65	4.08	4.83
13:21	100	2000	30.4	7.88	7433	34.6	1.23	16	90.65	4.08	4.83
13:25	100	2400	30.4	7.88	7432	34.0	1.22	15	90.65	4.08	4.83
13:29	100	2800	30.4	7.88	7430	33.5	1.20	15	90.65	4.08	4.83
13:33	100	3200	30.4	7.89	7430	33.1	1.20	15	90.65	4.08	4.83

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		

Item	Yes	No	NA	Notes
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-86-140

Date	10/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	14.23
Water Quality Meter	YSI	Gallons in Well	21.04
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	143.20
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	135
Water Column in Well	128.97	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/24/2019	MS/MSD Sample ID	
Sample Time	08:58	MS/MSD Sample Time	
Sample ID	MW-O-140-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	10/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:37	500	2000	22.2	7.89	17692	-153.9	0.30	21	14.30	10.45	11.50
08:41	500	4000	22.3	7.86	17682	-140.9	0.50	11	14.30	10.45	11.48
08:45	500	6000	22.3	7.83	17671	-132.6	0.39	8	14.30	10.44	11.48
08:49	500	8000	22.3	7.82	17689	-130.1	0.31	6	14.30	10.44	11.48
08:53	500	10000	22.3	7.82	17698	-128.6	0.30	5	14.30	10.44	11.50
08:57	500	12000	22.3	7.82	17700	-126.6	0.30	5	14.30	10.44	11.50

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-86-120

Date	10/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	14.51
Water Quality Meter	YSI	Gallons in Well	17.74
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	123.27
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	110
Water Column in Well	108.76	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/24/2019	MS/MSD Sample ID	
Sample Time	09:38	MS/MSD Sample Time	
Sample ID	MW-O-120-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	10/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:21	500	2000	21.9	7.69	12810	-26.9	0.15	54	14.60	7.37	8.32
09:25	500	4000	21.9	7.73	12811	-18.6	0.18	16	14.60	7.37	8.33
09:29	500	6000	21.9	7.75	12820	-15.9	0.20	8	14.60	7.37	8.33
09:33	500	8000	21.9	7.75	12823	-14.3	0.20	7	14.60	7.37	8.33
09:37	500	10000	21.9	7.75	12825	-13.6	0.21	7	14.60	7.37	8.33

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-86-066

Date	10/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	13.98
Water Quality Meter	YSI	Gallons in Well	9.01
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	69.25
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	56
Water Column in Well	55.27	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/24/2019	MS/MSD Sample ID	
Sample Time	10:16	MS/MSD Sample Time	
Sample ID	MW-O-66-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	10/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:59	500	2000	21.1	7.79	6953	-37.9	0.13	47	14.02	3.91	4.63
10:03	500	4000	21.2	7.73	7469	-44.6	0.10	21	14.02	4.13	4.85
10:07	500	6000	21.2	7.70	7470	-44.9	0.10	10	14.02	4.13	4.85
10:11	500	8000	21.2	7.69	7473	-45.9	0.11	9	14.02	4.13	4.85
10:15	500	10000	21.2	7.69	7475	-46.2	0.10	9	14.02	4.13	4.85

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-86-030

Date	10/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	13.80
Water Quality Meter	YSI	Gallons in Well	3.1
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	32.80
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	22
Water Column in Well	19.0	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/24/2019	MS/MSD Sample ID	MW-O-30-1019 MSMSD
Sample Time	10:56	MS/MSD Sample Time	10:56
Sample ID	MW-O-30-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	10/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:35	500	2000	23.4	7.80	1342	-40.2	0.28	209	13.90	0.67	0.87
10:39	500	4000	23.4	7.76	1341	-41.6	0.26	63	13.90	0.67	0.87
10:43	500	6000	23.4	7.75	1349	-43.6	0.26	22	13.90	0.67	0.87
10:47	500	8000	23.3	7.72	1346	-48.9	0.24	8	13.90	0.67	0.87
10:51	500	10000	23.3	7.72	1345	-49.5	0.24	7	13.90	0.67	0.87
10:55	500	12000	23.3	7.72	1345	-50.2	0.23	7	13.9	0.67	0.87

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-76-218

Date	10/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	27.24
Water Quality Meter	YSI	Gallons in Well	31.38
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	219.65
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	213
Water Column in Well	192.41	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/22/2019	MS/MSD Sample ID	
Sample Time	10:48	MS/MSD Sample Time	
Sample ID	MW-C-218-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	10/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:27	500	2000	28.8	8.38	19908	12.2	0.15	199	27.36	11.77	12.91
10:31	500	4000	28.9	8.40	21639	-30.9	0.13	34	27.36	13.03	14.19
10:35	500	6000	29.0	8.40	22705	-50.9	0.11	13	27.36	13.62	14.76
10:39	500	8000	29.0	8.41	22730	-53.9	0.11	8	27.36	13.62	14.76
10:43	500	10000	29.0	8.41	22749	-55.1	0.10	7	27.36	13.62	14.76
10:47	500	12000	29.0	8.41	22753	-56.1	0.10	7	27.36	13.62	14.76

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-76-181

Date	10/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	27.45
Water Quality Meter	YSI	Gallons in Well	25.32
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	182.71
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	176
Water Column in Well	155.26	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/22/2019	MS/MSD Sample ID	
Sample Time	11:30	MS/MSD Sample Time	
Sample ID	MW-C-181-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	10/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:09	500	2000	29.1	7.78	20440	37.9	0.14	29	27.53	12.14	13.31
11:13	500	4000	29.1	7.73	20464	36.9	0.13	13	27.53	12.14	13.31
11:17	500	6000	29.2	7.71	20480	35.0	0.13	8	27.53	12.14	13.31
11:21	500	8000	29.1	7.70	20454	34.3	0.15	5	27.53	12.15	13.31
11:25	500	10000	29.1	7.70	20461	33.6	0.15	5	27.53	12.15	13.31
11:29	500	12000	29.1	7.70	20465	32.6	0.14	4	27.53	12.15	13.31

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-76-156

Date	10/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	27.21
Water Quality Meter	YSI	Gallons in Well	20.97
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	155.76
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	151
Water Column in Well	128.55	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/22/2019	MS/MSD Sample ID	
Sample Time	12:10	MS/MSD Sample Time	
Sample ID	MW-C-156-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	10/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:49	500	2000	29.1	7.93	16946	10.0	0.12	35	27.35	9.90	11.01
11:53	500	4000	29.1	7.90	16971	12.6	0.12	16	27.35	9.90	11.03
11:57	500	6000	29.1	7.90	16976	13.0	0.11	11	27.35	9.90	11.03
12:01	500	8000	29.1	7.90	16980	13.5	0.11	8	27.35	9.90	11.03
12:05	500	10000	29.1	7.90	16986	14.6	0.11	7	27.35	9.90	11.03
12:09	500	12000	29.1	7.89	16988	14.9	0.11	7	27.35	9.90	11.03

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-76-039

Date	10/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	26.69
Water Quality Meter	YSI	Gallons in Well	1.89
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	38.29
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	33
Water Column in Well	11.6	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/22/2019	MS/MSD Sample ID	
Sample Time	12:44	MS/MSD Sample Time	
Sample ID	MW-C-39-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	10/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:27	500	2000	29.8	8.00	3145	43.9	0.84	64	26.75	1.63	2.04
12:31	500	4000	29.2	7.95	3239	39.6	0.62	22	26.75	1.66	2.08
12:35	500	6000	29.2	7.92	3249	36.9	0.59	9	26.75	1.66	2.08
12:39	500	8000	29.2	7.92	3253	35.6	0.58	8	26.75	1.66	2.08
12:43	500	10000	29.2	7.92	3255	34.5	0.56	8	26.75	1.66	2.08

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-75-337

Date	10/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	19.59
Water Quality Meter	YSI	Gallons in Well	52.02
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	338.50
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	327
Water Column in Well	318.91	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/21/2019	MS/MSD Sample ID	
Sample Time	11:46	MS/MSD Sample Time	
Sample ID	MW-B-337-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	10/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:17	500	2000	29.1	7.60	30959	-170.9	0.14	36	19.65	19.13	20.11
11:21	500	4000	29.3	7.67	30971	-168.0	0.12	17	19.65	19.14	20.13
11:25	500	6000	29.3	7.68	30982	-165.3	0.11	10	19.65	19.16	20.13
11:29	500	8000	29.3	7.70	30997	-163.6	0.11	7	19.65	19.16	20.13
11:33	500	10000	29.3	7.70	30994	-163.1	0.11	6	19.65	19.16	20.13
11:37	500	12000	29.3	7.70	30992	-162.5	0.10	5	19.65	19.16	20.13
11:41	500	14000	29.3	7.70	30990	-161.3	0.10	5	19.65	19.16	20.13
11:45	500	16000	29.3	7.71	30992	-160.8	0.10	5	19.65	19.16	20.13

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-82-112

Date	10/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	30.54
Water Quality Meter	YSI	Gallons in Well	13.65
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	114.20
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	107
Water Column in Well	83.66	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/24/2019	MS/MSD Sample ID	
Sample Time	13:40	MS/MSD Sample Time	
Sample ID	MW-H-112-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	10/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:23	500	2000	25.9	7.63	8819	8.0	0.15	9	30.64	4.91	5.73
13:27	500	4000	25.9	7.61	8847	9.3	0.14	5	30.64	4.93	5.75
13:31	500	6000	25.9	7.61	8853	9.9	0.14	3	30.64	4.93	5.75
13:35	500	8000	25.8	7.60	8856	11.3	0.13	2	30.64	4.93	5.75
13:39	500	10000	25.8	7.60	8859	11.6	0.13	2	30.64	4.93	5.75

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-82-168

Date	10/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	30.40
Water Quality Meter	YSI	Gallons in Well	22.74
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	169.80
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	158
Water Column in Well	139.4	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/24/2019	MS/MSD Sample ID	
Sample Time	12:56	MS/MSD Sample Time	
Sample ID	MW-H-168-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	10/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:39	500	2000	26.3	7.86	19794	0.7	0.15	29	30.45	11.76	12.87
12:43	500	4000	26.4	7.85	19805	-2.9	0.14	11	30.45	11.77	12.87
12:47	500	6000	26.5	7.85	19819	-3.6	0.12	6	30.45	11.78	12.88
12:51	500	8000	26.5	7.85	19823	-4.0	0.12	5	30.45	11.78	12.88
12:55	500	10000	26.5	7.85	19825	-4.9	0.12	5	30.45	11.78	12.88

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-82-198

Date	10/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	30.10
Water Quality Meter	YSI	Gallons in Well	27.62
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	199.45
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	188
Water Column in Well	169.35	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/24/2019	MS/MSD Sample ID	
Sample Time	12:16	MS/MSD Sample Time	
Sample ID	MW-H-198-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	6	Purge Date	10/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:57	500	2000	26.6	7.85	21905	-95.6	0.15	49	30.19	13.14	14.23
12:01	500	4000	26.6	7.83	21895	-93.5	0.15	28	30.19	13.14	14.23
12:05	500	6000	26.6	7.86	21891	-87.9	0.14	11	30.19	13.13	14.22
12:09	500	8000	26.6	7.86	21888	-86.9	0.14	7	30.19	13.13	14.22
12:11	500	10000	26.6	7.86	21886	-85.0	0.14	6	30.19	13.13	14.22
12:15	500	12000	26.6	7.86	21883	-84.6	0.14	6	30.19	13.13	14.22

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-82-046

Date	10/24/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Yellow
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	29.61
Water Quality Meter	YSI	Gallons in Well	2.95
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	47.71
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	41
Water Column in Well	18.1	Total Volume to Remove	
		EB Sample ID	EB-784-1019
Did Well Dewater?	No	EB Time	15:00
Sample Date	10/24/2019	MS/MSD Sample ID	
Sample Time	14:22	MS/MSD Sample Time	
Sample ID	MW-H-46-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	10/24/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:01	500	2000	26.4	7.59	10111	-50.6	0.12	177	29.69	3.46	4.12
14:05	500	4000	26.5	7.56	7614	-38.9	0.17	33	29.69	4.22	5.01
14:09	500	6000	26.5	7.55	8706	-48.6	0.15	13	29.69	4.86	5.68
14:13	500	8000	26.5	7.55	9167	-55.3	0.16	6	29.69	5.13	5.98
14:17	500	10000	26.5	7.54	9203	-56.9	0.16	5	29.69	5.13	5.98
14:21	500	12000	26.5	7.54	9213	-57.3	0.15	5	29.69	5.13	5.98

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-D-82

Date	10/04/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	25.80
Water Quality Meter	YSI	Gallons in Well	13.06
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	105.84
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	92.00
Water Column in Well	80.04	Total Volume to Remove	
		EB Sample ID	EB-712-Q319
Did Well Dewater?	No	EB Time	09:45
Sample Date	10/04/2019	MS/MSD Sample ID	
Sample Time	09:35	MS/MSD Sample Time	
Sample ID	MW-D-82-Q419	Double Filter Turbidity	7
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	32	Purge Date	10/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:13	500	1500	26.2	6.98	8641	-14.6	1.26	215	25.84	4.82	5.61
09:16	500	3000	26.6	6.96	8643	-24.6	1.08	132	25.84	4.81	5.62
09:19	500	4500	26.9	6.98	8668	-32.7	0.86	74	25.84	4.84	5.63
09:22	500	6000	27.0	6.98	8703	-48.2	0.92	35	25.84	4.84	5.66
09:25	500	7500	26.8	6.97	8758	-64.6	0.99	33	25.84	4.86	5.67
09:28	500	9000	26.7	6.97	8743	-67.5	0.74	34	25.84	4.86	5.68
09:31	500	10500	26.7	6.98	8796	-70.9	0.64	32	28.84	4.87	5.70
09:34	500	12000	26.7	6.98	8784	-74.2	0.60	32	28.84	4.87	5.77

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-77-158

Date	10/04/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	26.17,26.29
Water Quality Meter	YSI	Gallons in Well	21.94,21.92
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	160.71,160.67
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	150,148
Water Column in Well	134.54,134.38	Total Volume to Remove	
		EB Sample ID	EB-713-Q319
Did Well Dewater?	No	EB Time	09:20
Sample Date	10/04/2019,10/22/2019	MS/MSD Sample ID	
Sample Time	08:46,09:57	MS/MSD Sample Time	
Sample ID	MW-D-158-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5,8	Purge Date	10/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:37	500	2000	27.2	7.89	20235	25.0	0.39	18	26.35	12.03	13.13
09:41	500	4000	27.2	7.91	20245	21.2	0.38	9	26.35	12.02	13.14
09:45	500	6000	27.3	7.91	20253	20.5	0.35	6	26.35	12.04	13.15
09:49	500	8000	27.3	7.92	20240	18.6	0.35	9	26.35	12.08	13.15
09:53	500	10000	27.3	7.92	20249	17.6	0.34	8	26.35	12.08	13.15
09:57	500	12000	27.3	7.92	20251	15.9	0.34	8	26.35	12.08	13.15

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X	X		
Standing or Ponded Water?		X	X	
Lock in Place?		X	X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

PEL-PUG
Oct 22,2019 08:51:06 AM
Location:MW-D-158 Latitude:34.720306 , Longitude:-114.490704

MW-77-187

Date	10/04/2019	Sampler	KT,Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	25.68,26.16
Water Quality Meter	YSI	Gallons in Well	26.74,26.71
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	189.64,189.90
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	177
Water Column in Well	163.96,163.74	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/04/2019,10/22/2019	MS/MSD Sample ID	
Sample Time	08:41,09:22	MS/MSD Sample Time	
Sample ID	MW-D-187-Q419	Double Filter Turbidity	
Single Filter Turbidity	0,1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	10/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:33	500	10500	27.7	7.73	24017	-13.4	0.47	3	25.71	14.5	15.6
08:36	500	12000	27.7	7.73	24005	-13.7	0.44	3	25.71	14.5	15.6
08:39	50	13500	27.7	7.73	23980	-14.6	0.48	3	25.71	14.5	15.6
09:01	500	2000	27.0	8.23	23277	40.5	1.29	13	26.23	14.03	15.13
09:05	500	4000	27.5	8.26	23282	22.8	0.84	82	26.23	14.5	15.5
09:09	500	6000	27.6	8.31	23549	22.3	0.77	4	26.23	14.5	15.6
09:13	500	8000	27.6	8.32	24009	19.4	0.60	3	26.23	14.5	15.6
09:17	500	7500	27.7	8.32	24027	18.6	0.58	7	26.23	14.5	15.6
09:21	500	9000	27.7	8.33	24039	17.9	0.51	4	26.23	14.5	15.6

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X	X		
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X	X	
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X	X	
Steel Casing Intact?			X	

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X	X	
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Oct 22,2019 08:51:23 AM
Location:MW-D-187 Latitude:34.720306 , Longitude:-114.490704

MW-75-267

Date	10/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	18.86
Water Quality Meter	YSI	Gallons in Well	40.88
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	269.51
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	257
Water Column in Well	250.65	Total Volume to Remove	
		EB Sample ID	EB-781-1019
Did Well Dewater?	No	EB Time	15:15
Sample Date	10/21/2019	MS/MSD Sample ID	
Sample Time	14:46	MS/MSD Sample Time	
Sample ID	MW-B-267R-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	10/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:17	500	2000	28.8	7.80	23114	-99.6	0.12	27	18.96	13.87	14.98
14:21	500	4000	28.9	7.85	23103	-112.9	0.10	15	18.96	13.88	15.01
14:25	500	6000	28.9	7.88	23304	-128.9	0.10	12	18.96	14.01	15.14
14:29	500	8000	28.9	7.90	23322	-130.9	0.10	10	18.96	14.03	15.17
14:33	500	10000	28.9	7.91	23317	-132.0	0.10	8	18.96	14.05	15.16
14:37	500	12000	28.9	7.91	23315	-133.6	0.10	8	18.96	14.05	15.16
14:41	500	14000	28.9	7.92	23325	-133.6	0.10	7	18.96	14.05	15.16
14:45	500	16000	28.9	7.92	23327	-134.3	0.10	7	18.96	14.05	15.16

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-75-202

Date	10/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	18.31
Water Quality Meter	YSI	Gallons in Well	30.34
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	204.31
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	192
Water Column in Well	186.0	Total Volume to Remove	
		EB Sample ID	EB-782-1019
Did Well Dewater?	No	EB Time	15:00
Sample Date	10/22/2019	MS/MSD Sample ID	
Sample Time	14:34	MS/MSD Sample Time	
Sample ID	MW-B-202-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	10/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:11	500	2000	28.7	7.98	17480	6.3	0.20	39	18.39	10.38	11.53
14:15	500	4000	28.8	7.95	18147	7.2	0.17	12	18.39	10.67	11.82
14:19	500	6000	28.8	7.93	18344	14.3	0.13	7	18.39	10.80	11.92
14:23	500	8000	28.8	7.93	18390	15.6	0.12	5	18.39	10.80	11.93
14:27	500	10000	28.8	7.92	18401	16.6	0.12	4	18.39	10.80	11.93
14:33	50	12000	28.8	7.92	18409	16.9	0.11	4	18.39	10.80	11.93

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?			X	
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-77-102

Date	10/22/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	26.14
Water Quality Meter	YSI	Gallons in Well	12.98
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	105.73
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	92
Water Column in Well	79.59	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/22/2019	MS/MSD Sample ID	MW-D-102-1019 MSMSD
Sample Time	08:38	MS/MSD Sample Time	08:38
Sample ID	MW-D-102-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	10/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:17	500	2000	26.6	7.75	8343	1.9	0.18	126	26.26	4.66	5.39
08:21	500	4000	26.6	7.73	8369	2.5	0.16	39	26.26	4.63	5.46
08:25	500	6000	26.7	7.72	8358	3.8	0.15	16	26.26	4.70	5.36
08:29	500	8000	26.7	7.72	8363	3.9	0.15	9	26.26	4.70	5.36
08:33	500	10000	26.7	7.72	8365	4.2	0.14	8	26.26	4.70	5.36
08:37	500	12000	26.7	7.72	8366	4.5	0.14	8	26.26	4.70	5.36

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

CW-01D

Date	10/02/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	108.85
Water Quality Meter	YSI	Gallons in Well	31.18
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	300.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	275
Water Column in Well	191.15	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/02/2019	MS/MSD Sample ID	
Sample Time	13:18	MS/MSD Sample Time	
Sample ID	CW-01D-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:00	.2	1500	28.5	7.00	7877	160.0	7.85	4	108.95	4.35	5.13
13:03	.2	3000	28.5	7.11	7907	150.4	8.44	2	108.97	4.36	5.14
13:06	.2	4500	29.2	7.19	7898	143.8	8.44	2	108.97	4.36	5.14
13:09	.2	6000	29.3	7.22	8021	143.0	8.50	2	108.97	4.36	5.14
13:12	.2	7500	29.3	7.24	8029	143.6	8.53	2	108.97	4.36	5.14
13:15	.2	9000	29.3	7.25	8034	144.0	8.60	2	108.97	4.36	5.14

Well Integrity Checklist

Item	Yes	No	NA	Notes

Photos and Drawings

Oct 02,2019 12:48:04 PM
Location:CW-01D Latitude:0 , Longitude:0

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-01M

Date	10/02/2019	Sampler	Kt
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	108.88
Water Quality Meter	YSI	Gallons in Well	13.23
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	190.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	160.00
Water Column in Well	81.12	Total Volume to Remove	
		EB Sample ID	EB-709-Q319
Did Well Dewater?	No	EB Time	14:32
Sample Date	10/02/2019	MS/MSD Sample ID	
Sample Time	14:18	MS/MSD Sample Time	
Sample ID	CW-01M-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:58	.2	1500	30.9	7.56	8090	118.3	6.74	8	108.92	4.44	5.25
14:01	.2	3000	31.0	7.54	8116	122.4	7.04	3	108.94	4.45	5.28
14:04	.2	4500	31.1	7.53	8262	124.2	6.98	2	108.94	4.56	5.30
14:07	.2	6000	31.1	7.54	8316	125.2	8.02	2	108.94	4.56	5.30
14:10	.2	7500	31.1	7.54	8324	125.8	8.12	2	108.94	4.56	5.30
14:13	.2	9000	31.1	7.54	8330	126.2	8.22	2	108.94	4.56	5.30
14:16	.2	10500	31.1	7.54	8337	127.5	8.25	2	108.94	4.56	5.30

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

CW-02D

Date	10/02/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	92.09
Water Quality Meter	YSI	Gallons in Well	39.62
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	335
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	310
Water Column in Well	242.91	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/02/2019	MS/MSD Sample ID	
Sample Time	11:50	MS/MSD Sample Time	
Sample ID	CW-02D-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-903-Q419	Post Sampling Turbidity	
Dup Sample Time	12:00	Purge Date	10/02/2019
Single Filter Turbidity	0		
Without Filter Turbidity	4		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:30	.2	1500	28.3	7.52	8040	164.3	7.32	7	92.13	4.47	5.26
11:33	.2	3000	28.4	7.56	8006	163.9	7.49	3	92.13	4.44	5.23
11:36	.2	4500	28.6	7.59	8015	161.6	7.55	4	92.13	4.46	5.27
11:39	.2	6000	28.7	7.59	8135	160.6	7.61	4	92.13	4.46	5.27
11:42	.2	7500	28.8	7.60	8106	160.0	7.74	4	92.13	4.46	5.27
11:45	.2	9000	28.9	7.60	8113	160.1	7.81	4	92.13	4.46	5.27

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-02M

Date	10/02/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	92.51
Water Quality Meter	YSI	Gallons in Well	17.86
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	202
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	177
Water Column in Well	109.49	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/02/2019	MS/MSD Sample ID	
Sample Time	10:28	MS/MSD Sample Time	
Sample ID	CW-02M-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:11	.2	1500	28.2	7.44	8042	169.8	8.02	17	92.57	4.43	5.23
10:14	.2	3000	29.3	7.53	8039	168.8	8.03	11	92.57	4.43	5.22
10:17	.2	4500	29.4	7.55	8045	168.7	8.07	6	92.57	4.43	5.23
10:20	.2	6000	29.4	7.54	8053	169.0	8.11	2	92.57	4.43	5.23
10:23	.2	7500	29.4	7.55	8059	169.3	8.08	2	92.57	4.43	5.23
10:26	.2	9000	29.5	7.55	8057	169.8	8.07	2	92.57	4.43	5.23

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-03D

Date	10/02/2019	Sampler	Kt
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	76.60
Water Quality Meter	YSI	Gallons in Well	39.7
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	320.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	295
Water Column in Well	243.4	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/02/2019	MS/MSD Sample ID	
Sample Time	08:30	MS/MSD Sample Time	
Sample ID	CW-03D-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:08	.2	1500	27.8	7.54	8057	178.5	8.33	7	76.67	4.45	5.26
08:11	.2	3000	27.3	7.49	8053	177.3	8.40	4	76.67	4.45	5.26
08:14	.2	4500	27.0	7.47	8046	175.9	8.41	2	76.67	4.45	5.26
08:17	.2	6000	26.8	7.45	8055	176.8	8.45	2	76.67	4.45	5.26
08:20	.2	7500	26.7	7.46	8047	174.4	8.45	2	76.67	4.45	5.25
08:23	.2	9000	26.8	7.48	8046	172.7	8.40	2	76.67	4.45	5.25

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-03M

Date	10/02/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	77.33
Water Quality Meter	YSI	Gallons in Well	23.6
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	222
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	197
Water Column in Well	144.67	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/02/2019	MS/MSD Sample ID	
Sample Time	09:36	MS/MSD Sample Time	
Sample ID	CW-03M-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:08	.2	1500	28.6	7.41	8632	172.4	6.88	54	77.40	4.78	5.60
09:11	.2	3000	28.7	7.43	8641	172.3	6.83	23	77.41	4.78	5.61
09:14	.2	4500	28.2	7.42	8632	172.9	6.41	11	77.41	4.77	5.59
09:17	.2	6000	27.9	7.39	8597	173.6	6.42	5	77.41	4.74	5.58
09:20	.2	7500	27.8	7.39	8555	173.9	6.29	3	77.41	4.75	5.57
09:23	.2	9000	27.7	7.38	8585	173.9	6.25	3	77.41	4.74	5.57
09:26	.2	10500	27.6	7.36	8576	173.6	6.28	3	77.41	4.74	5.57
09:29	.2	12000	27.5	7.35	8562	173.6	6.25	3	77.41	4.74	5.57

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-04D

Date	10/01/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	60.90
Water Quality Meter	YSI	Gallons in Well	36.23
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	283.0
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	253
Water Column in Well	222.1	Total Volume to Remove	
		EB Sample ID	EB-708-Q319
Did Well Dewater?	No	EB Time	15:23
Sample Date	10/01/2019	MS/MSD Sample ID	
Sample Time	15:08	MS/MSD Sample Time	
Sample ID	CW-04D-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	10/01/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:44	.2	1500	29.4	7.90	8135	132.8	8.65	6	61.05	4.52	5.31
14:47	.2	3000	29.5	7.85	8154	136.5	8.58	5	61.09	4.52	5.31
14:50	.2	4500	29.5	7.81	8169	135.2	8.52	5	61.09	4.52	5.31
14:53	.2	6000	29.8	7.78	8098	134.7	8.44	5	61.09	4.52	5.31
14:56	.2	7500	29.8	7.77	8092	133.8	8.42	5	61.09	4.52	5.31
14:59	.2	9000	29.8	7.76	8088	134.1	8.42	5	61.09	4.52	5.31
15:02	.2	10500	29.8	7.76	8087	134.2	8.40	5	61.09	4.52	5.31
15:05	.2	12000	29.5	7.76	8068	134.1	8.37	5	61.09	4.52	5.31

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-04M

Date	10/01/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	61.15
Water Quality Meter	YSI	Gallons in Well	17.67
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	169.5
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	142
Water Column in Well	108.35	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/01/2019	MS/MSD Sample ID	
Sample Time	13:57	MS/MSD Sample Time	
Sample ID	CW-04M-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	10/01/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:33	0.2	1500	29.8	7.47	7979	136.9	7.78	9	61.18	4.39	5.18
13:36	0.2	3000	29.7	7.48	7974	136.6	7.71	5	61.18	4.39	5.18
13:39	0.2	4500	29.8	7.50	7959	135.7	7.69	4	61.8	4.39	5.18
13:42	0.2	6000	29.8	7.50	7961	134.7	7.60	4	61.18	4.37	5.18
13:45	0.2	7500	29.8	7.49	7957	134.4	7.59	4	61.18	4.37	5.18
13:48	0.2	9000	29.8	7.51	7952	134.4	7.58	3	61.18	4.37	5.18
13:51	0.2	10500	29.8	7.50	7953	134.2	7.55	3	61.18	4.37	5.18
13:54	0.2	12000	29.8	7.50	7953	134.1	7.55	3	61.18	4.37	5.18

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-01D

Date	10/03/2019	Sampler	Kt
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	92.89
Water Quality Meter	YSI	Gallons in Well	30.03
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	277.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	267
Water Column in Well	184.11	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	09:41	MS/MSD Sample Time	
Sample ID	OW-01D-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-904-Q419	Post Sampling Turbidity	
Dup Sample Time	09:51	Purge Date	10/03/2019
Single Filter Turbidity	0		
Without Filter Turbidity	2		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:18	.2	1500	27.3	7.04	7932	-2.9	1.60	4	92.93	4.37	5.16
09:21	.2	3000	27.6	7.07	7975	4.0	1.61	3	92.93	4.40	5.18
09:24	.2	4500	28.0	7.13	8026	20.7	1.98	2	92.93	4.46	5.25
09:27	.2	6000	28.1	7.16	8114	32.5	2.49	2	92.93	4.48	5.29
09:30	.2	7500	28.2	7.18	8130	37.8	2.63	2	92.93	4.48	5.29
09:33	.2	9000	28.1	7.19	8138	40.4	2.70	2	92.93	4.49	5.29
09:36	.2	10500	28.1	7.20	8142	42.7	2.74	2	92.93	4.48	5.29
09:39	.2	12000	28.2	7.21	8155	44.5	2.80	2	92.93	4.51	5.30

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		

Item	Yes	No	NA	Notes
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Oct 03,2019 09:07:04 AM
Location:OW-01D Latitude:0 , Longitude:0

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-01M

Date	10/03/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	93.18
Water Quality Meter	YSI	Gallons in Well	14.98
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	185.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	175
Water Column in Well	91.82	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	08:48	MS/MSD Sample Time	
Sample ID	OW-01M-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:32	.2	1500	28.3	6.75	8347	65.6	3.85	24	93.22	4.59	5.43
08:35	.2	3000	28.5	6.76	8381	65.9	3.86	14	93.22	4.57	5.42
08:38	.2	4500	28.7	6.78	8390	67.2	3.81	10	93.22	4.57	5.42
08:41	.2	6000	28.7	6.78	8388	66.8	3.92	9	93.22	4.57	5.42
08:43	.2	7500	28.7	6.77	8391	67.1	3.92	9	93.22	4.57	5.42
08:46	.2	9000	28.7	6.77	8394	67.5	3.92	9	93.22	4.57	5.42

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

OW-01S

Date	10/03/2019	Sampler	Kt
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	93.26
Water Quality Meter	YSI	Gallons in Well	3.3
Sampling Type	Volume Purge – Grundfos RF2	Measured Well Depth (ft bmp)	113.5
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	103.5
Water Column in Well	20.24	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	10:36	MS/MSD Sample Time	
Sample ID	OW-01S-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:20	.2	1500	29.5	7.04	6259	66.9	3.70	11	93.30	3.38	4.08
10:23	.2	3000	29.3	6.93	6369	68.5	3.77	6	93.33	3.41	4.16
10:26	.2	4500	29.8	6.98	6393	72.7	3.61	5	93.30	3.45	4.16
10:29	.2	6000	30.0	6.97	6404	73.2	3.59	5	93.33	3.47	4.15
10:32	.2	7500	30.0	6.97	6407	73.6	3.58	5	93.33	3.47	4.15
10:35	.2	9000	30.1	6.97	6412	74.2	3.55	5	93.33	3.47	4.15

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

OW-02D

Date	10/03/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	91.26
Water Quality Meter	YSI	Gallons in Well	37.31
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	320
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	310
Water Column in Well	228.74	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	11:30	MS/MSD Sample Time	
Sample ID	OW-02D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:10	.2	1500	27.9	7.20	7969	76.4	4.08	19	91.32	4.40	5.18
11:13	.2	3000	27.9	7.24	7982	75.1	4.11	11	91.35	4.41	5.21
11:16	.2	4500	28.1	7.24	7991	74.5	4.19	8	91.35	4.42	5.21
11:19	.2	6000	28.2	7.25	7988	74.2	4.22	7	91.35	4.42	5.21
11:21	.2	7500	28.2	7.24	7993	72.9	4.22	7	91.35	4.42	5.22
11:24	.2	9000	28.1	7.25	8002	72.4	4.22	7	91.35	4.42	5.22

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

OW-02M

Date	10/03/2019	Sampler	Kt
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	91.20
Water Quality Meter	YSI	Gallons in Well	19.38
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	210
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	200
Water Column in Well	118.8	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	13:40	MS/MSD Sample Time	
Sample ID	OW-02M-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:27	500	1500	30.0	7.39	8057	57.3	2.60	8	91.23	4.45	5.24
13:30	500	3000	30.0	7.41	8080	59.2	2.44	5	91.25	4.45	5.25
13:33	500	4500	30.2	7.42	8083	59.6	2.40	5	91.25	4.44	5.25
13:36	500	6000	30.1	7.42	8100	60.4	2.43	5	91.25	4.45	5.25
13:39	500	7500	30.3	7.44	8121	62.8	2.46	5	91.25	4.46	5.25

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-02S

Date	10/03/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	91.99
Water Quality Meter	YSI	Gallons in Well	1.47
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	101.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	96
Water Column in Well	9.01	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	12:25	MS/MSD Sample Time	
Sample ID	OW-02S-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:03	.2	1500	31.3	7.69	3877	80.4	3.88	8	92.05	2.03	2.52
12:06	.2	3000	31.3	7.69	3885	80.1	3.84	4	92.05	2.04	2.52
12:09	.2	4500	31.3	7.68	3883	79.5	3.82	3	92.05	2.04	2.52
12:12	.2	6000	31.2	7.67	3881	79.4	3.83	3	92.05	2.04	2.52
12:15	.2	7500	31.2	7.67	3877	79.1	3.80	3	92.05	2.04	2.52
12:18	.2	9000	31.2	7.67	3879	79.2	3.80	3	92.05	2.04	2.52

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-05D

Date	10/03/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	94.16
Water Quality Meter	YSI	Gallons in Well	36.84
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	320.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	310
Water Column in Well	225.84	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	13:36	MS/MSD Sample Time	
Sample ID	OW-05D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:11	500	2000	30.0	7.69	7340	70.1	8.09	3	94.20	4.03	4.77
13:15	500	4000	30.1	7.72	7154	69.1	8.60	2	94.20	3.96	4.77
13:19	500	6000	30.2	7.73	7493	69.7	8.69	2	94.20	4.11	4.77
13:23	500	8000	30.2	7.74	7475	69.9	8.31	1	94.20	4.09	4.80
13:27	500	10000	30.2	7.74	7490	70.1	8.39	1	94.20	4.09	4.81
13:31	500	12000	30.2	7.74	7496	70.6	8.43	1	94.20	4.09	4.81
13:35	500	14000	30.2	7.74	7489	70.8	8.41	1	94.20	4.09	4.81

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-05S

Date	10/03/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	94.62
Water Quality Meter	YSI	Gallons in Well	2.51
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	110.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	102
Water Column in Well	15.38	Total Volume to Remove	
		EB Sample ID	EB-710-Q319
Did Well Dewater?	No	EB Time	14:47
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	14:33	MS/MSD Sample Time	
Sample ID	OW-05S-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:16	500	1500	29.1	7.28	6425	63.7	3.10	3	94.68	3.48	4.16
14:19	500	3000	30.0	7.30	6297	60.7	2.74	2	94.69	3.40	4.05
14:22	500	4500	30.2	7.30	6080	60.3	2.72	2	94.69	3.32	3.90
14:25	500	6000	30.3	7.31	6098	60.8	2.74	2	94.69	3.31	3.86
14:28	500	7500	30.3	7.31	6072	61.4	2.74	2	94.69	3.30	3.84
14:31	500	9000	30.3	7.31	6066	62.3	2.75	2	94.69	3.29	3.83

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

C-BNS

Date	10/02/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-MAR

Date	10/04/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	10/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-34-100

Date	10/01/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	6.29
Water Quality Meter	YSI	Gallons in Well	15.2
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	99.5
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	94.5
Water Column in Well	93.21	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/01/2019	MS/MSD Sample ID	
Sample Time	09:54	MS/MSD Sample Time	
Sample ID	MW-34-100-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	10/01/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:34	.2	1500	19.9	7.24	1886	107.4	1.63	11	6.36	2.99	3.58
09:37	.2	3000	20.1	7.26	1899	104.3	1.60	8	6.38	2.99	3.58
09:40	.2	4500	20.0	7.26	1889	103.5	1.55	7	6.38	2.99	3.58
09:43	.2	6000	20.1	7.27	1893	102.9	1.49	7	6.38	2.99	3.58
09:46	.2	7500	20.1	7.27	1892	102.4	1.50	7	6.38	2.99	3.58
09:49	.2	9000	20.0	7.27	1886	101.9	1.51	7	6.38	2.99	3.58

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-44-115

Date	10/01/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	17.97
Water Quality Meter	YSI	Gallons in Well	15.83
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	115.0
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	110
Water Column in Well	97.03	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/01/2019	MS/MSD Sample ID	
Sample Time	10:59	MS/MSD Sample Time	
Sample ID	MW-44-115-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	10/01/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:40	.2	1500	23.4	7.77	11548	153.0	0.78	14	18.01	6.70	7.62
10:43	.2	3000	23.3	7.73	11736	148.3	0.54	9	18.01	6.70	7.62
10:46	.2	4500	23.2	7.70	11739	145.3	0.52	5	18.01	6.70	7.62
10:49	.2	6000	23.2	7.69	11745	141.4	0.43	4	18.01	6.70	7.62
10:52	.2	7500	23.3	7.68	11752	139.0	0.39	4	18.01	6.70	7.62
10:55	.2	9000	23.3	7.68	11759	136.7	0.39	4	18.01	6.70	7.62

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-46-175

Date	10/01/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	28.13
Water Quality Meter	YSI	Gallons in Well	23.96
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	175.0
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	170
Water Column in Well	146.87	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/01/2019	MS/MSD Sample ID	
Sample Time	11:46	MS/MSD Sample Time	
Sample ID	MW-46-175-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	10/01/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:27	.2	1500	24.4	7.89	19378	133.0	1.24	7	28.28	11.5	12.5
11:30	.2	3000	24.0	7.92	19300	127.5	1.14	7	28.32	11.5	12.5
11:33	.5	4500	23.8	7.94	19289	124.6	1.08	5	28.29	11.5	12.5
11:36	.2	6000	23.8	7.93	19287	121.8	1.05	5	28.32	11.5	12.5
11:39	.2	7500	23.7	7.94	19281	119.8	1.05	5	28.32	11.5	12.5
11:42	.2	9000	23.7	7.94	19278	118.5	1.04	5	28.32	11.5	12.5

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-62-065

Date	10/01/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	47.72
Water Quality Meter	YSI	Gallons in Well	2.74
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	64.5
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	54.5
Water Column in Well	16.78	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/01/2019	MS/MSD Sample ID	
Sample Time	08:26	MS/MSD Sample Time	
Sample ID	MW-62-065-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	10/01/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:02	.2	500	29.1	7.21	6719	200.9	4.01	7	47.81	3.63	4.38
08:05	.2	1500	29.4	7.23	6713	201.1	3.97	4	47.82	3.65	4.36
08:08	.2	3000	29.6	7.23	6736	201.3	3.99	3	47.82	3.65	4.36
08:11	.2	4500	29.7	7.23	6730	201.4	4.02	3	47.82	3.65	4.36
08:14	.2	6000	29.8	7.25	6740	201.5	4.08	3	47.82	4.02	4.36
08:17	.2	7500	29.6	7.25	6738	200.9	4.05	3	47.82	4.05	4.36
08:20	.2	9000	29.7	7.25	6733	200.4	4.04	3	47.82	4.05	4.36

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

PE-01

Date	10/03/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Extraction Port	Casing Volume to Remove	
Purge Volume Units	Gal	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Extraction port	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	
Sample Date	10/03/2019	Total Volume to Remove	
Sample Time	08:55	EB Sample ID	
Sample ID	PE-01-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:54	1	5	20.9	7.68	3681	30.6	1.04	2		1.94	2.39

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?			X	
Standing or Ponded Water?			X	
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?			X	
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Oct 03,2019 08:49:18 AM
Location:PE-01 Latitude:0 , Longitude:0

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

TW-02D

Date	10/03/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	
Purge Method	Extraction Port	Casing Volume to Remove	
Purge Volume Units	Gal	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Extraction port	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	10/03/2019

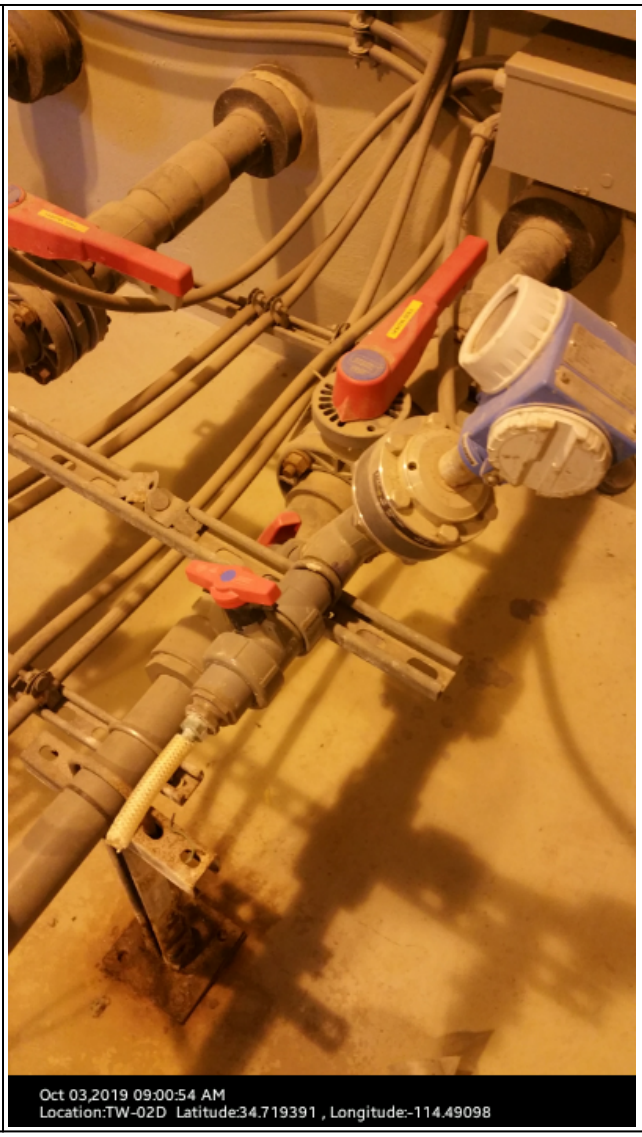
Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:04	1	5	26.6	7.50	5763	46.0	2.47	3		3.11	3.75

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?			X	
Standing or Ponded Water?			X	
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?			X	
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings


Oct 03,2019 09:00:54 AM
Location:TW-02D Latitude:34.719391 , Longitude:-114.49098

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

TW-03D

Date	10/03/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Extraction Port	Casing Volume to Remove	
Purge Volume Units	Gal	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Extraction port	Measured Well Depth (ft bmp)	
Did Well Dewater?	No	Odor	None
Sample Date	10/03/2019	Pump Intake Depth (ft bmp)	
Sample Time	08:40	Total Volume to Remove	
Sample ID	TW-03D-Q419	EB Sample ID	
Single Filter Turbidity	1	EB Time	
Without Filter Turbidity	3	MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:39	1	5	25.0	7.76	7235	61.6	1.97	3		3.98	4.70

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?			X	
Standing or Ponded Water?			X	
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?	X			
Steel Casing Intact?			X	
PVC Cap Present?			X	
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Oct 03,2019 08:39:08 AM
Location:TW-03D Latitude:0 , Longitude:0

C-BNS-D

Date	10/02/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-MAR-D

Date	10/02/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-83-180

Date	11/22/2019	Sampler	Garrett graves
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	74.70
Water Quality Meter	YSI	Gallons in Well	17.52
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	182.13
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	170
Water Column in Well	107.43	Total Volume to Remove	
		EB Sample ID	EB-791-Q419
Did Well Dewater?	No	EB Time	10:15
Sample Date	11/22/2019	MS/MSD Sample ID	
Sample Time	09:56	MS/MSD Sample Time	
Sample ID	MW-L-180-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	6	Purge Date	11/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:35	500	2000	26.5	7.65	11056	-102.9	1.63	13	75.66	6.25	7.44
09:39	500	4000	27.7	7.78	12039	-80.9	1.56	9	75.66	6.98	7.88
09:43	500	6000	28.1	7.82	12151	-59.1	1.20	9	75.66	6.69	7.91
09:47	500	8000	29.2	7.83	12226	-30.8	0.70	7	75.66	6.96	7.94
09:51	500	10000	29.4	7.83	12123	-23.1	0.74	7	75.66	6.96	7.91
09:55	500	12000	29.5	7.84	12192	-17.4	0.71	6	75.66	6.96	7.94

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-75-117

Date	11/18/2019	Sampler	Garrett graves
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	19.36
Water Quality Meter	YSI	Gallons in Well	16.11
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	118.11
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	100
Water Column in Well	98.75	Total Volume to Remove	
		EB Sample ID	EB-786-Q419
Did Well Dewater?	No	EB Time	16:00
Sample Date	11/18/2019	MS/MSD Sample ID	
Sample Time	15:30	MS/MSD Sample Time	
Sample ID	MW-B-117-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	11/18/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:14	500	2000	27.1	7.72	13087	-84.6	0.45	14	19.48	7.49	8.50
15:18	500	4000	27.2	7.70	13572	-82.6	0.33	8	19.50	7.86	8.89
15:22	500	6000	27.2	7.68	13688	-82.8	0.30	9	19.40	7.89	9.05
15:26	500	8000	27.1	7.68	13712	-81.4	0.27	9	19.50	7.90	8.86
15:30	500	10000	27.1	7.68	13788	-79.9	0.25	8	19.50	8.08	9.12

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?			X	

Item	Yes	No	NA	Notes
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-75-033

Date	11/19/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	19.10
Water Quality Meter	YSI	Gallons in Well	2.56
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	34.80
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	30
Water Column in Well	15.70	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/19/2019	MS/MSD Sample ID	
Sample Time	13:02	MS/MSD Sample Time	
Sample ID	MW-B-33-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-926-4Q19	Post Sampling Turbidity	
Dup Sample Time	13:12	Purge Date	11/19/2019
Single Filter Turbidity	3		
Without Filter Turbidity	15		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:49	500	2000	27.4	7.67	4452	196.6	1.80	1000	19.36	2.35	2.87
12:52	500	4000	27.4	7.66	4439	193.1	1.61	21	19.36	2.37	2.91
12:55	500	6000	27.4	7.65	4445	188.7	1.57	17	19.36	2.35	2.87
12:58	500	8000	27.4	7.64	4420	182.2	1.54	19	19.36	2.36	2.87
13:01	500	10000	27.4	7.61	4438	177.5	1.51	15	19.36	2.35	2.88

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?			X	
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-84-057

Date	11/19/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	45.20
Water Quality Meter	YSI	Gallons in Well	2.27
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	59.12
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	52
Water Column in Well	13.92	Total Volume to Remove	
		EB Sample ID	EB-787-Q419
Did Well Dewater?	No	EB Time	16:00
Sample Date	11/19/2019	MS/MSD Sample ID	
Sample Time	15:42	MS/MSD Sample Time	
Sample ID	MW-M-57-Q419	Double Filter Turbidity	
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	16	Purge Date	11/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:20	500	2000	29.8	7.82	1940	154.4	6.73	55	42.88	0.98	1.29
15:24	500	4000	29.9	7.80	1938	158.4	6.71	41	42.88	0.98	1.26
15:28	500	6000	29.9	7.79	1937	161.2	6.39	22	42.88	0.98	1.26
15:32	500	8000	29.9	7.79	1938	163.3	6.63	18	42.88	0.98	1.26
15:36	500	10000	29.9	7.79	1940	166.8	6.33	16	42.88	0.98	1.27
15:40	500	12000	29.8	7.78	1944	170.3	6.60	16	42.88	0.98	1.27

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?			X	
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-84-095

Date	11/19/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	45.08
Water Quality Meter	YSI	Gallons in Well	8.46
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	96.97
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	90
Water Column in Well	51.89	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/19/2019	MS/MSD Sample ID	
Sample Time	14:57	MS/MSD Sample Time	
Sample ID	MW-M-95-Q419	Double Filter Turbidity	1
Duplicate Sample ID	MW-928-4Q19	Post Sampling Turbidity	
Dup Sample Time	15:07	Purge Date	11/19/2019
Single Filter Turbidity	8		
Without Filter Turbidity	28		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:35	500	2000	29.8	7.51	6057	193.8	0.71	1000	45.34	3.23	3.89
14:39	500	4000	29.9	7.51	6035	180.1	0.45	183	45.38	3.25	3.93
14:43	500	6000	29.9	7.51	6060	151.0	0.44	45	45.38	3.26	3.92
14:47	500	8000	29.9	7.51	6027	143.9	0.41	38	45.38	3.26	3.93
14:51	500	10000	29.9	7.51	6035	141.0	0.38	31	45.38	3.24	3.94
14:55	500	12000	29.9	7.50	6031	138.6	0.33	28	45.38	3.29	4.00

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?			X	
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-84-132

Date	11/22/2019	Sampler	Garrett graves
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	45.95
Water Quality Meter	YSI	Gallons in Well	14.47
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	134.66
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	122
Water Column in Well	88.71	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/22/2019	MS/MSD Sample ID	MW-M-132-1119 MSMSD
Sample Time	08:48	MS/MSD Sample Time	08:48
Sample ID	MW-M-132-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	6	Purge Date	11/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:27	500	2000	29.0	7.46	7811	157.8	0.62	14	46.43	4.35	5.15
08:31	500	4000	29.2	7.54	9169	90.1	0.51	8	46.43	5.23	6.16
08:35	500	6000	29.5	7.64	9709	-20.8	0.43	6	46.43	5.41	6.29
08:39	500	8000	29.5	7.65	9574	-50.9	0.48	6	46.43	5.31	6.22
08:43	500	10000	29.5	7.63	9599	-56.6	0.36	6	46.43	5.32	6.20
08:47	500	12000	29.5	7.65	9536	-62.4	0.49	6	46.43	5.32	6.14

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-84-193

Date	11/22/2019	Sampler	Garrett graves
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	45.80
Water Quality Meter	YSI	Gallons in Well	24.15
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	193.88
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	183
Water Column in Well	148.08	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/22/2019	MS/MSD Sample ID	
Sample Time	08:00	MS/MSD Sample Time	
Sample ID	MW-M-193-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	11/22/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:42	500	2000	28.3	7.48	13210	76.5	0.94	27	46.23	7.65	8.70
07:46	500	4000	29.2	7.69	13482	93.3	0.83	15	46.23	7.74	8.79
07:50	500	6000	29.3	7.79	13668	97.8	0.80	12	46.23	7.84	8.72
07:54	500	8000	29.3	7.83	13613	100.0	0.73	9	46.23	7.78	8.81
07:58	500	10000	29.3	7.88	13533	102.2	0.77	9	46.23	7.84	8.78

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			
Required Actions				

Item	Yes	No	NA	Notes
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-87-192

Date	11/20/2019	Sampler	Garrett graves
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	91.41
Water Quality Meter	YSI	Gallons in Well	16.59
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	193.15
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	180
Water Column in Well	101.74	Total Volume to Remove	
		EB Sample ID	EB-788-Q419
Did Well Dewater?	No	EB Time	15:30
Sample Date	11/20/2019	MS/MSD Sample ID	
Sample Time	14:48	MS/MSD Sample Time	
Sample ID	MW-R-192-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:30	500	2000	30.0	7.81	9778	-76.0	0.65	18	92.48	5.44	6.33
14:34	500	4000	30.1	7.80	9738	-72.1	0.53	15	92.48	5.42	6.32
14:38	500	6000	30.1	7.81	9662	-63.8	0.56	12	92.48	5.38	6.27
14:42	500	8000	30.3	7.80	9648	-59.3	0.51	9	92.48	5.38	6.26
14:46	500	10000	30.3	7.81	9614	-58.8	0.57	9	92.48	5.35	6.24

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-87-275

Date	11/20/2019	Sampler	Garrett graves
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	91.24
Water Quality Meter	YSI	Gallons in Well	30.17
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	276.20
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	260
Water Column in Well	184.96	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/20/2019	MS/MSD Sample ID	
Sample Time	13:58	MS/MSD Sample Time	
Sample ID	MW-R-275-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:40	500	2000	30.4	7.97	11681	73.8	0.86	17	91.33	6.61	7.55
13:44	500	4000	30.4	7.95	11710	70.3	00.79	10	91.33	6.63	7.60
13:48	500	6000	30.3	7.93	11725	67.9	0.74	6	91.33	6.63	7.63
13:52	500	8000	30.4	7.92	11724	64.4	0.83	5	91.33	6.64	7.63
13:56	500	10000	30.4	7.90	11778	61.2	0.78	4	91.33	6.65	7.63

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Required Actions				

Item	Yes	No	NA	Notes
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-87-109

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	91.16
Water Quality Meter	YSI	Gallons in Well	3.24
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	111.01
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	102
Water Column in Well	19.85	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/20/2019	MS/MSD Sample ID	
Sample Time	13:50	MS/MSD Sample Time	
Sample ID	MW-R-109-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:33	300	1200	24.7	7.71	2313	37.6	5.31	26	91.20	1.19	1.50
13:37	300	2400	24.9	7.75	2329	40.9	5.39	15	91.20	1.19	1.50
13:41	300	3600	24.9	7.76	2323	42.6	5.42	10	91.20	1.19	1.50
13:45	300	4800	24.9	7.76	2325	43.9	5.43	9	91.20	1.19	1.50
13:49	300	6000	24.9	7.76	2326	44.6	5.46	9	91.20	1.19	1.50

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-87-139

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	91.18
Water Quality Meter	YSI	Gallons in Well	8.15
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	141.16
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	134
Water Column in Well	49.98	Total Volume to Remove	
		EB Sample ID	EB-789-Q419
Did Well Dewater?	No	EB Time	15:30
Sample Date	11/20/2019	MS/MSD Sample ID	
Sample Time	14:48	MS/MSD Sample Time	
Sample ID	MW-R-139-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:19	100	400	23.6	7.47	7303	86.9	1.73	39	91.22	4.04	4.75
14:23	100	800	23.7	7.46	7309	89.1	1.46	29	91.22	4.04	4.75
14:27	100	1200	23.7	7.49	7295	88.7	1.42	23	91.22	4.04	4.75
14:31	100	1600	23.7	7.50	7293	87.6	1.41	15	91.22	4.04	4.75
14:35	100	2000	23.7	7.50	7292	86.6	1.45	12	91.22	4.04	4.75
14:39	100	2400	23.8	7.50	7290	85.6	1.46	10	91.22	4.04	4.75
14:43	100	2800	23.8	7.51	7289	85.5	1.48	9	91.22	4.04	4.75
14:47	100	3200	23.8	7.51	7288	85.3	1.48	9	91.22	4.04	4.75

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-76-218

Date	11/21/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	28.00
Water Quality Meter	YSI	Gallons in Well	31.27
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	219.69
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	213
Water Column in Well	191.69	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/21/2019	MS/MSD Sample ID	
Sample Time	12:40	MS/MSD Sample Time	
Sample ID	MW-C-218-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	10	Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:19	500	2000	27.1	8.95	18079	-41.2	1.05	27	28.28	10.65	11.75
12:23	500	4000	27.7	8.78	18085	-100.3	1.12	22	28.28	10.65	11.73
12:27	500	6000	27.2	8.69	18253	-150.17)	0.45	18	28.28	10.86	12.00
12:31	500	8000	27.3	8.63	21311	-146.8	0.30	16	28.28	13.06	14.222
12:35	500	10000	27.1	8.58	21366	-149.5	0.37	10	28.28	14.00	15.00
12:39	500	12000	27.3	8.53	22000	-153.7	0.38	10	28.28	14.00	15.09

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?		X		
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-76-181

Date	11/21/2019	Sampler	Garrett graves
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	27.85
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	182.71
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	176
Water Column in Well	154.86	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/21/2019	MS/MSD Sample ID	MW-C-181-1119-MSMSD
Sample Time	13:28	MS/MSD Sample Time	13:28
Sample ID	MW-C-181-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	12	Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:10	500	2000	26.9	7.89	19118	54.6	0.82	30	29.22	11.39	12.49
13:14	500	4000	26.9	7.84	19537	53.0	0.71	23	29.22	11.69	12.83
13:18	500	6000	27.1	7.83	20493	47.6	0.68	13	29.22	12.21	13.33
13:22	500	8000	27.3	7.81	20626	44.8	0.60	12	29.22	12.27	13.42
13:26	500	10000	27.7	7.80	20712	40.2	0.55	12	29.22	12.18	13.45

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?			X	

Item	Yes	No	NA	Notes
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-76-156

Date	11/21/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	27.80
Water Quality Meter	YSI	Gallons in Well	20.87
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	155.76
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	151
Water Column in Well	127.96	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/21/2019	MS/MSD Sample ID	
Sample Time	14:26	MS/MSD Sample Time	
Sample ID	MW-C-156-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
02:09	500	4000	27.6	7.95	17147	47.0	0.19	14	28.30	10.04	11.13
14:05	500	2000	27.4	7.91	17033	81.0	0.27	19	28.30	9.99	11.08
14:13	500	6000	27.5	7.95	17004	-1.0	0.16	9	28.30	9.96	11.08
14:17	500	8000	27.6	7.93	17052	-16.8	0.17	7	28.30	10.00	11.09
14:21	500	10000	27.6	7.92	17108	-23.3	0.13	8	28.30	10.02	11.12
14:25	500	12000	27.6	7.90	17131	-26.6	0.11	7	28.30	10.04	11.14

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?		X		
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-76-039

Date	11/21/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	27.35
Water Quality Meter	YSI	Gallons in Well	1.78
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	38.29
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	35
Water Column in Well	10.94	Total Volume to Remove	
		EB Sample ID	EB-790-Q419
Did Well Dewater?	No	EB Time	16:00
Sample Date	11/21/2019	MS/MSD Sample ID	
Sample Time	15:08	MS/MSD Sample Time	
Sample ID	MW-C-39-Q419	Double Filter Turbidity	
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	29	Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:51	500	2000	27.6	7.73	3459	67.3	0.60	88	28.10	1.81	2.26
14:54	500	4000	27.6	7.72	3480	49.6	0.77	41	28.10	1.82	2.26
14:58	500	6000	27.6	7.72	3489	35.7	0.92	38	28.10	1.82	2.26
15:02	500	8000	27.6		3493	29.8	0.87	33	28.10	1.82	2.26
15:06	500	10000	27.6	7.71	3499	27.0	0.81	28	28.10	1.83	2.27

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Required Actions				

Item	Yes	No	NA	Notes
Action Completed?	X			
Action Completed Date				

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-75-337

Date	11/18/2019	Sampler	Garrett graves
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	20.25
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	320
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	11/18/2019	EB Sample ID	
Sample Time	12:23	EB Time	
Sample ID	MW-B-337-Q419	MS/MSD Sample ID	
Single Filter Turbidity	6	MS/MSD Sample Time	
Without Filter Turbidity	23	Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	11/18/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:10	500	1500	28.4	7.97	31490	-260.1	0.26	34	20.36	19.29	20.34
12:13	500	3000	28.6	8.02	31310	-256.6	0.41	30	20.36	19.17	20.30
12:16	500	4500	28.6	8.03	31214	-254.6	0.31	28	20.36	19.41	20.37
12:19	500	6000	28.6	8.03	31340	-255.1	0.31	25	20.36	19.18	20.36
12:22	500	7500	28.6	8.01	31333	-254.2	0.33	23	20.36	19.18	20.33

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Required Actions				

Item	Yes	No	NA	Notes
Action Completed?	X			
Action Completed Date				

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-82-112

Date	11/20/2019	Sampler	Garrett graves
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	30.90
Water Quality Meter	YSI	Gallons in Well	13.59
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	114.20
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	106
Water Column in Well	83.30	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/20/2019	MS/MSD Sample ID	
Sample Time	11:04	MS/MSD Sample Time	
Sample ID	MW-H-112-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-927-4Q19	Post Sampling Turbidity	
Dup Sample Time	11:14	Purge Date	11/20/2019
Single Filter Turbidity	1		
Without Filter Turbidity	2		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:46	500	2000	24.7	7.81	8627	20.9	1.30	4	31.00	4.82	5.64
10:50	500	4000	25.1	7.77	8763	9.5	0.96	3	31.00	4.89	5.70
10:54	500	6000	25.1	7.76	8812	6.0	0.81	3	31.00	4.92	5.73
10:58	500	8000	25.1	7.75	8846	4.8	0.78	3	31.00	4.93	5.75
11:02	500	10000	25.1	7.74	8878	3.2	0.71	2	31.00	4.96	5.77

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?	X			

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?			X	
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-82-168

Date	11/20/2019	Sampler	Garrett graves
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	30.70
Water Quality Meter	YSI	Gallons in Well	22.54
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	168.90
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	160
Water Column in Well	138.20	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/20/2019	MS/MSD Sample ID	
Sample Time	10:20	MS/MSD Sample Time	
Sample ID	MW-H-168-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:00	500	2000	24.7	7.97	19507	198.6	0.60	6	30.77	11.60	12.68
10:04	500	4000	24.7	7.92	19555	192.2	0.73	3	30.77	11.64	12.72
10:08	500	6000	24.5	7.84	19612	188.7	0.58	3	30.77	11.69	12.75
10:12	500	8000	24.2	7.78	19647	187.3	0.66	3	30.77	11.70	12.77
10:16	500	10000	24.2	7.80	19666	180.0	0.55	3	30.77	11.66	12.76

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?			X	
Required Actions				

Item	Yes	No	NA	Notes
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-82-198

Date	11/20/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	30.33
Water Quality Meter	YSI	Gallons in Well	27.58
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	199.45
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	180
Water Column in Well	169.12	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/20/2019	MS/MSD Sample ID	
Sample Time	09:32	MS/MSD Sample Time	
Sample ID	MW-H-198-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:10	500	2000	25.1	7.99	21929	282.6	2.81	18	30.37	13.25	14.33
09:14	500	4000	24.9	8.17	21988	278.5	2.17	12	30.37	13.29	14.41
09:18	500	6000	24.9	8.23	22038	273.9	1.77	7	30.37	13.28	14.33
09:22	500	8000	24.9	8.21	22059	268.9	1.68	7	30.37	13.35	14.38
09:26	500	10000	24.8	8.27	22019	266.3	1.68	4	30.37	13.25	14.33
09:30	500	12000	24.8	8.26	22050	264.9	1.66	5	30.37	13.25	14.33

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?			X	
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-82-046

Date	11/20/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	yellow
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	30.09
Water Quality Meter	YSI	Gallons in Well	2.87
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	47.71
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	42
Water Column in Well	17.62	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/20/2019	MS/MSD Sample ID	
Sample Time	12:05	MS/MSD Sample Time	
Sample ID	MW-H-46-Q419	Double Filter Turbidity	
Single Filter Turbidity	5	Post Sampling Turbidity	
Without Filter Turbidity	28	Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:47	500	2000	26.0	7.45	7071	118.3	0.77	1000	30.33	3.87	4.59
11:51	500	4000	26.3	7.41	7036	113.6	0.71	222	30.33	3.88	4.61
11:55	500	6000	26.3	7.40	7001	109.6	0.68	32	30.33	3.87	4.59
11:59	500	8000	26.3	7.40	6978	103.9	0.63	31	30.33	3.87	4.60
12:03	500	10000	26.3	7.38	6987	100.7	0.66	28	30.33	3.88	4.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			
Photo Taken?			X	

Item	Yes	No	NA	Notes
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-77-158

Date	11/21/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	26.10
Water Quality Meter	YSI	Gallons in Well	21.84
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	159.98
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	148
Water Column in Well	133.88	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/21/2019	MS/MSD Sample ID	
Sample Time	09:00	MS/MSD Sample Time	
Sample ID	MW-D-158-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	10	Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:42	500	2000	26.2	7.71	20606	160.8	0.73	28	26.47	12.29	13.40
08:46	500	4000	26.8	7.69	20625	180.8	00.61	12	26.47	12.26	13.37
08:50	500	6000	27.0	7.68	20595	180.7	0.57	13	26.47	12.24	13.36
08:54	500	8000	27.0	7.66	20534	178.6	0.53	11	26.47	12.28	13.37
08:58	500	10000	27.0	7.67	20605	176.1	0.51	10	26.47	12.26	13.37

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?		X		
Erosion Around Wellhead?		X		
Steel Casing Intact?		X		
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Required Actions				

Item	Yes	No	NA	Notes
Action Completed Date				

Photos and Drawings

MW-77-187

Date	11/21/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	26.46
Water Quality Meter	YSI	Gallons in Well	26.18
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	187.00
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	166
Water Column in Well	160.54	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/21/2019	MS/MSD Sample ID	
Sample Time	08:23	MS/MSD Sample Time	
Sample ID	MW-D-187-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:05	500	2000	26.6	7.95	23660	267.9	0.46	14	26.66	14.31	15..41
08:09	500	4000	27.0	8.10	23766	266.0	0.33	8	26.66	14.31	15.46
08:13	500	6000	27.0	8.11	23789	263.9	0.31	6	26.66	14.34	15.45
08:17	500	8000	27.0	8.11	23790	260.7	0.27	5	26.66	14.34	15.46
08:21	500	10000	27.1	8.13	24024	258.9	0.26	5	26.66	14.33	15.43

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?		X		
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-75-267

Date	11/18/2019	Sampler	Garrett graves
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	19.28
Water Quality Meter	YSI	Gallons in Well	40.68
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	268.66
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	250
Water Column in Well	249.38	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/18/2019	MS/MSD Sample ID	
Sample Time	13:51	MS/MSD Sample Time	
Sample ID	MW-B-267R-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	11/18/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:10	500	2000	28.4	7.87	23779	-208.9	0.48	38	19.39	14.34	15.46
13:14	500	4000	28.6	7.84	23696	-210.8	0.53	17	19.40	14.30	15.55
13:18	500	6000	28.6	7.83	23689	-212.5	0.51	13	19.40	14.41	15.48
13:22	500	8000	28.6	7.83	23719	-218.2	0.48	11	19.40	14.33	15.87
13:26	500	10000	28.6	7.80	23745	-220.1	0.45	9	19.40	14.52	15.90
13:30	500	12000	28.5	7.80	23789	-222.1	0.44	9	19.40	14.38	15.82

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?		X		
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?			X	
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-75-202

Date	11/18/2019	Sampler	Garrett graves
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	18.87
Water Quality Meter	YSI	Gallons in Well	30.25
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	204.31
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	190
Water Column in Well	185.44	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/18/2019	MS/MSD Sample ID	
Sample Time	14:30	MS/MSD Sample Time	
Sample ID	MW-B-202-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	11/18/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:08	500	2000	27.9	7.76	18450	-142.0	0.69	12	19.01	10.54	11.68
14:12	500	4000	27.9	7.74	18489	-144.9	0.73	8	19.03	10.58	11.72
14:16	500	6000	28.0	7.74	18499	-148.9	0.75	7	19.03	10.60	11.71
14:20	500	8000	28.0	7.73	18512	-150.4	0.76	7	19.03	10.63	11.75
14:24	500	10000	28.1	7.71	18547	-151.9	0.77		19.03	10.90	12.1
14:39	500	12000	28.1	7.70	18578	-153.6	0.79	5	19.03	10.96	12.06

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?			X	
Required Actions				
Action Completed?	X			

Photos and Drawings

MW-77-102

Date	11/21/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	26.70
Water Quality Meter	YSI	Gallons in Well	12.54
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	103.57
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	93
Water Column in Well	76.87	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/21/2019	MS/MSD Sample ID	
Sample Time	09:50	MS/MSD Sample Time	
Sample ID	MW-D-102-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-929-Q419	Post Sampling Turbidity	
Dup Sample Time	10:00	Purge Date	11/21/2019
Single Filter Turbidity	1		
Without Filter Turbidity	10		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:33	500	2000	26.1	7.31	8560	84.5	0.35	19	26.96	4.75	5.55
09:37	500	4000	26.3	7.29	8569	71.4	0.23	16	26.96	4.77	5.57
09:41	500	6000	26.3	7.29	8625	56.0	0.26	13	26.96	5.60	4.79
09:45	500	8000	26.3	7.30	8618	51.8	0.17	11	26.96	4.80	5.60
09:49	500	10000	26.3	7.30	8635	47.2	0.16	10	26.96	4.80	5.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?		X		
Erosion Around Wellhead?		X		
Steel Casing Intact?		X		
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-92-102

Date	11/19/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	7.77
Water Quality Meter	YSI	Gallons in Well	15.68
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	103.88
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	95
Water Column in Well	96.11	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/19/2019	MS/MSD Sample ID	
Sample Time	08:50	MS/MSD Sample Time	
Sample ID	MW-Y-102-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	11/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:37	100	300	25.6	8.71	4174	40.7	1.48	5	7.91	2.19	2.67
08:40	100	600	25.7	8.58	3997	31.3	1.00	3	7.91	2.10	2.58
08:43	100	900	26.0	8.51	3859	19.4	0.86	3	7.91	2.03	2.50
08:46	100	1200	26.6	8.52	3881	19.8	0.80	2	7.91	2.05	2.52
08:49	100	1500	26.6	8.53	3910	17.1	0.78	2	7.91	2.03	2.58

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			
Photo Taken?			X	

Item	Yes	No	NA	Notes
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-92-122

Date	11/19/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	8.23
Water Quality Meter	YSI	Gallons in Well	18.87
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	123.91
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	115
Water Column in Well	115.68	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/19/2019	MS/MSD Sample ID	
Sample Time	07:50	MS/MSD Sample Time	
Sample ID	MW-Y-122-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	11/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:30	100	300	24.3	8.02	14822	221.7	3.63	12	8.29	8.73	9.73
07:33	100	600	24.9	8.15	14812	177.3	2.19	9	8.30	8.62	9.64
07:36	100	900	25.0	8.18	14849	155.3	2.01	8	8.30	8.64	9.66
07:39	100	1200	24.9	8.22	14888	147.9	1.77	7	8.30	8.65	9.66
07:42	100	1500	24.9	8.22	14912	140.1	1.73	7	8.30	8.61	9.68
07:45	100	1800	24.9	8.23	15329	138.8	1.66	8	8.30	8.69	9.70

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?			X	
Required Actions				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-92-072

Date	11/19/2019	Sampler	
Did Well Dewater?	No	Color	Clear
Sample Date	11/19/2019	Casing Volume to Remove	
Sample Time	09:30	Depth to Water (ft bmp)	
Sample ID	MW-Y-72-Q419	Gallons in Well	
Single Filter Turbidity	1	Measured Well Depth (ft bmp)	
Without Filter Turbidity	4	Odor	none
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:15	100	300	27.2	8.76	2473	93.7	0.83	9	7.33	1.27	1.61
09:18	100	600	26.8	8.64	2500	93.6	0.80	6	7.33	1.28	1.63
09:21	100	900	26.4	8.57	2509	90.7	0.61	4	7.33	1.29	1.62
09:24	100	1200	26.3	8.54	2500	88.9	0.55	4	7.33	1.31	1.62
09:27	100	1500	26.4	8.54	2503	87.0	0.52	2	7.33	1.29	1.64

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?			X	
Required Actions				

Item	Yes	No	NA	Notes
Action Completed?	X			
Action Completed Date				

Photos and Drawings

MW-92-037

Date	11/19/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	7.33
Water Quality Meter	YSI	Gallons in Well	5.23
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	39.40
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	36
Water Column in Well	32.07	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/19/2019	MS/MSD Sample ID	
Sample Time	10:02	MS/MSD Sample Time	
Sample ID	MW-Y-37-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	11/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:48	100	300	27.0	8.61	1868	74.9	0.66	6	7.35	0.94	1.21
09:51	100	600	27.0	8.57	1864	62.4	0.74	4	7.35	0.94	1.21
09:54	100	900	27.0	8.55	1856	53.8	0.81	3	7.35	0.95	1.23
09:57	100	1200	27.0	8.55	1863	50.1	0.83	3	7.35	0.94	1.23
10:00	100	1500	27.1	8.53	1864	45.3	0.87	2	7.35	0.94	1.20

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?			X	

Item	Yes	No	NA	Notes
Required Actions				
Action Completed?	X			
Action Completed Date				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-77-046

Date	11/21/2019	Sampler	Garrett graves
Weather Conditions	Cloudy	Color	brown
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	26.00
Water Quality Meter	YSI	Gallons in Well	3.60
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	48.10
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	38
Water Column in Well	22.10	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	11/21/2019	MS/MSD Sample ID	
Sample Time	10:33	MS/MSD Sample Time	
Sample ID	MW-D-46R-Q419	Double Filter Turbidity	
Single Filter Turbidity	6	Post Sampling Turbidity	
Without Filter Turbidity	33	Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:15	500	2000	26.9	7.33	13745	20.1	0.38	789	26.34	7.89	8.91
10:19	500	4000	27.0	7.32	13564	-12.3	0.27	215	26.35	7.31	8.79
10:23	500	6000	27.1	7.30	13452	-44.0	0.17	155	26.35	7.72	8.76
10:27	500	8000	27.0	7.30	13307	-50.1	0.26	62	26.35	7.47	8.44
10:31	500	10000	27.0	7.29	13017	-55.9	0.25	33	26.35	7.44	8.41

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?		X		
Erosion Around Wellhead?		X		
Steel Casing Intact?		X		
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Required Actions				

Item	Yes	No	NA	Notes
Action Completed?	X			
Action Completed Date				

Photos and Drawings

C-BNS

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	13
Comments	2102141.19 N, 7616948.53 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	12
Sample Date	11/20/2019	Total Volume to Remove	
Sample Time	11:05	EB Sample ID	
Sample ID	C-BNS-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:04	500		16.9	8.16	933	110.6	8.52	2		0.46	0.60

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-NR3-D

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	8
Comments	2106755.74 N, 7611725.79 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	7
Sample Date	11/21/2019	Total Volume to Remove	
Sample Time	11:10	EB Sample ID	
Sample ID	C-NR3-D-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	13	MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:09	500		16.1	8.16	945	115.8	8.27	13		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-NR4-D

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	10
Comments	2108624.12 N, 7607995.93 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	9
Sample Date	11/21/2019	Total Volume to Remove	
Sample Time	12:00	EB Sample ID	
Sample ID	C-NR4-D-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	15	MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:59	500		16.5	8.14	947	116.0	8.12	15		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-R22A-D

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	5
Comments	2101639.58 N, 7616968.56 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	4
Sample Date	11/20/2019	Total Volume to Remove	
Sample Time	10:20	EB Sample ID	
Sample ID	C-R22A-D-Q419	EB Time	
Duplicate Sample ID	MW-902-Q419	MS/MSD Sample ID	
Dup Sample Time	10:30	MS/MSD Sample Time	
Single Filter Turbidity	1	Double Filter Turbidity	
Without Filter Turbidity	3	Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:19	500		17.0	8.17	940	110.5	8.37	3		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-R27-D

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	4
Casing Material	PVC	Odor	None
Comments	2102559.87 N, 7616721.16 E	Pump Intake Depth (ft bmp)	3
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	11/20/2019	EB Sample ID	
Sample Time	11:35	EB Time	
Sample ID	C-R27-D-Q419	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	3	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:34	500		17.1	8.16	934	109.9	8.28	3		0.46	0.60

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-TAZ-D

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	12
Comments	2100869.09 N, 7618856.05 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	11
Sample Date	11/20/2019	Total Volume to Remove	
Sample Time	08:45	EB Sample ID	
Sample ID	C-TAZ-D-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	3	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:44	500		16.8	8.15	931	104.6	8.87	3		0.46	0.60

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

PE-01

Date	11/07/2019	Sampler	Jed
Purge Method	Extraction Port	Color	
Water Quality Meter	YSI	Casing Volume to Remove	
Sampling Type	Extraction port	Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/07/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:45			20.1	6.92	5016	-42.3	1.90	2			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?			X	
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?			X	
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?		X		
Action Completed?		X		

Photos and Drawings

Oct 03,2019 08:49:18 AM
Location:PE-01 Latitude:0 , Longitude:0

R-19

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	3
Comments	2103323.98 N, 7616195.57 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	2
Sample Date	11/21/2019	Total Volume to Remove	
Sample Time	09:00	EB Sample ID	
Sample ID	R-19-Q419	EB Time	
Single Filter Turbidity	3	MS/MSD Sample ID	
Without Filter Turbidity	35	MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:59	500		16.2	8.07	945	115.3	8.20	35		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

R-28

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	3
Comments	2103080.43 N, 7616318.02 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	2
Sample Date	11/20/2019	Total Volume to Remove	
Sample Time	12:20	EB Sample ID	
Sample ID	R-28-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:19	500		17.1	8.10	951	110.6	8.30	2		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

R63

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	3
Comments	2100793.49 N, 7617355.34 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	2
Sample Date	11/20/2019	Total Volume to Remove	
Sample Time	09:55	EB Sample ID	
Sample ID	R63-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	3	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:54	50		16.9	8.15	939	110.6	8.21	3		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

RMP-AB1

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	
Comments	2100869.09 N, 7618856.05 E	Casing Volume to Remove	
Sample Date	11/20/2019	Depth to Water (ft bmp)	
Sample Time	08:30	Gallons in Well	
Sample ID	RMP-AB1-Q419	Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:30											

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

RMP-AB2

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	
Comments	2103080.43 N, 7616318.02 E	Casing Volume to Remove	
Sample Date	11/20/2019	Depth to Water (ft bmp)	
Sample Time	12:30	Gallons in Well	
Sample ID	RMP-AB2-Q419	Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:30											

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

RMP-AB3

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	
Comments	2108624.12 N, 7607995.93 E	Casing Volume to Remove	
Did Well Dewater?	No	Depth to Water (ft bmp)	
Sample Date	11/21/2019	Gallons in Well	
Sample Time	12:25	Measured Well Depth (ft bmp)	
Sample ID	RMP-AB3-Q419	Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:24											

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

RRB

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Water Quality Meter	YSI	Casing Volume to Remove	
Sampling Type	Surface water	Depth to Water (ft bmp)	
Comments	2104538.98 N, 7615236.08 E	Gallons in Well	
Did Well Dewater?	No	Measured Well Depth (ft bmp)	
Sample Date	11/21/2019	Odor	None
Sample Time	09:20	Pump Intake Depth (ft bmp)	
Sample ID	RRB-Q419	Total Volume to Remove	
Single Filter Turbidity	1	EB Sample ID	
Without Filter Turbidity	9	EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:20			15.9	7.86	2960	128.9	5.06	9		1.54	1.90

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

SW1

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Water Quality Meter	YSI	Casing Volume to Remove	
Sampling Type	Surface water	Depth to Water (ft bmp)	
Comments	2101306.19 N, 7616724.42 E	Gallons in Well	
Did Well Dewater?	No	Measured Well Depth (ft bmp)	
Sample Date	11/21/2019	Odor	None
Sample Time	13:45	Pump Intake Depth (ft bmp)	
Sample ID	SW1-Q419	Total Volume to Remove	
Single Filter Turbidity	3	EB Sample ID	
Without Filter Turbidity	39	EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:45			16.9	7.94	924	115.7	6.08	39		0.46	0.59

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

SW2

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Water Quality Meter	YSI	Casing Volume to Remove	
Sampling Type	Surface water	Depth to Water (ft bmp)	
Comments	2101074.98 N, 7616907.24 E	Gallons in Well	
Did Well Dewater?	No	Measured Well Depth (ft bmp)	
Sample Date	11/21/2019	Odor	None
Sample Time	14:05	Pump Intake Depth (ft bmp)	
Sample ID	SW2-Q419	Total Volume to Remove	
Single Filter Turbidity	3	EB Sample ID	
Without Filter Turbidity	33	EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:05			16.3	7.65	1023	109.6	2.53	33		0.51	0.66

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

TW-03D

Date	11/07/2019	Sampler	Jed
Purge Method	Extraction Port	Color	
Water Quality Meter	YSI	Casing Volume to Remove	
Sampling Type	Extraction port	Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/07/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:55			25.1	7.28	7681	92	3.44	1			

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?			X	
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?			X	
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?		X		

Photos and Drawings

Oct 03,2019 08:39:08 AM
Location:TW-03D Latitude:0 , Longitude:0

C-CON-D

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	9
Comments	2105632.32 N, 7614088.56 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	8
Sample Date	11/21/2019	Total Volume to Remove	
Sample Time	09:45	EB Sample ID	
Sample ID	C-CON-D-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	13	MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:44	500		16.1	8.11	949	110.9	8.39	13		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-CON-S

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	9
Comments	2105632.32 N, 7614088.56 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	11/21/2019	Total Volume to Remove	
Sample Time	10:00	EB Sample ID	
Sample ID	C-CON-S-Q419	EB Time	
Duplicate Sample ID	MW-900-Q419	MS/MSD Sample ID	
Dup Sample Time	10:10	MS/MSD Sample Time	
Single Filter Turbidity	1	Double Filter Turbidity	
Without Filter Turbidity	9	Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:59	500		16.1	8.15	944	115.8	8.12	9		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-I-3-D

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	12
Comments	2101055.66 N, 7617743.98 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	11
Sample Date	11/20/2019	Total Volume to Remove	
Sample Time	09:25	EB Sample ID	
Sample ID	C-I-3-D-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	3	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:24	500		16.7	8.18	931	109.6	8.60	3		0.46	0.60

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-I-3-S

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	12
Casing Material	PVC	Odor	None
Comments	2101055.66 N, 7617743.98 E	Pump Intake Depth (ft bmp)	1
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	11/20/2019	EB Sample ID	
Sample Time	09:40	EB Time	
Sample ID	C-I-3-S-Q419	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	2	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:39	500		16.7	8.18	931	110.9	8.49	2		0.46	0.60

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-MAR-D

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	4
Comments	2102571.51 N, 7617737.29 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	3
Sample Date	11/21/2019	Total Volume to Remove	
Sample Time	08:15	EB Sample ID	
Sample ID	C-MAR-D-Q419	EB Time	
Single Filter Turbidity	3	MS/MSD Sample ID	
Without Filter Turbidity	31	MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:14	500		15.8	7.89	1164	115.6	7.15	31		0.58	0.75

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-MAR-S

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	4
Comments	2102571.51 N, 7617737.29 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	11/21/2019	Total Volume to Remove	
Sample Time	08:30	EB Sample ID	
Sample ID	C-MAR-S-Q419	EB Time	
Duplicate Sample ID	MW-901-Q419	MS/MSD Sample ID	
Dup Sample Time	08:40	MS/MSD Sample Time	
Single Filter Turbidity	2	Double Filter Turbidity	1
Without Filter Turbidity	29	Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:29	500		15.8	7.91	1123	116.8	7.41	29		0.56	0.73

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-NR1-D

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	7
Comments	2106025.74 N, 7613284.17 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	6
Sample Date	11/21/2019	Total Volume to Remove	
Sample Time	10:30	EB Sample ID	
Sample ID	C-NR1-D-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	15	MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:29	500		16.1	8.16	944	115.8	8.36	15		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-NR1-S

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	7
Comments	2106025.74 N, 7613284.17 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	11/21/2019	Total Volume to Remove	
Sample Time	10:45	EB Sample ID	
Sample ID	C-NR1-S-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	14	MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:44	500		16.1	8.16	944	115.8	8.36	14		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-NR3-S

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	8
Comments	2106755.74 N, 7611725.79 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	11/21/2019	Total Volume to Remove	
Sample Time	11:25	EB Sample ID	
Sample ID	C-NR3-S-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	13	MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:24	500		16.3	8.16	945	115.7	8.11	13		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-NR4-S

Date	11/21/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	10
Comments	2108624.12 N, 7607995.93 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	11/21/2019	Total Volume to Remove	
Sample Time	12:15	EB Sample ID	
Sample ID	C-NR4-S-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	12	MS/MSD Sample Time	
		Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	11/21/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:14	500		16.3	8.14	946	117.6	8.15	12		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-R22A-S

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	5
Comments	2101639.58 N, 7616968.56 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	11/20/2019	Total Volume to Remove	
Sample Time	10:45	EB Sample ID	
Sample ID	C-R22A-S-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	3	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:44	500		16.9	8.17	943	110.3	8.43	3		0.47	0.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-R27-S

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	4
Comments	2102559.87 N, 7616721.16 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	11/20/2019	Total Volume to Remove	
Sample Time	12:00	EB Sample ID	
Sample ID	C-R27-S-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:59	500		17.1	8.16	935	111.0	8.44	2		0.46	0.60

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-TAZ-S

Date	11/20/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	River Sample	Measured Well Depth (ft bmp)	12
Comments	2100869.09 N, 7618856.05 E	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	1
Sample Date	11/20/2019	Total Volume to Remove	
Sample Time	09:00	EB Sample ID	
Sample ID	C-TAZ-S-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	11/20/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:59	500		16.7	8.19	933	109.6	8.51	2		0.46	0.60

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

TW-04-LF

Date	12/12/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	30.99
Water Quality Meter	YSI	Gallons in Well	326.15
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	253.17
Casing Material	PVC	Odor	none
Casing Diameter (in)	6	Pump Intake Depth (ft bmp)	230
Water Column in Well	222.18	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	14:29	MS/MSD Sample Time	
Sample ID	TW-04-LF-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	12/12/2019

Field Parameters

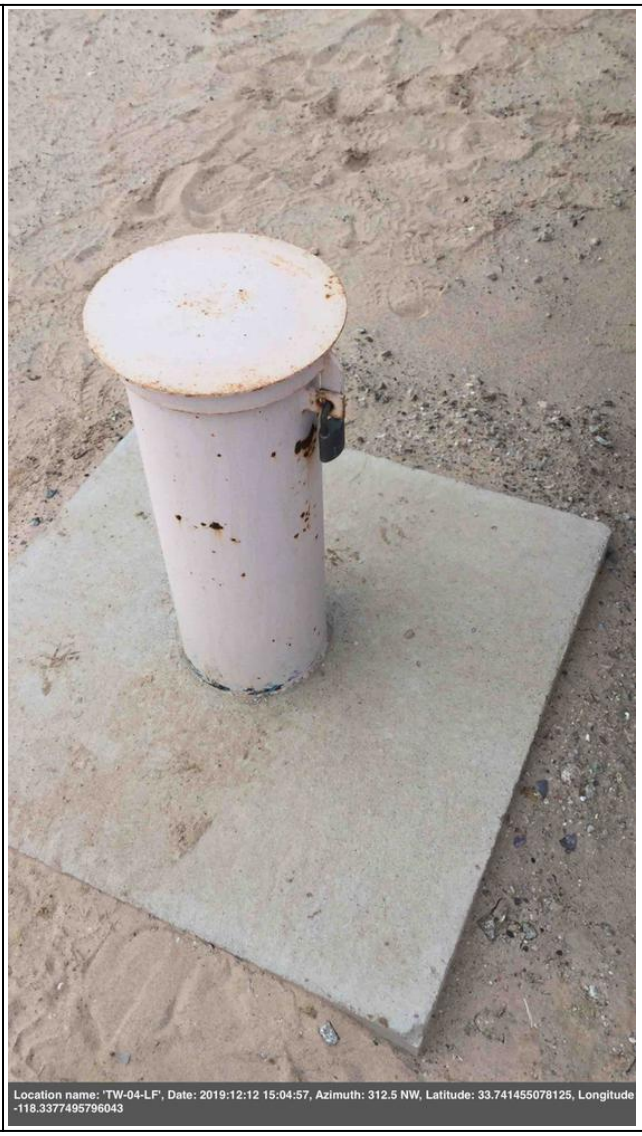
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:23	500	2000	27.8	7.21	22592	303.8	1.31	1	31.08	14.20	14.54
14:23	500	4000	27.8	7.22	22660	297.3	1.18	1	31.08	14.22	14.56
14:23	500	6000	27.8	7.22	22780	294.5	1.06	1	31.08	14.22	14.55
14:24	500	8000	27.8	7.23	22823	290.8	1.02	1	31.08	14.24	14.56
14:24	500	10000	27.8	7.23	22803	288.6	0.97	1	31.08	14.25	14.56

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-60BR-245-3V

Date	12/12/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Volume Units	Gal	Casing Volume to Remove	3
Water Quality Meter	YSI	Depth to Water (ft bmp)	99.90
Sampling Type	Volume Purge – Grundfos RF2	Gallons in Well	147.92
Casing Material	PVC	Measured Well Depth (ft bmp)	245.00
Casing Diameter (in)	5	Odor	None
Water Column in Well	145.1	Pump Intake Depth (ft bmp)	230
		Total Volume to Remove	443.76
Did Well Dewater?	No	EB Sample ID	EB-723-Q419
Sample Date	12/12/2019	EB Time	16:40
Sample Time	16:22	MS/MSD Sample ID	
Sample ID	MW-60BR-245-3V-Q419	MS/MSD Sample Time	
Single Filter Turbidity	1	Double Filter Turbidity	
Without Filter Turbidity	1	Post Sampling Turbidity	
		Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:21	3	60	28.6	7.86	18238	28.6	0.39	3	116.09	10.68	11.82
13:41	3	120	28.8	7.83	18168	28.8	0.38	2	126.83	10.68	11.82
14:01	3	180	28.8	7.89	18204	22.1	0.36	2	134.96	10.67	11.83
14:21	2	220	28.9	7.88	18278	21.9	0.34	1	136.03	10.74	11.86
14:41	2	260	29.1	7.89	18219	20.9	0.37	1	136.89	10.74	11.88
15:01	2	300	29.3	7.91	18235	18.6	0.38	1	137.22	10.74	11.84
15:21	2	340	29.3	7.91	18215	17.9	0.40	1	137.86	10.73	11.84
15:41	2	380	29.3	7.91	18220	17.6	0.41	1	138.03	10.73	11.84
16:01	2	420	29.3	7.92	18226	17.1	0.41	1	138.19	10.73	11.84
16:21	2	460	29.3	7.92	18229	16.9	0.42	1	138.29	10.73	11.84

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-60BR-245-LF_D

Date	12/13/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	99.98
Water Quality Meter	YSI	Gallons in Well	147.84
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	245.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	5	Pump Intake Depth (ft bmp)	238
Water Column in Well	145.02	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/13/2019	MS/MSD Sample ID	
Sample Time	09:24	MS/MSD Sample Time	
Sample ID	MW-60BR-245-LF_D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	12/13/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:51	200	800	27.6	7.89	18344	35.1	0.20	1	100.03	10.80	11.91
08:55	200	1600	27.9	7.90	18290	33.9	0.29	2	100.05	10.78	11.88
08:59	200	2400	27.9	7.90	18245	32.5	0.32	1	100.05	10.77	11.83
09:03	200	3200	28.0	7.93	18238	32.0	0.35	1	100.06	10.75	11.82
09:07	200	4000	28.0	7.92	18228	31.2	0.37	1	100.05	10.75	11.82
09:11	200	4800	28.1	7.92	18225	30.6	0.38	1	100.06	10.75	11.82
09:15	200	5600	28.1	7.92	18221	30.2	0.38	1	100.06	10.75	11.82
09:19	200	6400	28.1	7.91	18219	30.1	0.39	1	100.06	10.75	11.82
09:23	200	7200	28.1	7.91	18216	29.6	0.41	1	100.06	10.75	11.82

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-60BR-245-LF_S

Date	12/13/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	99.98
Water Quality Meter	YSI	Gallons in Well	147.84
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	245
Casing Material	PVC	Odor	None
Casing Diameter (in)	5	Pump Intake Depth (ft bmp)	175
Water Column in Well	145.02	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/13/2019	MS/MSD Sample ID	
Sample Time	08:22	MS/MSD Sample Time	
Sample ID	MW-60BR-245-LF_S-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	12/13/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:49	200	800	27.3	7.96	18090	38.9	0.74	2	100.03	10.65	11.75
07:53	200	1600	27.4	7.93	18061	32.6	0.71	1	100.05	10.64	11.75
07:57	200	2400	27.4	7.92	18084	31.0	0.71	1	100.05	10.64	11.75
08:01	200	3200	27.6	7.92	18091	30.2	0.68	1	100.05	10.64	11.75
08:05	200	4000	27.6	7.91	18095	29.7	0.67	1	100.06	10.64	11.75
08:09	200	4800	27.9	7.91	18097	28.5	0.63	1	100.06	10.64	11.75
08:13	200	5600	27.9	7.90	18097	28.2	0.62	1	100.06	10.64	11.75
08:17	200	6400	27.9	7.90	18099	27.8	0.61	1	100.06	10.64	11.75
08:21	200	7200	27.9	7.90	18103	27.1	0.61	1	100.06	10.64	11.75

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

TW-05-LF

Date	12/12/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	43.20
Water Quality Meter	YSI	Gallons in Well	164.47
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	155.24
Casing Material	PVC	Odor	none
Casing Diameter (in)	6	Pump Intake Depth (ft bmp)	130
Water Column in Well	112.04	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	10:40	MS/MSD Sample Time	
Sample ID	TW-05-LF-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:23	500	2000	28.3	7.12	16209	160.8	2.37	3	43.30	10.16	10.58
10:27	500	4000	28.3	7.15	16345	155.8	2.07	3	43.30	10.19	10.63
10:31	500	6000	28.4	7.15	16421	150.9	1.95	1	43.30	10.18	10.64
10:35	500	8000	28.3	7.18	16533	148.9	1.88	1	43.30	10.23	10.68
10:39	500	10000	28.3	7.19	16577	140.9	1.77	1	43.30	10.24	10.68

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

MW-78-142

Date	12/02/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Yellow
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	48.36
Water Quality Meter	YSI	Gallons in Well	15.31
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	142.22
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	132
Water Column in Well	93.86	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/02/2019	MS/MSD Sample ID	
Sample Time	13:50	MS/MSD Sample Time	
Sample ID	MW-E-142-LF-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:33	500	2000	29.0	7.29	13386	55.1	0.29	39	48.46	7.65	8.67
13:37	500	4000	29.1	7.26	13377	53.9	0.26	19	48.46	7.67	8.69
13:41	500	6000	29.1	7.26	13369	50.0	0.23	9	48.46	7.67	8.69
13:45	500	8000	29.1	7.25	13364	48.9	0.22	8	48.46	7.67	8.69
13:49	500	10000	29.1	7.25	13360	47.9	0.22	8	48.46	7.67	8.69

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-78-072

Date	12/02/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Yellow
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	47.91
Water Quality Meter	YSI	Gallons in Well	3.94
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	72.05
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	60
Water Column in Well	24.14	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/02/2019	MS/MSD Sample ID	
Sample Time	14:26	MS/MSD Sample Time	
Sample ID	MW-E-72-LF-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:09	500	2000	29.3	7.35	2499	97.6	5.55	98	48.03	1.28	1.61
14:13	500	4000	29.3	7.34	2476	98.3	5.67	24	48.03	1.28	1.62
14:17	500	6000	29.3	7.34	2470	98.6	5.69	10	48.03	1.28	1.62
14:21	500	8000	29.3	7.34	2469	98.9	5.69	9	48.03	1.28	1.62
14:25	500	10000	29.4	7.34	2466	98.0	5.68	9	48.03	1.28	1.62

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-79-104

Date	12/02/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	47.09
Water Quality Meter	YSI	Gallons in Well	9.31
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	104.16
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	97
Water Column in Well	57.07	Total Volume to Remove	
		EB Sample ID	EB-793-Q419
Did Well Dewater?	No	EB Time	15:30
Sample Date	12/02/2019	MS/MSD Sample ID	
Sample Time	15:04	MS/MSD Sample Time	
Sample ID	MW-F-104-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	12/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:47	500	2000	28.3	7.37	8567	-98.0	1.15	10	47.20,,	4.06	5.11
14:51	500	4000	29.0	7.42	8780	-100.9	1.13	6	47.20	4.33	5.43
14:55	500	6000	29.2	7.45	8831	-106.4	1.17	4	47.20	4.06	5.11
14:59	500	8000	30.0	7.47	8701	-116.9	1.19	4	47.20	4.33	5.43
15:03	500	10000	29.2	7.57	87555	-121.2	1.22	8	47.20	4.88	5.49

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-79-060

Date	12/02/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	47.27
Water Quality Meter	YSI	Gallons in Well	2.13
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	60.30
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	53
Water Column in Well	13.03	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/02/2019	MS/MSD Sample ID	
Sample Time	14:24	MS/MSD Sample Time	
Sample ID	MW-F-60-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:22	500	2000	29.7	7.52	3309	-89.7	5.56	58	47.34	1.73	2.17
14:53	500	4000	30.0	7.55	3318	-86.7	5.21	39	47.34	1.73	2.17
14:53	500	6000	29.9	7.58	3330	-84.3	4.99	22	47.34	1.73	2.17
14:53	500	8000	30.0	7.60	3334	-83.0	4.84	16	47.34	1.73	2.17
14:54	500	10000	29.9	7.60	3337	-81.8	4.79	8	47.34	1.73	2.17

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

MW-80-057

Date	12/02/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	49.94
Water Quality Meter	YSI	Gallons in Well	1.63
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	59.92
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	53
Water Column in Well	9.98	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/02/2019	MS/MSD Sample ID	
Sample Time	12:37	MS/MSD Sample Time	16:23
Sample ID	MW-G-57-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-934-Q419	Post Sampling Turbidity	
Dup Sample Time	12:47	Purge Date	12/02/2019
Single Filter Turbidity	1		
Without Filter Turbidity	4		

Field Parameters

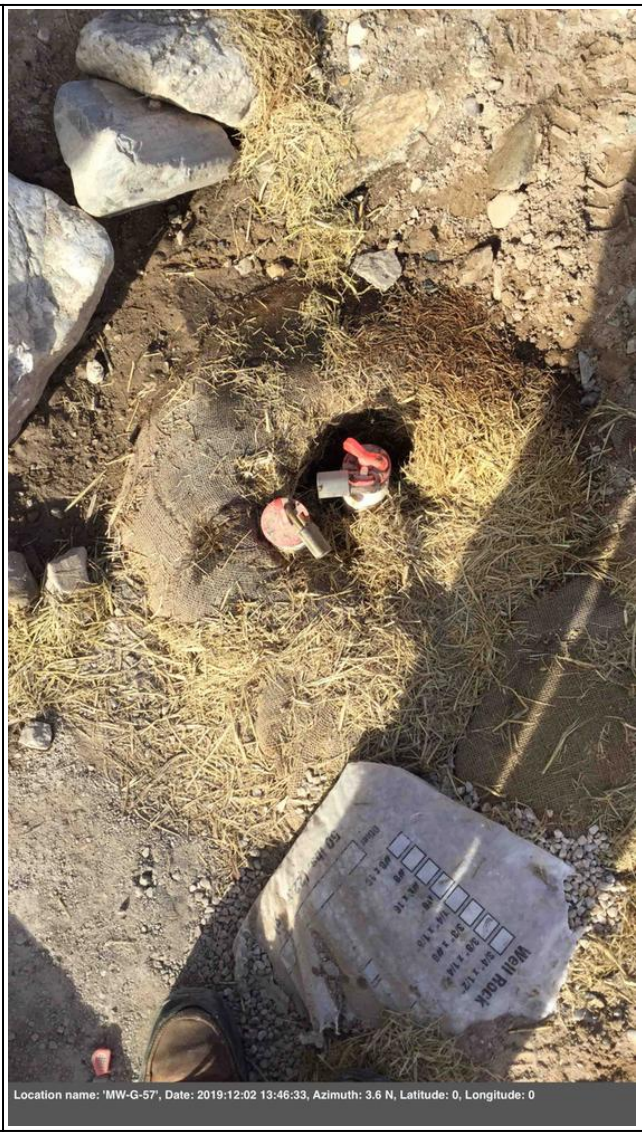
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:20	500	2000	29.7	7.47	5361	49.7	3.56	19	50.01	2.91	3.56
12:24	500	4000	29.7	7.49	5388	30.5	3.76	12	50.01	2.91	3.56
12:28	500	6000	29.9	7.52	5400	3.2	3.83	6	50.01	2.91	3.58
12:32	500	8000	29.9	30.0	5413	-18.3	3.87	4	50.01	2.91	3.59
12:36	500	10000	30.0	7.55	5421	-34.8	3.90	4	50.01	2.91	3.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-80-082

Date	12/02/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	49.89
Water Quality Meter	YSI	Gallons in Well	5.61
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	84.30
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	73
Water Column in Well	34.41	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/02/2019	MS/MSD Sample ID	
Sample Time	13:34	MS/MSD Sample Time	
Sample ID	MW-G-82-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	12/02/2019

Field Parameters

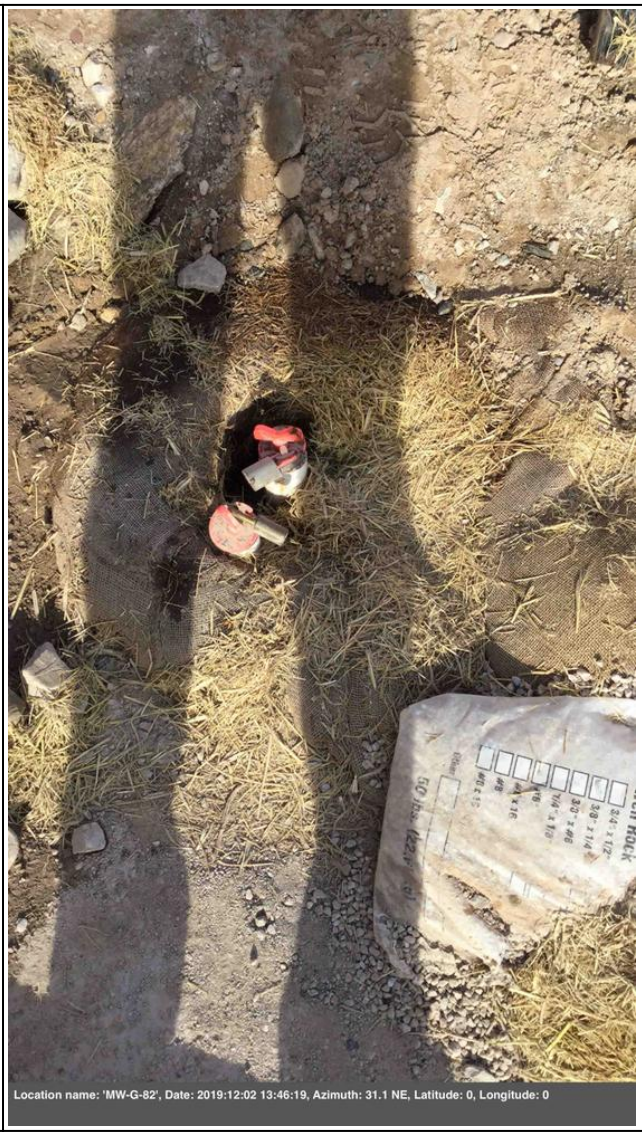
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:17	500	2000	29.8	7.47	9311	-78.2	3.25	18	49.99	5.24	6.11
13:21	500	4000	29.8	7.47	9338	-77.3	3.28	12	49.99	5.24	6.11
13:25	500	6000	29.9	7.46	9365	-76.7	3.31	8	49.99	5.24	6.11
13:29	500	8000	29.9	7.45	9388	-75.6	3.33	4	49.99	5.24	6.11
13:33	500	10000	29.9	7.45	9412	-75.0	3.35	4	49.99	5.23	6.11

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings



MW-83-245

Date	12/11/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	75.70
Water Quality Meter	YSI	Gallons in Well	27.71
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	245.60
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	240
Water Column in Well	169.90	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	12:00	MS/MSD Sample Time	
Sample ID	MW-L-245-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-935-Q419	Post Sampling Turbidity	
Dup Sample Time	12:10	Purge Date	12/11/2019
Single Filter Turbidity	1		
Without Filter Turbidity	3		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:43	500	2000	29.7	7.67	19808	-180.6	1.43	3	75.76	12.21	12.70
11:47	500	4000	29.8	7,70	19832	-190.7	0.89	3	75.76	12.23	12.71
11:51	500	6000	30.0	7.73	19843	-194.0	0.65	3	75.76	12.23	12.72
11:55	500	8000	30.0	7.74	19904	-198.8	0.60	3	75.76	12.24	12.74
11:59	500	10000	30.0	7.77	19932	-197.8	0.49	3	75.76	12.24	12.74

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings

MW-83-90

Date	12/11/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	75.12
Water Quality Meter	YSI	Gallons in Well	2.62
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	91.16
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	80
Water Column in Well	16.04	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	14:20	MS/MSD Sample Time	
Sample ID	MW-L-90-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:03	500	2000	30.0	7.70	2156	180.8	5.23	8	75.19	0.78	1.44
14:07	500	4000	30.1	7.74	2187	184.8	5.08	4	75.19	0.78	1.44
14:11	500	6000	30.3	7.76	2203	190.6	4.89	3	75.19	0.78	1.44
14:15	500	8000	30.3	7.77	2234	193.4	4.67	3	75.19	0.78	1.44
14:19	500	10000	30.3	7.77	2243	195.8	4.56	3	75.19	0.78	1.44

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-83-180

Date	12/11/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	75.18
Water Quality Meter	YSI	Gallons in Well	17.21
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	180.70
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	170
Water Column in Well	105.52	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	13:40	MS/MSD Sample Time	
Sample ID	MW-L-180-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:23	500	2000	29.9	7.33	11463	33.8	2.28	5	75.23	6.90	7.33
13:27	500	4000	30.1	7.35	11479	15.8	1.89	4	75.23	6.92	7.34
13:31	500	6000	30.1	7.37	11498	8.4	1.67	3	75.23	6.93	7.34
13:35	500	8000	30.1	7.38	11521	-2.8	1.44	4	75.23	6.94	7.35
13:39	500	10000	30.1	7.40	11532	-10.1	1.35	4	75.23	6.94	7.35

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

MW-83-225

Date	12/11/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	75.74
Water Quality Meter	YSI	Gallons in Well	24.23
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	224.30
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	215
Water Column in Well	148.56	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	12:49	MS/MSD Sample Time	
Sample ID	MW-L-225-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:32	500	2000	29.5	7.61	16290	158.4	1.88	5	75.79	10.02	10.40
12:36	500	4000	29.7	7.63	16307	144.8	1.44	3	75.79	10.03	10.42
12:40	500	6000	29.7	7.64	16435	138.9	1.15	3	75.79	10.05	10.44
12:44	500	8000	29.8	7.65	16442	138.9	1.12	3	75.79	10.05	10.44
12:48	500	10000	29.7	7.70	16512	133.5	0.93	3	75.79	10.05	10.44

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

MW-85-129

Date	12/11/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	115.88
Water Quality Meter	YSI	Gallons in Well	2.48
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	131.10
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	123
Water Column in Well	15.22	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	12:34	MS/MSD Sample Time	
Sample ID	MW-N-129-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:17	500	2000	30.2	7.46	2092	86.9	5.73	62	115.96	1.06	1.36
12:21	500	4000	30.4	7.43	2099	88.0	5.67	23	115.96	1.06	1.36
12:25	500	6000	30.4	7.42	2097	89.6	5.69	9	115.96	1.06	1.36
12:29	500	8000	30.5	7.42	2097	89.9	5.71	9	115.96	1.06	1.36
12:33	500	10000	30.5	7.42	2096	90.1	5.72	9	115.96	1.06	1.36

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-85-217

Date	12/11/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Green
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	115.18
Water Quality Meter	YSI	Gallons in Well	16.7
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	217.55
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	207
Water Column in Well	102.37	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	11:54	MS/MSD Sample Time	
Sample ID	MW-N-217-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:33	500	2000	29.3	7.80	13047	26.9	0.36	38	115.32	7.46	8.47
11:37	500	4000	29.6	7.78	13004	19.6	0.29	23	115.32	7.42	8.45
11:41	500	6000	29.7	7.78	13011	18.3	0.26	11	115.32	7.42	8.45
11:45	500	8000	29.7	7.76	13017	18.0	0.25	9	115.32	7.42	8.45
11:49	500	10000	29.8	7.76	13020	17.7	0.25	8	115.32	7.42	8.45
11:53	500	12000	29.8	7.76	13022	17.6	0.25	8	115.32	7.42	8.45

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-85-237

Date	12/11/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Green
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	115.26
Water Quality Meter	YSI	Gallons in Well	19.98
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	237.76
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	231
Water Column in Well	122.5	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	11:10	MS/MSD Sample Time	
Sample ID	MW-N-237-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:49	500	2000	28.4	7.86	15470	30.9	0.38	47	115.39	8.99	10.08
10:53	500	4000	28.8	7.83	16484	25.6	0.39	32	115.39	9.75	10.89
10:57	500	6000	29.1	7.80	17876	23.3	0.36	16	115.39	10.53	11.68
11:01	500	8000	29.2	7.79	18068	22.9	0.36	9	115.39	10.63	11.75
11:05	500	10000	29.2	7.79	18138	22.6	0.35	8	115.39	10.63	11.75
11:09	500	12000	29.2	7.78	18154	22.1	0.35	8	115.39	10.63	11.75

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-90-031

Date	12/09/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	6.35
Water Quality Meter	YSI	Gallons in Well	3.91
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	30.30
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	28
Water Column in Well	23.95	Total Volume to Remove	3.91
		EB Sample ID	Eb-715-q419
Did Well Dewater?	No	EB Time	15:10
Sample Date	12/09/2019	MS/MSD Sample ID	
Sample Time	15:04	MS/MSD Sample Time	
Sample ID	MW-W-31-Q419	Double Filter Turbidity	2
Single Filter Turbidity	4	Post Sampling Turbidity	
Without Filter Turbidity	15	Purge Date	12/09/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:47	500	2000	24.8	7.18	14746	-116.0	0.19	19	6.44	8.64	9.65
14:51	500	4000	24.8	7.13	14866	-118.2	0.18	15	6.44	8.64	9.65
14:55	500	6000	25.0	7.10	14912	-120.2	0.11	15	6.44	8.64	9.65
14:59	500	8000	25.0	7.09	14922	-121.5	0.12	15	6.44	8.64	9.65
15:03	500	10000	25.0	7.08	14932	-122.0	0.16	15	6.44	8.64	9.65

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?		X		

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

MW-75-117

Date	12/02/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	19.64
Water Quality Meter	YSI	Gallons in Well	16.06
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	118.11
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	107
Water Column in Well	98.47	Total Volume to Remove	16.06
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/02/2019	MS/MSD Sample ID	MW-B-117-1219 MSMSD
Sample Time	12:49	MS/MSD Sample Time	12:49
Sample ID	MW-B-117-Q419	Double Filter Turbidity	
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:32	500	2000	27.1	6.01	13283	260.7	0.27	12	19.88	7.61	8.63
12:36	500	4000	27.0	6.44	13251	253.8	0.24	9	19.88	7.61	8.59
12:40	500	6000	27.1	6.48	13230	247.1	0.22	8	19.88	7.60	8.59
12:44	500	8000	27.1	6.52	13208	237.4	0.20	8	19.88	7.58	8.59
12:48	500	10000	27.1	6.56	13228	235.0	0.19	8	19.88	7.57	8.59

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-75-033

Date	12/02/2019	Sampler	Reggie
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	19.62
Water Quality Meter	YSI	Gallons in Well	2.36
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	34.08
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	25.5
Water Column in Well	14.46	Total Volume to Remove	2.36
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/02/2019	MS/MSD Sample ID	
Sample Time	13:39	MS/MSD Sample Time	
Sample ID	MW-B-33-Q419	Double Filter Turbidity	
Single Filter Turbidity	4	Post Sampling Turbidity	
Without Filter Turbidity	15	Purge Date	12/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:22	500	2000	27.1	7.00	4049	206.5	1.82	48.5	19.88	2.13	2.63
13:26	500	4000	27.1	7.05	4044	200.4	1.85	25.4	19.88	2.14	2.63
13:30	500	6000	27.2	7.08	4069	196.3	1.88	15	19.88	2.13	2.64
13:34	500	8000	27.2	7.11	4046	193.6	1.88	15	19.88	2.13	2.63
13:38	500	10000	27.2	7.13	4053	190.8	1.90	15	19.88	2.13	2.63

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-10D

Date	12/18/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	76.11
Water Quality Meter	YSI	Gallons in Well	8.37
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	127.45
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	115
Water Column in Well	51.34	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/18/2019	MS/MSD Sample ID	
Sample Time	11:34	MS/MSD Sample Time	
Sample ID	MW-10D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/18/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:17	500	2000	28.4	7.68	4164	69.0	1.47	53	76.23	2.20	2.71
11:21	500	4000	29.2	7.66	4237	65.7	1.48	31	76.23	2.23	2.74
11:25	500	6000	29.3	7.66	4252	65.0	1.44	10	76.23	2.23	2.76
11:29	500	8000	29.3	7.66	4255	64.9	1.44	9	76.23	2.23	2.76
11:33	500	10000	29.3	7.66	4256	64.3	1.43	9	76.23	2.23	2.76

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-89-183

Date	12/11/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	131.60
Water Quality Meter	YSI	Gallons in Well	8.64
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	184.57
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	173
Water Column in Well	52.97	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	09:44	MS/MSD Sample Time	
Sample ID	MW-U-183-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:27	500	2000	28.9	6.24	7480	200.3	2.82	15	131.83	4.12	4.79
09:31	500	4000	29.1	6.27	7502	193.8	2.66	8	131.83	4.12	4.79
09:35	500	6000	29.2	6.29	7532	190.6	2.59	3	131.83	4.14	4.86
09:39	500	8000	29.4	6.30	7587	187.9	2.50	3	131.83	4.15	4.83
09:43	500	10000	29.4	6.30	7608	86.7	2.56	3	131.83	4.14	4.87

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-89-273

Date	12/11/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	131.60
Water Quality Meter	YSI	Gallons in Well	23.26
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	274.18
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	263
Water Column in Well	142.58	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	10:34	MS/MSD Sample Time	
Sample ID	MW-U-273-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:17	500	2000	28.8	6.83	7450	174.8	3.44	3	131.80	4.18	4.79
10:21	500	4000	28.9	6.87	7468	186.9	3.22	3	131.80	4.18	4.79
10:25	500	6000	30.1	6.92	7489	194.3	3.10	3	131.80	4.20	4.80
10:29	500	8000	30.0	6.94	7504	201.8	3.08	3	131.80	4.19	4.82
10:33	500	10000	30.0	6.97	7523	209.5	3.03	3	131.80	4.20	4.79

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-84-057

Date	12/11/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	45.79
Water Quality Meter	YSI	Gallons in Well	2.17
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	59.12
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	51
Water Column in Well	13.33	Total Volume to Remove	
		EB Sample ID	EB-720-Q419
Did Well Dewater?	No	EB Time	15:45
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	15:24	MS/MSD Sample Time	
Sample ID	MW-M-57-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:06	500	2000	29.5	7.60	1881	68.9	5.51	96	45.89	0.96	1.22
15:11	500	4000	29.5	7.63	1882	69.0	5.49	37	45.89	0.95	1.22
15:15	500	6000	29.5	7.63	1883	70.3	5.41	9	45.89	0.95	1.22
15:19	500	8000	29.5	7.63	1883	71.0	5.40	8	45.89	0.95	1.22
15:23	500	10000	29.5	7.64	1884	71.5	5.38	8	45.89	0.95	1.22

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-84-095

Date	12/11/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	45.80
Water Quality Meter	YSI	Gallons in Well	8.02
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	94.98
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	85
Water Column in Well	49.18	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	15:09	MS/MSD Sample Time	
Sample ID	MW-M-95-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:52	500	2000	29.0	6.80	5750	-33.8	2.23	31	45.96	2.96	3.68
14:56	500	4000	29.3	6.83	5762	-36.9	1.96	18	45.96	2.96	3.68
15:00	500	6000	29.4	6.85	5768	-39.6	1.74	12	45.96	2.96	3.68
15:04	500	8000	29.4	6.86	5779	-41.8	1.56	10	45.96	2.96	3.68
15:08	500	10000	29.5	6.86	5779	-43.7	1.44	9	45.96	2.96	3.68

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

MW-84-132

Date	12/11/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	46.32
Water Quality Meter	YSI	Gallons in Well	14.29
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	133.92
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	122
Water Column in Well	87.6	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	14:46	MS/MSD Sample Time	
Sample ID	MW-M-132-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:29	500	2000	29.7	7.50	9159	5.9	0.20	29	46.43	5.09	5.90
14:33	500	4000	29.8	7.53	9077	-3.9	0.22	12	46.43	5.04	5.90
14:37	500	6000	29.8	7.53	9069	-5.3	0.22	9	46.43	5.04	5.90
14:41	500	8000	29.9	7.53	9039	-6.2	0.21	8	46.43	5.02	5.89
14:45	500	10000	29.9	7.53	9038	-6.6	0.21	8	46.43	5.02	5.89

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-84-193

Date	12/11/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	46.16
Water Quality Meter	YSI	Gallons in Well	24.11
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	193.96
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	183
Water Column in Well	147.8	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	14:06	MS/MSD Sample Time	
Sample ID	MW-M-193-Q419	Double Filter Turbidity	1
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	25	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:49	500	2000	29.4	7.89	13323	30.9	0.71	56	46.30	7.63	8.66
13:53	500	4000	29.5	7.86	13337	33.8	0.65	31	46.30	7.64	8.67
13:57	500	6000	29.5	7.85	13333	34.1	0.62	26	46.30	7.64	8.65
14:01	500	8000	29.5	7.83	13306	34.3	0.60	25	46.30	7.60	8.63
14:05	500	10000	29.5	7.83	13304	35.0	0.60	25	46.30	7.60	8.63

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-87-192

Date	12/11/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	92.00
Water Quality Meter	YSI	Gallons in Well	16.39
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	192.51
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	182
Water Column in Well	100.51	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	08:30	MS/MSD Sample Time	
Sample ID	MW-R-192-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:13	500	2000	29.2	8.40	9128	-58.8	0.86	5	92.11	5.23	5.84
08:17	500	4000	29.4	8.44	9204	-73.8	0.66	3	92.11	5.23	5.84
08:21	500	6000	29.5	8.46	9278	-75.8	0.49	3	92.11	5.24	5.87
08:25	500	8000	29.5	8.47	9320	-78.9	0.44	3	92.11	5.24	5.87
08:29	500	10000	29.4	8.47	9344	-80.9	0.40	3	92.11	5.26	5.88

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-87-275

Date	12/11/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	91.80
Water Quality Meter	YSI	Gallons in Well	30.08
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	276.20
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	265
Water Column in Well	184.4	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	08:36	MS/MSD Sample Time	
Sample ID	MW-R-275-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	6	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:15	500	2000	29.1	7.76	11375	21.9	0.40	16	91.90	6.44	7.41
08:19	500	4000	29.2	7.79	11405	17.6	0.45	9	91.90	6.47	7.41
08:23	500	6000	29.3	7.73	11416	15.0	0.48	7	91.90	6.48	7.42
08:27	500	8000	29.3	7.72	11419	12.6	0.50	6	91.90	6.45	7.43
08:31	500	10000	29.5	7.72	11422	11.5	0.49	6	91.90	6.45	7.43
08:35	500	12000	29.5	7.72	11425	11.3	0.49	6	91.90	6.45	7.43

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-87-109

Date	12/02/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	91.41
Water Quality Meter	YSI	Gallons in Well	3.21
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	111.12
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	99
Water Column in Well	19.71	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/02/2019	MS/MSD Sample ID	
Sample Time	15:22	MS/MSD Sample Time	
Sample ID	MW-R-109-Q419	Double Filter Turbidity	1
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	15	Purge Date	12/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:01	300	1200	25.8	7.49	2290	95.6	5.26	31	91.50	1.17	1.48
15:05	300	2400	25.9	7.48	2274	96.1	5.11	23	91.50	1.16	1.47
15:09	300	3600	25.9	7.48	2271	96.3	5.05	18	91.50	1.16	1.47
15:13	300	4800	25.9	7.48	2270	96.9	5.03	16	91.50	1.16	1.47
15:17	300	6000	25.9	7.47	2268	97.3	5.01	15	91.50	1.16	1.47
15:21	300	7200	25.9	7.47	2268	97.6	5.03	15	91.50	1.16	1.47

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-87-139

Date	12/02/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	91.39
Water Quality Meter	YSI	Gallons in Well	8.12
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	141.20
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	134
Water Column in Well	49.81	Total Volume to Remove	
		EB Sample ID	EB-792-Q419
Did Well Dewater?	No	EB Time	16:30
Sample Date	12/02/2019	MS/MSD Sample ID	
Sample Time	16:12	MS/MSD Sample Time	
Sample ID	MW-R-139-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	12/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:47	100	400	21.7	7.29	7219	92.4	1.86	19	91.42	3.99	4.71
15:51	100	800	21.7	7.31	7245	92.9	1.90	11	91.42	4.00	4.72
15:55	100	1200	21.7	7.31	7249	93.6	1.92	8	91.42	4.00	4.72
15:59	100	1600	21.7	7.32	7253	94.0	1.95	7	91.42	4.01	4.72
16:03	100	2000	21.7	7.32	7255	94.9	1.96	7	91.42	4.01	4.72
16:07	100	2400	21.7	7.32	7256	95.2	1.96	7	91.42	4.01	4.72
16:11	100	2800	21.7	7.32	7256	95.6	1.97	7	91.42	4.01	4.72

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-86-140

Date	12/06/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	15.59
Water Quality Meter	YSI	Gallons in Well	20.81
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	143.20
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	135
Water Column in Well	127.61	Total Volume to Remove	20.81
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/06/2019	MS/MSD Sample ID	
Sample Time	08:15	MS/MSD Sample Time	
Sample ID	MW-O-140-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/06/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:58	500	2000	21.4	7.58	12379	-222.0	0.30	5	15.65	7.11	8.05
08:02	500	4000	21.5	7.62	15611	-233.6	0.26	5	15.65	8.98	10.02
08:06	500	6000	21.7	7.55	15714	-234.8	0.22	5	15.65	9.20	10.22
08:10	500	8000	21.8	7.53	15765	-236.6	0.21	5	15.65	9.20	10.22
08:14	500	10000	21.8	7.50	15792	-233.5	0.20	5	15.65	9.20	10.22

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-86-120

Date	12/06/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	15.81
Water Quality Meter	YSI	Gallons in Well	17.53
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	123.27
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	118
Water Column in Well	107.46	Total Volume to Remove	17.53
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/06/2019	MS/MSD Sample ID	
Sample Time	08:52	MS/MSD Sample Time	
Sample ID	MW-O-120-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/06/2019

Field Parameters

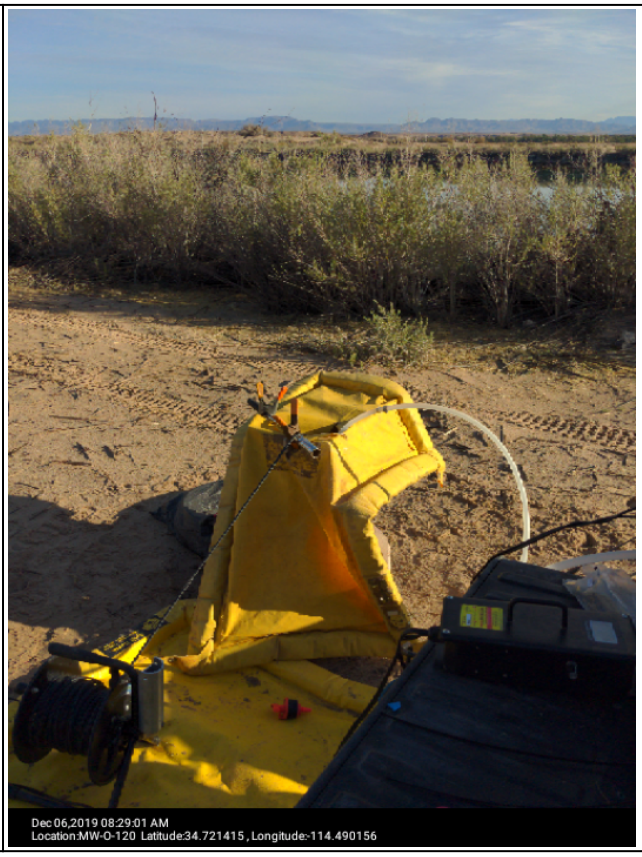
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:31	500	2000	20.6	7.21	12218	-135.0	0.32	2	15.90	7.02	7.96
08:35	500	4000	20.8	7.20	12492	-136.8	0.25	2	15.90	7.18	8.12
08:39	500	6000	20.6	7.19	12565	-137.4	0.24	2	15.90	7.23	8.17
08:43	500	8000	21.0	7.18	12557	-137.1	0.17	2	15.90	7.22	8.16
08:47	500	10000	21.5	7.17	12633	-138.0	0.15	2	15.90	7.22	8.16
08:51	500	12000	21.5	7.17	12644	-138.5	0.13	2	15.90	7.22	8.16

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-86-066

Date	12/06/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	15.48
Water Quality Meter	YSI	Gallons in Well	8.77
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	69.23
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	62
Water Column in Well	53.75	Total Volume to Remove	8.77
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/06/2019	MS/MSD Sample ID	
Sample Time	09:24	MS/MSD Sample Time	
Sample ID	MW-O-66-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/06/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:07	500	2000	20.6	7.69	6943	-164.9	0.22	2	15.55	3.69	4.42
09:11	500	4000	20.5	7.65	7577	-155.3	0.17	2	15.55	3.94	4.67
09:15	500	6000	20.5	7.60	7734	-152.7	0.15	2	15.55	4.30	5.03
09:19	500	8000	20.4	7.61	7769	-148.1	0.14	2	15.55	4.30	5.03
09:23	500	10000	20.4	7.61	7770	-144.4	0.14	2	15.55	4.30	5.03

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

MW-86-030

Date	12/06/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	15.04
Water Quality Meter	YSI	Gallons in Well	2.9
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	32.80
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	28
Water Column in Well	17.76	Total Volume to Remove	2.9
		EB Sample ID	Eb-709-q419
Did Well Dewater?	No	EB Time	10:03
Sample Date	12/06/2019	MS/MSD Sample ID	
Sample Time	09:58	MS/MSD Sample Time	
Sample ID	MW-O-30-Q419	Double Filter Turbidity	
Single Filter Turbidity	4	Post Sampling Turbidity	
Without Filter Turbidity	11	Purge Date	12/06/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:37	500	2000	22.5	7.80	1350	-152.4	0.28	15	15.14	0.67	0.87
09:41	500	4000	22.6	7.79	1339	-153.4	0.25	10	15.14	0.67	0.87
09:45	500	6000	22.8	7.76	1326	-154.8	0.22	10	15.14	0.67	0.87
09:49	500	8000	23.1	7.75	1332	-155.8	0.19	10	15.14	0.67	0.87
09:53	500	10000	23.0	7.76	1352	-158.0	0.18	10	15.14	0.67	0.87
09:57	500	12000	22.9	7.70	1360	-160.2	0.16	11	15.14	0.67	0.87

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-76-218

Date	12/03/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	28.22
Water Quality Meter	YSI	Gallons in Well	31.22
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	219.65
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	213
Water Column in Well	191.43	Total Volume to Remove	31.22
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	08:53	MS/MSD Sample Time	
Sample ID	MW-C-218-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:36	500	2000	28.3	7.56	22738	176.6	0.27	8	28.50	13.63	14.75
08:40	500	4000	28.3	7.77	22723	126.7	0.21	6	28.50	13.65	14.78
08:44	500	6000	28.5	7.86	22663	112.4	0.14	5	28.50	13.67	14.70
08:48	500	8000	28.5	7.88	22609	106.9	0.13	5	28.50	13.66	14.69
08:52	500	10000	28.5	7.90	22666	100.3	0.14	5	28.50	13.66	14.69

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-76-181

Date	12/03/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	29.00
Water Quality Meter	YSI	Gallons in Well	25.07
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	182.71
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	176
Water Column in Well	153.71	Total Volume to Remove	25.07
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	09:29	MS/MSD Sample Time	
Sample ID	MW-C-181-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:12	500	2000	27.8	7.55	20234	124.1	0.21	5	29.11	12.04	13.14
09:16	500	4000	28.0	7.51	20247	115.6	0.16	5	29.11	12.05	13.17
09:20	500	6000	28.1	7.49	20112	109.3	0.19	4	29.11	12.02	13.16
09:24	500	8000	28.1	7.48	20169	99.6	0.21	4	29.11	12.02	13.12
09:28	500	10000	28.2	7.47	20155	93.5	0.22	4	29.11	12.02	13.12

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-76-156

Date	12/03/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	28.61
Water Quality Meter	YSI	Gallons in Well	20.74
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	155.76
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	151
Water Column in Well	127.15	Total Volume to Remove	20.74
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	10:00	MS/MSD Sample Time	
Sample ID	MW-C-156-Q419	Double Filter Turbidity	
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	6	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:43	500	2000	26.6	7.62	16649	116.0	0.27	7	28.77	9.74	10.80
09:47	500	4000	27.0	7.60	16663	109.9	0.21	6	28.77	9.76	10.84
09:51	500	6000	27.2	7.59	16609	99.5	0.18	6	28.77	9.71	10.80
09:55	500	8000	27.2	7.60	16624	92.4	0.16	6	28.77	9.71	10.80
09:59	500	10000	27.2	7.60	16630	90.0	0.15	6	28.77	9.71	10.80

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-76-039

Date	12/03/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	28.14
Water Quality Meter	YSI	Gallons in Well	1.67
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	38.40
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	34
Water Column in Well	10.26	Total Volume to Remove	1.67
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	10:32	MS/MSD Sample Time	
Sample ID	MW-C-39-Q419	Double Filter Turbidity	
Single Filter Turbidity	4	Post Sampling Turbidity	
Without Filter Turbidity	15	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:15	500	2000	27.9	7.68	3106	111.3	3.32	39	28.30	1.61	2.02
10:19	500	4000	28.1	7.62	3119	113.8	3.35	16	28.30	1.56	1.96
10:23	500	6000	27.9	7.52	3188	115.4	2.47	15	28.30	1.62	2.02
10:27	500	8000	27.8	7.49	3224	114.6	2.35	15	28.30	1.68	2.09
10:31	500	10000	28.0	7.46	3238	114.0	2.15	15	28.30	1.68	2.09

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-75-337

Date	12/02/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	20.61
Water Quality Meter	YSI	Gallons in Well	51.85
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	338.50
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	327
Water Column in Well	317.89	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/02/2019	MS/MSD Sample ID	
Sample Time	12:52	MS/MSD Sample Time	
Sample ID	MW-B-337-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-932-Q419	Post Sampling Turbidity	
Dup Sample Time	13:02	Purge Date	12/02/2019
Single Filter Turbidity	1		
Without Filter Turbidity	2		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:23	500	2000	27.3	7.79	30719	-30.4	0.16	29	20.75	19.00	19.96
12:27	500	4000	27.5	7.78	30707	-39.9	0.14	11	20.75	19.01	19.97
12:31	500	6000	27.5	7.78	30754	-43.9	0.14	5	20.75	19.01	19.98
12:35	500	8000	27.5	7.77	30734	-47.9	0.13	3	20.75	19.01	19.98
12:39	500	10000	27.5	7.76	30712	-47.0	0.13	2	20.75	19.01	19.98
12:43	500	12000	27.7	7.76	30742	-49.9	0.12	2	20.75	19.01	19.98
12:47	500	14000	27.7	7.76	30749	-53.0	0.12	2	20.75	19.01	19.98
12:51	500	16000	27.8	7.76	30751	-53.6	0.13	2	20.75	19.01	19.98

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?			X	
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		

Item	Yes	No	NA	Notes
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-82-112

Date	12/04/2019	Sampler	Riggie
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	31.27
Water Quality Meter	YSI	Gallons in Well	13.59
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	114.60
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	105
Water Column in Well	83.33	Total Volume to Remove	13.59
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	10:15	MS/MSD Sample Time	
Sample ID	MW-H-112-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:58	500	2000	25.1	7.52	8814	10.7	0.33	5	31.37	4.91	5.72
10:02	500	4000	25.2	7.51	8817	-6.6	0.25	4	31.37	4.91	5.73
10:06	500	6000	24.8	7.50	8870	-15.1	0.17	4	31.37	4.95	5.76
10:10	500	8000	24.9	7.50	8868	-20.8	0.16	4	31.37	4.94	5.76
10:14	500	10000	25.0	7.49	8872	-27.5	0.14	4	31.37	4.95	5.76

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-82-168

Date	12/04/2019	Sampler	Riggie
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	31.44
Water Quality Meter	YSI	Gallons in Well	22.57
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	169.80
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	160
Water Column in Well	138.36	Total Volume to Remove	22.57
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	09:31	MS/MSD Sample Time	
Sample ID	MW-H-168-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:14	500	2000	23.1	7.67	19090	95.6	4.34	6	31.60	11.35	12.41
09:18	500	4000	24.2	7.47	19377	84.3	0.92	5	31.60	11.54	12.62
09:22	500	6000	24.4	7.45	19516	75.5	0.67	5	31.60	11.62	12.68
09:26	500	8000	24.2	7.42	19523	72.1	0.60	5	31.60	11.63	12.68
09:30	500	10000	24.8	7.44	19530	69.5	0.66	5	31.60	11.63	12.68

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

MW-82-198

Date	12/04/2019	Sampler	Riggie
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	31.18
Water Quality Meter	YSI	Gallons in Well	27.45
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	199.45
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	190
Water Column in Well	168.27	Total Volume to Remove	27.45
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	08:45	MS/MSD Sample Time	
Sample ID	MW-H-198-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:28	500	2000	19.2	7.89	15553	24.1	5.04	3	31.23	9.13	10.13
08:32	500	4000	22.7	7.86	19992	26.5	2.30	3	31.23	11.25	12.31
08:36	500	6000	22.9	7.90	20551	28.2	2.06	3	31.23	12.56	13.61
08:40	500	8000	23.0	7.97	20999	29.4	1.91	3	31.23	12.56	13.61
08:44	500	10000	23.2	8.00	21003	33.2	1.93	3	31.23	12.56	13.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-82-046

Date	12/04/2019	Sampler	Riggie
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	30.49
Water Quality Meter	YSI	Gallons in Well	2.55
Sampling Type	Volume Purge – Hand Bail	Measured Well Depth (ft bmp)	46.15
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	42
Water Column in Well	15.66	Total Volume to Remove	2.55
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	10:52	MS/MSD Sample Time	
Sample ID	MW-H-46-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	33	Purge Date	12/04/2019

Field Parameters

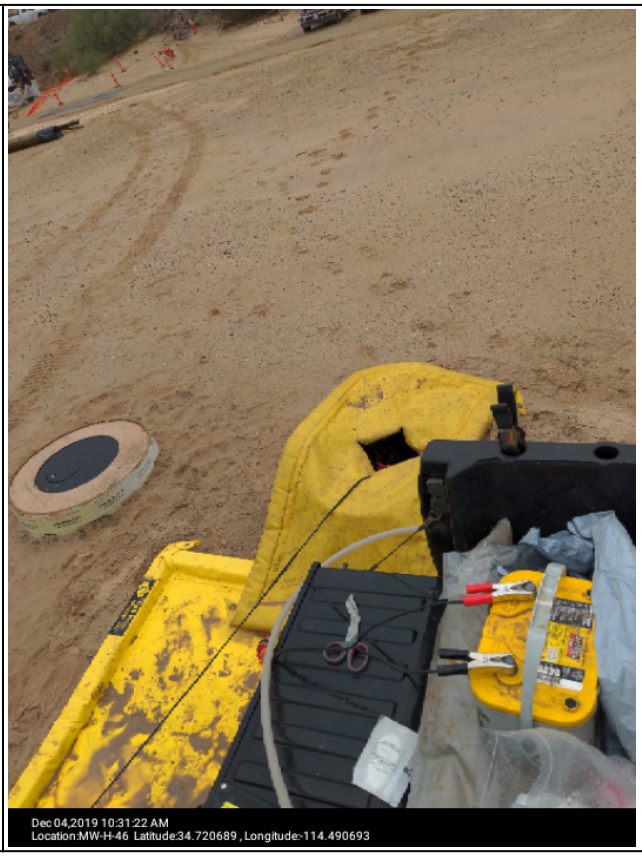
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:35	500	2000	25.4	7.33	9072	-62.4	0.83	25	30.55	3.69	4.39
10:39	500	4000	25.3	7.10	9190	-73.7	0.44	33	30.55	4.61	5.40
10:43	500	6000	25.3	7.07	9253	-99.2	0.34	30	30.55	5.26	6.11
10:47	500	8000	25.4	7.06	9532	-101.3	0.33	31	30.55	5.26	6.11
10:51	500	10000	25.5	7.05	9587	-105.4	0.30	33	30.55	5.26	6.11

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings



ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-77-158

Date	12/03/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	27.57
Water Quality Meter	YSI	Gallons in Well	21.31
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	158.24
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	150
Water Column in Well	130.67	Total Volume to Remove	21.31
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	12:39	MS/MSD Sample Time	
Sample ID	MW-D-158-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:22	500	2000	24.5	7.76	19994	115.0	0.31	15	27.66	11.99	13.07
12:26	500	4000	24.8	7.72	20074	111.5	0.28	2	27.66	11.93	13.05
12:30	500	6000	25.0	7.68	20130	104.7	0.24	2	27.66	11.95	13.03
12:34	500	8000	25.3	7.65	20065	96.4	0.20	2	27.66	11.95	13.03
12:38	500	10000	25.5	7.63	20074	90.2	0.20	2	27.66	11.95	13.03

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?			X	
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-77-187

Date	12/03/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	27.22
Water Quality Meter	YSI	Gallons in Well	26.08
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	187.11
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	480
Water Column in Well	159.89	Total Volume to Remove	26.08
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	12:06	MS/MSD Sample Time	
Sample ID	MW-D-187-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:49	500	2000	25.6	8.09	23017	80.3	0.24	7	27.44	13.91	15.01
11:53	500	4000	25.4	8.18	23070	74.5	0.24	1	27.44	13.95	15.03
11:57	500	6000	25.6	8.20	23094	72.0	0.23	1	27.44	13.92	14.94
12:01	500	8000	25.7	8.21	23119	70.2	0.21	1	27.44	13.92	14.94
12:05	500	10000	25.8	8.22	23011	69.7	0.20	1	27.44	13.92	14.94

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?			X	
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-75-267

Date	12/02/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	19.65
Water Quality Meter	YSI	Gallons in Well	40.34,40.75
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	267.00,269.51
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	260
Water Column in Well	247.35,249.86	Total Volume to Remove	40.34,40.75
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/02/2019	MS/MSD Sample ID	
Sample Time	14:33	MS/MSD Sample Time	
Sample ID	MW-B-267R-Q419	Double Filter Turbidity	
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:00	500	2000	26.7	7.25	24664	-61.1	0.23	14	19.77	14.96	16.02
14:04	500	4000	26.8	7.28	24832	-65.8	0.19	10	19.84	15.08	16.16
14:08	500	6000	26.8	7.27	24992	-68.0	0.18	8	19.84	15.08	16.16
14:12	500	8000	27.0	7.24	25002	-69.2	0.18	12	19.84	15.08	16.16
14:16	500	10000	27.1	7.22	25123	-70.8	0.15	9	19.84	15.08	16.16
14:20	500	12000	27.2	7.20	25224	-74.7	0.18	8	19.84	15.08	16.16
14:24	500	14000	27.3	7.21	25352	-75.2	0.21	8	19.84	15.08	16.16
14:28	500	16000	27.5	7.22	25611	-76.1	0.23	8	19.84	15.08	16.16
14:32	500	18000	27.4	7.20	25691	-77.1	0.20	8	19.84	15.08	16.19

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-75-202

Date	12/02/2019	Sampler	
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	19.21
Water Quality Meter	YSI	Gallons in Well	30.19
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	204.31
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	195
Water Column in Well	185.1	Total Volume to Remove	30.19
		EB Sample ID	EB-794-Q419
Did Well Dewater?	No	EB Time	15:30
Sample Date	12/02/2019	MS/MSD Sample ID	
Sample Time	15:26	MS/MSD Sample Time	
Sample ID	MW-B-202-Q419	Double Filter Turbidity	
Single Filter Turbidity	5	Post Sampling Turbidity	
Without Filter Turbidity	10	Purge Date	12/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:09	500	2000	25.8	7.36	16933	-17.3	0.37	22	19.33	9.92	10.98
15:13	500	4000	26.5	7.30	17446	-118.1	0.16	14	19.33	10.12	11.21
15:17	500	6000	26.8	7.31	17821	-130.1	0.12	10	19.33	10.69	11.78
15:21	500	8000	26.9	7.34	18112	-136.0	0.10	10	19.33	10.69	11.79
15:25	500	10000	27.0	7.33	18222	-137.8	0.10	10	19.33	10.69	11.79

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?			X	
Lock in Place?	X			
Evidence of well subsidence?			X	
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

MW-77-102

Date	12/03/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	27.35
Water Quality Meter	YSI	Gallons in Well	12.18
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	102.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	97
Water Column in Well	74.65	Total Volume to Remove	12.18
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	MW-D-102-1219 MSMSD
Sample Time	11:29	MS/MSD Sample Time	11:29
Sample ID	MW-D-102-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:12	500	2000	25.8	7.88	8362	96.9	0.19	18	27.50	4.61	5.39
11:16	500	4000	26.1	7.77	8347	99.8	0.13	9	27.50	4.62	5.42
11:20	500	6000	26.0	7.69	8333	98.2	0.13	5	27.50	4.64	5.42
11:24	500	8000	26.9	7.66	8315	93.3	0.14	5	27.50	4.64	5.42
11:28	500	10000	27.0	7.62	8320	90.2	0.14	5	27.50	4.64	5.42

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?	X			
Lock in Place?	X			
Evidence of well subsidence?			X	
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-92-102

Date	12/05/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	8.21
Water Quality Meter	YSI	Gallons in Well	15.91
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	105.77
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	95
Water Column in Well	97.56	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	09:14	MS/MSD Sample Time	
Sample ID	MW-Y-102-Q419	Double Filter Turbidity	
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:57	500	2000	25.8	7.83	3780	-165.9	0.82	8	8.28	2.02	2.42
09:01	500	4000	25.8	7.83	3785	-173.8	0.59	3	8.28	2.02	2.43
09:05	500	6000	25.8	7.85	3799	-182.4	0.44	3	8.28	2.03	2.48
09:09	500	8000	25.8	7.86	3810	-189.9	0.39	3	8.28	2.04	2.47
09:13	500	10000	25.8	7.87	3818	-192.2	0.38	3	8.28	2.06	2.49

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-92-122

Date	12/05/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	8.68
Water Quality Meter	YSI	Gallons in Well	19.10
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	125.81
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	115
Water Column in Well	117.13	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	09:57	MS/MSD Sample Time	
Sample ID	MW-Y-122-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:40	500	2000	26.4	7.84	14854	-196.6	0.77	5	8.88	8.78	9.50
09:44	500	4000	26.6	7.86	14765	-199.9	0.54	3	8.88	8.77	9.48
09:48	500	6000	26.6	7.87	14708	-202.4	0.40	3	8.88	8.77	9.47
09:52	500	8000	26.7	7.88	14679	-206.4	0.36	3	8.88	8.77	9.44
09:56	500	10000	26.7	7.90	14658	-209.3	0.31	3	8.88	8.77	9.47

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?		X		
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-92-072

Date	12/05/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	7.77
Water Quality Meter	YSI	Gallons in Well	11.01
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	75.30
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	65
Water Column in Well	67.53	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	08:19	MS/MSD Sample Time	
Sample ID	MW-Y-72-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:02	500	2000	26.6	7.73	2390	-110.4	1.21	10	7.83	1.06	1.53
08:06	500	4000	26.6	7.74	2384	-82.5	0.72	6	7.83	1.06	1.53
08:10	500	6000	26.7	7.70	2378	-61.4	0.56	2	7.83	1.04	1.52
08:14	500	8000	26.7	7.70	2377	-55.8	0.48	2	7.83	1.04	1.53
08:18	500	10000	26.6	7.70	2368	-50.4	0.43	2	7.83	1.04	1.54

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-92-037

Date	12/05/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	7.85
Water Quality Meter	YSI	Gallons in Well	5.35
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	40.64
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	30
Water Column in Well	32.79	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	07:28	MS/MSD Sample Time	
Sample ID	MW-Y-37-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:11	500	2000	25.2	7.61	1773	-180.2	0.87	8	7.87	0.76	1.13
07:15	500	4000	25.2	7.64	1780	-186.7	0.62	5	7.87	0.76	1.13
07:19	500	6000	25.0	7.67	1784	-199.6	0.44	2	7.87	0.77	1.14
07:23	500	8000	25.0	7.69	1790	-204.8	0.34	2	7.87	0.77	1.14
07:27	500	10000	25.0	7.70	1794	-208.7	0.29	2	7.87	0.77	1.14

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

MW-77-046

Date	12/03/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	26.40
Water Quality Meter	YSI	Gallons in Well	3.32
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	46.77
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	41
Water Column in Well	20.37	Total Volume to Remove	3.32
		EB Sample ID	
Did Well Dewater?	No	EB Time	00:00
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	13:17	MS/MSD Sample Time	
Sample ID	MW-D-46R-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-933-Q419	Post Sampling Turbidity	
Dup Sample Time	13:27	Purge Date	12/03/2019
Single Filter Turbidity	4		
Without Filter Turbidity	12		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:00	500	2000	26.8	7.46	13725	0.4	0.15	39	26.63	7.92	8.93
13:04	500	4000	26.8	7.15	13703	-9.6	0.17	12	26.63	7.88	8.90
13:08	500	6000	26.6	7.07	13593	-12.2	0.20	12	26.63	7.76	8.76
13:12	500	8000	26.7	7.00	13599	-18.8	0.18	12	26.63	7.76	8.76
13:16	500	10000	26.8	6.98	13666	-24.5	0.22	12	26.63	7.76	8.76

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?			X	
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-91-045

Date	12/05/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	12.46
Water Quality Meter	YSI	Gallons in Well	5.61
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	46.87
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	40
Water Column in Well	34.41	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	08:18	MS/MSD Sample Time	
Sample ID	MW-X-45-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:01	500	2000	25.8	7.89	3580	11.4	0.17	40	12.55	1.88	2.32
08:05	500	4000	25.8	7.85	3605	-3.9	0.15	21	12.55	1.89	2.34
08:09	500	6000	25.9	7.83	3632	-11.6	0.14	9	12.55	1.90	2.35
08:13	500	8000	25.9	7.82	3635	-13.0	0.14	8	12.55	1.90	2.35
08:17	500	10000	25.9	7.82	3636	-13.6	0.13	8	12.55	1.90	2.35

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-91-120

Date	12/05/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	11.98
Water Quality Meter	YSI	Gallons in Well	17.98
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	122.22
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	115
Water Column in Well	110.24	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	07:40	MS/MSD Sample Time	
Sample ID	MW-X-120-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:23	500	2000	24.8	7.48	10338	39.1	0.26	29	12.06	5.86	6.72
07:27	500	4000	24.9	7.51	10356	32.6	0.24	9	12.06	5.86	6.74
07:31	500	6000	24.9	7.51	10359	30.5	0.24	5	12.06	5.86	6.74
07:35	500	8000	24.9	7.51	10361	30.1	0.22	5	12.06	5.86	6.74
07:39	500	10000	24.9	7.52	10363	29.5	0.22	5	12.06	5.86	6.74

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-91-170

Date	12/05/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	11.05
Water Quality Meter	YSI	Gallons in Well	26.37
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	172.71
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	160
Water Column in Well	161.66	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	MW-X-170-1219 MSMSD
Sample Time	09:10	MS/MSD Sample Time	09:10
Sample ID	MW-X-170-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:49	500	2000	24.5	8.10	12441	-2.9	0.15	201	11.13	7.12	8.08
08:53	500	4000	24.6	8.09	12491	-9.6	0.14	56	11.13	7.14	8.12
08:57	500	6000	24.5	8.09	12513	-15.9	0.14	18	11.13	7.16	8.11
09:01	500	8000	24.5	8.08	12516	-17.0	0.14	9	11.13	7.16	8.11
09:05	500	10000	24.5	8.08	12520	-18.3	0.14	8	11.13	7.16	8.11
09:09	500	12000	24.5	8.07	12522	-19.5	0.13	8	11.13	7.16	8.11

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-91-320

Date	12/05/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	12.80
Water Quality Meter	YSI	Gallons in Well	50.37
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	321.59
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	310
Water Column in Well	308.79	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	10:06	MS/MSD Sample Time	
Sample ID	MW-X-320-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:41	500	2000	24.6	7.70	29332	-29.6	0.14	3	12.89	18.14	19.11
09:45	500	4000	24.7	7.73	31424	-35.9	0.12	2	12.89	19.58	20.44
09:49	500	6000	24.7	7.74	31488	-41.6	0.12	2	12.89	19.60	20.46
09:53	500	8000	24.7	7.74	31506	-53.6	0.12	2	12.89	19.59	20.46
09:57	500	10000	24.7	7.74	31511	-58.6	0.11	2	12.89	19.59	20.46
10:01	500	12000	24.7	7.74	31513	-60.3	0.11	2	12.89	19.59	20.46
10:05	500	14000	24.7	7.75	31510	-61.5	0.12	2	12.89	19.59	20.46

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-94-030

Date	12/12/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	14.11
Water Quality Meter	YSI	Gallons in Well	3.47
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	35.40
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	28
Water Column in Well	21.29	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	11:18	MS/MSD Sample Time	
Sample ID	MW-94-30-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:01	500	2000	32.4	7.60	1383	47.9	1.38	55	14.19	0.68	0.89
11:05	500	4000	32.4	7.62	1379	44.1	1.63	23	14.19	0.68	0.89
11:09	500	6000	32.4	7.62	1385	43.0	1.52	9	14.19	0.68	0.89
11:13	500	8000	32.4	7.62	1386	42.6	1.55	8	14.19	0.68	0.89
11:17	500	10000	32.4	7.63	1382	41.5	1.56	8	14.19	0.68	0.89

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-94-100

Date	12/12/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	14.11
Water Quality Meter	YSI	Gallons in Well	14.87
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	105.30
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	95
Water Column in Well	91.19	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	10:44	MS/MSD Sample Time	
Sample ID	MW-94-100-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:27	500	2000	35.7	7.79	1603	40.3	0.95	80	14.22	0.79	1.04
10:31	500	4000	35.9	7.76	1606	36.9	0.93	29	14.22	0.79	1.04
10:35	500	6000	36.0	7.75	1603	35.3	0.95	10	14.22	0.79	1.04
10:39	500	8000	36.0	7.75	1603	35.1	0.95	9	14.22	0.79	1.04
10:43	500	10000	36.0	7.75	1604	34.3	0.94	9	14.22	0.79	1.04

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-94-175

Date	12/12/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	9.86
Water Quality Meter	YSI	Gallons in Well	27.29
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	177.18
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	170
Water Column in Well	167.32	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	10:12	MS/MSD Sample Time	
Sample ID	MW-94-175-Q419	Double Filter Turbidity	1
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	22	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:51	500	2000	37.0	7.95	1080	35.9	0.20	58	9.96	0.52	0.70
09:55	500	4000	37.1	7.93	1075	10.9	0.21	37	9.96	0.52	0.69
09:59	500	6000	37.2	7.92	1069	8.6	0.24	26	9.96	0.25	0.69
10:03	500	8000	37.2	7.92	1071	7.7	0.24	23	9.96	0.25	0.69
10:07	500	10000	37.2	7.91	1071	7.1	0.23	22	9.96	0.25	0.69
10:11	500	12000	37.2	7.91	1072	6.9	0.23	22	9.96	0.25	0.69

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-88-109

Date	12/18/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	91.24
Water Quality Meter	YSI	Gallons in Well	2.95
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	109.30
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	100
Water Column in Well	18.06	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/18/2019	MS/MSD Sample ID	
Sample Time	09:26	MS/MSD Sample Time	
Sample ID	MW-S-107R-Q419	Double Filter Turbidity	1
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	25	Purge Date	12/18/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:05	500	2000	29.7	7.75	1793	67.9	2.18	330	91.35	0.90	1.16
09:09	500	4000	30.1	7.68	1823	63.1	2.30	107	91.35	0.92	1.18
09:13	500	6000	30.4	7.63	1838	61.3	2.51	43	91.35	0.93	1.20
09:17	500	8000	30.4	7.63	1839	60.6	2.55	26	91.35	0.93	1.20
09:21	500	10000	30.4	7.63	1843	60.1	2.56	25	91.35	0.93	1.20
09:25	500	12000	30.4	7.63	1845	59.6	2.60	25	91.35	0.93	1.20

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?		X		
Traffic Poles Intact?	X			
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-11D

Date	12/18/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	67.36
Water Quality Meter	YSI	Gallons in Well	10.88
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	134.08
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	124
Water Column in Well	66.72	Total Volume to Remove	
		EB Sample ID	EB-730-Q419
Did Well Dewater?	No	EB Time	15:10
Sample Date	12/18/2019	MS/MSD Sample ID	
Sample Time	14:46	MS/MSD Sample Time	
Sample ID	MW-11D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/18/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:29	500	2000	30.1	7.63	5777	71.0	2.27	23	67.46	3.10	3.75
14:33	500	4000	30.2	7.62	5759	70.9	2.23	12	67.46	3.05	3.69
14:37	500	6000	30.2	7.62	5722	69.3	2.32	9	67.46	3.05	3.70
14:41	500	8000	30.2	7.62	5716	68.0	2.38	8	67.46	3.05	3.72
14:45	500	10000	30.2	7.62	5713	67.6	2.34	8	67.46	3.05	3.72

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

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Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

C-BNS

Date	12/02/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Evidence of well subsidence?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-09

Date	12/18/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	80.90
Water Quality Meter	YSI	Gallons in Well	1.37
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	89.31
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	85
Water Column in Well	8.41	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/18/2019	MS/MSD Sample ID	
Sample Time	10:54	MS/MSD Sample Time	
Sample ID	MW-09-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	12/18/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:37	500	2000	29.2	7.76	3203	73.9	4.78	16	80.99	1.67	2.08
10:41	500	4000	29.8	7.74	3204	72.0	4.57	11	80.99	1.67	2.09
10:45	500	6000	30.1	7.71	3201	71.2	4.53	8	80.99	1.67	2.09
10:49	500	8000	30.1	7.70	3200	71.0	4.51	7	80.99	1.67	2.09
10:53	500	10000	30.2	7.70	3195	70.6	4.49	7	80.99	1.67	2.09

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-10

Date	12/18/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	75.56
Water Quality Meter	YSI	Gallons in Well	3.51
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	97.11
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	85
Water Column in Well	21.55	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/18/2019	MS/MSD Sample ID	
Sample Time	12:16	MS/MSD Sample Time	
Sample ID	MW-10-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/18/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:59	500	2000	29.9	7.76	2448	87.3	4.85	13	75.65	1.26	1.60
12:03	500	4000	30.1	7.73	2459	85.0	4.80	7	75.65	1.26	1.57
12:07	500	6000	30.1	7.72	2481	84.1	4.79	5	75.65	1.26	1.60
12:11	500	8000	30.2	7.72	2485	83.5	4.75	5	75.65	1.26	1.60
12:15	500	10000	30.2	7.72	2486	83.1	4.73	5	75.65	1.26	1.60

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-11

Date	12/18/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	67.56
Water Quality Meter	YSI	Gallons in Well	11.74
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	85.56
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	75
Water Column in Well	18.0	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/18/2019	MS/MSD Sample ID	
Sample Time	14:10	MS/MSD Sample Time	
Sample ID	MW-11-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/18/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:53	500	2000	30.3	7.81	2483	95.6	6.57	16	67.65	1.27	1.61
13:57	500	4000	30.6	7.80	2486	96.2	6.45	11	67.65	1.27	1.61
14:01	500	6000	30.7	7.80	2487	96.9	6.39	9	67.65	1.27	1.61
14:05	500	8000	30.7	7.79	2490	97.3	6.37	8	67.65	1.27	1.61
14:09	500	10000	30.7	7.79	2490	97.6	6.36	8	67.65	1.27	1.61

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-12

Date	12/17/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Yellow
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	29.57
Water Quality Meter	YSI	Gallons in Well	3.37
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	50.26
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	37
Water Column in Well	20.69	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/17/2019	MS/MSD Sample ID	MW-12-Q419
Sample Time	09:38	MS/MSD Sample Time	09:38
Sample ID	MW-12-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/17/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:21	500	2000	27.5	8.23	6821	57.6	3.26	11	29.65	3.72	4.43
09:25	500	4000	27.7	8.19	6815	54.3	3.27	6	29.65	3.72	4.43
09:29	500	6000	27.7	8.18	6813	53.0	3.28	5	29.65	3.72	4.43
09:33	500	8000	27.7	8.18	6812	52.6	3.30	5	29.65	3.72	4.43
09:37	500	10000	27.7	8.17	6812	52.3	3.32	5	29.65	3.72	4.43

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-13

Date	12/19/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	34.36
Water Quality Meter	YSI	Gallons in Well	10.5
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	50.46
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	42
Water Column in Well	16.1	Total Volume to Remove	
		EB Sample ID	EB-731-Q419
Did Well Dewater?	No	EB Time	14:15
Sample Date	12/19/2019	MS/MSD Sample ID	
Sample Time	13:58	MS/MSD Sample Time	
Sample ID	MW-13-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:41	500	2000	28.9	7.68	2681	70.9	5.36	33	34.46	1.37	1.73
13:45	500	4000	29.0	7.67	2646	71.9	5.48	17	34.46	1.35	1.71
13:49	500	6000	29.0	7.65	2603	72.1	5.51	10	34.46	1.33	1.69
13:53	500	8000	29.0	7.65	2601	72.3	5.53	9	34.46	1.33	1.69
13:57	500	10000	29.0	7.65	2601	72.6	5.54	9	34.46	1.33	1.69

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-14

Date	12/09/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	115.57
Water Quality Meter	YSI	Gallons in Well	11.89
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	133.80
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	123
Water Column in Well	18.23	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/09/2019	MS/MSD Sample ID	
Sample Time	13:14	MS/MSD Sample Time	
Sample ID	MW-14-Q419	Double Filter Turbidity	1
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	38	Purge Date	12/09/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:57	500	2000	30.6	7.50	3408	75.9	5.20	59	115.65	1.75	2.19
13:01	500	4000	30.9	7.48	3195	73.0	5.18	44	115.65	1.65	2.07
13:05	500	6000	31.0	7.47	3190	72.5	5.14	39	115.65	1.65	2.07
13:09	500	8000	31.0	7.47	3186	72.1	5.13	38	115.65	1.65	2.07
13:13	500	10000	31.1	7.46	3185	71.7	5.10	38	115.65	1.65	2.07

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-15

Date	12/12/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	185.46
Water Quality Meter	YSI	Gallons in Well	9.81
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	200.50
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	93
Water Column in Well	15.04	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	08:50	MS/MSD Sample Time	
Sample ID	MW-15-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:33	300	1200	27.2	7.86	2356	80.6	5.29	6	185.50	1.20	1.52
08:37	300	2400	27.6	7.81	2316	87.0	5.59	4	185.50	1.18	1.50
08:41	300	3600	27.1	7.80	2296	89.6	5.65	3	185.50	1.17	1.49
08:45	300	4800	27.1	7.80	2303	91.2	5.71	3	185.50	1.17	1.49
08:49	300	6000	27.1	7.81	2304	92.0	5.73	3	185.50	1.17	1.48

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-16

Date	12/09/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	200.31
Water Quality Meter	YSI	Gallons in Well	11.48
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	217.91
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	210
Water Column in Well	17.6	Total Volume to Remove	
		EB Sample ID	EB-714-Q419
Did Well Dewater?	No	EB Time	16:00
Sample Date	12/09/2019	MS/MSD Sample ID	
Sample Time	15:32	MS/MSD Sample Time	
Sample ID	MW-16-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/09/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:11	500	2000	29.9	7.90	1158	86.0	5.29	17	200.42	0.57	0.75
15:15	500	4000	30.8	7.88	1151	81.6	4.96	11	200.42	0.57	0.75
15:19	500	6000	31.1	7.86	1149	79.1	4.91	9	200.42	0.57	0.75
15:23	500	8000	31.2	7.86	1147	78.3	4.89	8	200.42	0.57	0.75
15:27	500	10000	31.2	7.86	1147	78.0	4.87	8	200.42	0.57	0.75
15:31	500	12000	31.3	7.85	1145	77.4	4.85	8	200.42	0.57	0.75

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-17

Date	12/09/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	133.36
Water Quality Meter	YSI	Gallons in Well	13.14
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	153.50
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	142
Water Column in Well	20.14	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/09/2019	MS/MSD Sample ID	
Sample Time	14:40	MS/MSD Sample Time	
Sample ID	MW-17-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/09/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:23	500	2000	29.8	7.80	1312	78.0	5.93	7	133.46	0.65	0.85
14:27	500	4000	30.8	7.81	1320	77.8	5.91	4	133.46	0.65	0.85
14:31	500	6000	31.0	7.81	1323	76.1	5.88	3	133.46	0.65	0.85
14:35	500	8000	31.1	7.81	1324	75.6	5.87	3	133.46	0.65	0.85
14:39	500	10000	31.1	7.82	1324	75.3	5.85	3	133.46	0.65	0.85

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-18

Date	12/09/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	89.30
Water Quality Meter	YSI	Gallons in Well	11.16
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	106.41
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	97
Water Column in Well	17.11	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/09/2019	MS/MSD Sample ID	
Sample Time	13:58	MS/MSD Sample Time	
Sample ID	MW-18-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/09/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:41	500	2000	28.9	7.59	1625	78.0	5.32	6	89.40	0.81	1.05
13:45	500	4000	30.1	7.57	1623	75.3	5.18	4	89.40	0.81	1.05
13:49	500	6000	30.4	7.57	1620	74.2	5.15	3	89.40	0.81	1.05
13:53	500	8000	30.5	7.56	1619	74.0	5.14	3	89.40	0.81	1.05
13:57	500	10000	30.5	7.56	1619	74.0	5.12	3	89.40	0.81	1.05

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-19

Date	12/12/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	46.37
Water Quality Meter	YSI	Gallons in Well	29.64
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	66.56
Casing Material	PVC	Odor	none
Casing Diameter (in)	6	Pump Intake Depth (ft bmp)	56
Water Column in Well	20.19	Total Volume to Remove	
		EB Sample ID	EB-725-Q419
Did Well Dewater?	No	EB Time	16:00
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	13:38	MS/MSD Sample Time	
Sample ID	MW-19-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/12/2019

Field Parameters

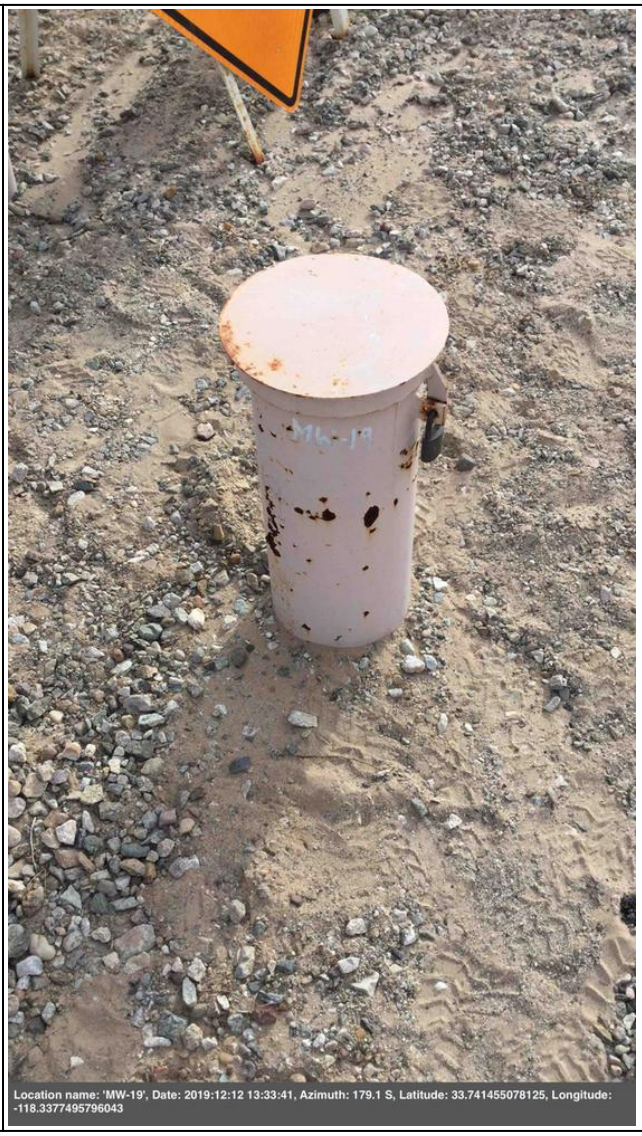
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:22	500	2000	28.3	7.97	2287	255.8	5.46	4	46.45	0.84	1.46
13:25	500	4000	28.5	7.94	2299	249.7	5.32	2	46.45	0.85	1.48
13:29	500	6000	28.6	7.92	2309	244.3	5.18	2	46.45	0.85	1.49
13:33	500	8000	28.6	7.89	2365	239.8	5.11	2	46.45	0.87	1.50
13:37	500	10000	28.6	7.88	2453	235.7	5.07	2	46.45	0.87	1.52

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-20-070

Date	12/13/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	47.14
Water Quality Meter	YSI	Gallons in Well	13.62
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	68.02
Casing Material	PVC	Odor	none
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	60
Water Column in Well	20.88	Total Volume to Remove	
		EB Sample ID	EB-727-Q419
Did Well Dewater?	No	EB Time	10:30
Sample Date	12/13/2019	MS/MSD Sample ID	
Sample Time	09:29	MS/MSD Sample Time	
Sample ID	MW-20-070-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/13/2019

Field Parameters

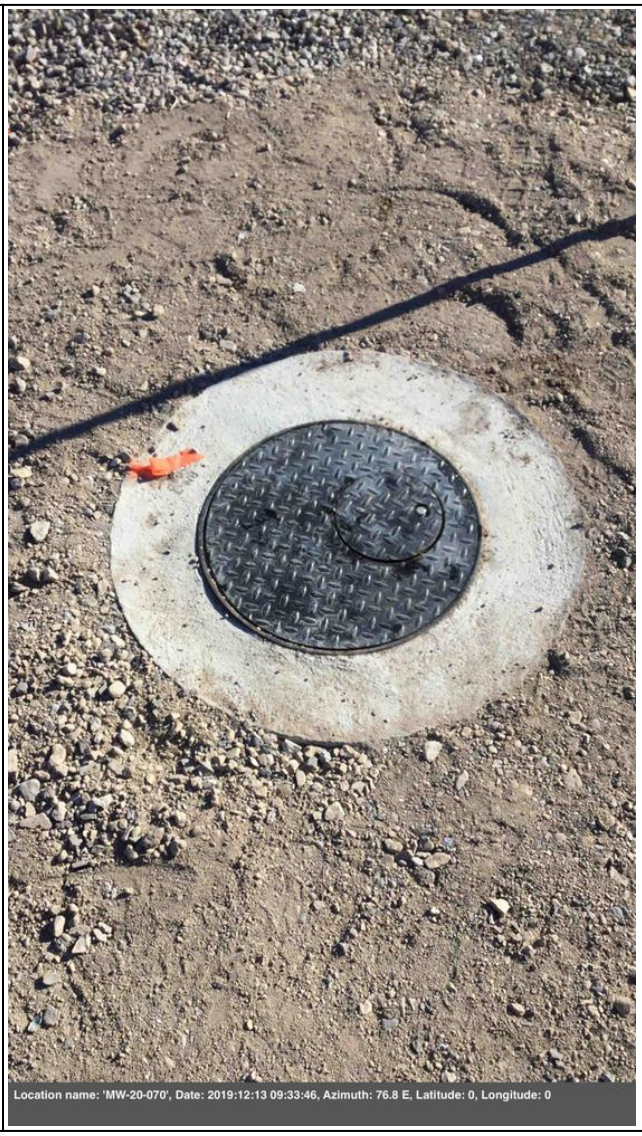
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:12	500	2000	29.0	7.66	2132	-24.6	6.79	5	47.50	1.03	1.40
09:16	500	4000	29.0	7.64	2143	-27.8	6.66	5	47.50	1.05	1.41
09:20	500	6000	29.2	7.62	2153	-28.9	6.59	5	47.50	1.06	1.42
09:24	500	8000	29.1	7.62	2175	-30.8	6.44	5	47.50	1.06	1.44
09:28	500	10000	29.1	7.61	2187	-33.5	6.38	5	47.50	1.07	1.44

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings



MW-20-100

Date	12/13/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	47.00
Water Quality Meter	YSI	Gallons in Well	33.08
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	97.70
Casing Material	PVC	Odor	none
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	92
Water Column in Well	50.70	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/13/2019	MS/MSD Sample ID	
Sample Time	08:13	MS/MSD Sample Time	
Sample ID	MW-20-100-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/13/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:56	500	2000	29.3	7.44	2865	-30.3	5.86	3	47.44	1.37	1.81
08:00	500	4000	29.3	7.42	2860	-33.3	5.71	3	47.44	1.39	1.83
08:04	500	6000	29.4	7.40	2849	-37.8	5.64	3	47.44	1.38	1.80
08:08	500	8000	29.4	7.40	2826	-39.0	5.38	3	47.44	1.39	1.83
08:12	500	10000	29.3	7.38	2827	-40.2	5.26	3	47.44	1.40	1.82

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-20-130

Date	12/13/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	48.00
Water Quality Meter	YSI	Gallons in Well	52.81
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	128.94
Casing Material	PVC	Odor	none
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	126
Water Column in Well	80.94	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/13/2019	MS/MSD Sample ID	
Sample Time	08:51	MS/MSD Sample Time	
Sample ID	MW-20-130-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/13/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:34	500	2000	28.3	7.15	11265	-109.8	1.43	3	48.60	7.04	7.31
08:38	500	4000	28.3	7.13	11287	-112.6	1.30	3	48.60	7.04	7.31
08:42	500	6000	28.3	7.12	11324	-116.8	1.28	3	48.60	7.06	7.33
08:46	500	8000	28.3	7.11	11387	-118.0	1.16	3	48.60	7.06	7.33
08:50	500	10000	28.3	7.11	11432	-120.8	1.13	3	48.60	7.06	7.33

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-21

Date	12/12/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	50.23
Water Quality Meter	YSI	Gallons in Well	5.07
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	58.00
Casing Material	PVC	Odor	none
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	49
Water Column in Well	7.77	Total Volume to Remove	
		EB Sample ID	MW-21-EB-Q419
Did Well Dewater?	Yes	EB Time	10:10
Sample Date	12/13/2019	MS/MSD Sample ID	
Sample Time	10:20	MS/MSD Sample Time	
Sample ID	MW-21-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	44	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:01	Grab		28.4	7.33	11654	66.7	2.31	44	51.31	7.12	7.46
15:32	500	2000	28.0	7.18	11376	44.7	1.99	33	52.00	6.98	7.35
21:47	500	4000	28.3	7.16	11489	36.9	1.77	12	52.78	6.98	7.35
23:41	500	6000	28.3	7.12	11521	28.9	1.58	11	54.23	6.98	7.35

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Item	Yes	No	NA	Notes
Remarks				

Photos and Drawings

MW-22

Date	12/11/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Brown
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	4.67
Water Quality Meter	YSI	Gallons in Well	1.05
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	11.10
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	8
Water Column in Well	6.43	Total Volume to Remove	1.05
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	11:11	MS/MSD Sample Time	
Sample ID	MW-22-Q419	Double Filter Turbidity	4
Duplicate Sample ID	Mw-906-q419	Post Sampling Turbidity	
Dup Sample Time	11:21	Purge Date	12/11/2019
Single Filter Turbidity	15		
Without Filter Turbidity	213		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:54	500	2000	23.7	6.68	20072	-105.8	0.36	211	4.70	13.20	12.04
10:58	500	4000	23.7	6.65	20228	-106.0	0.29	216	4.70	13.26	13.17
11:02	500	6000	23.7	6.63	20543	-106.1	0.25	220	4.70	13.33	13.53
11:06	500	8000	23.8	6.63	21000	-106.6	0.20	205	4.70	13.20	14.32
11:10	50	10000	23.9	6.63	21043	-105.2	0.19	213	4.70	14.07	15.19

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-23-060

Date	12/09/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	49.51
Water Quality Meter	YSI	Gallons in Well	1.71
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	60.00
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	55
Water Column in Well	10.49	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/09/2019	MS/MSD Sample ID	
Sample Time	14:15	MS/MSD Sample Time	
Sample ID	MW-23-060-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/09/2019

Field Parameters

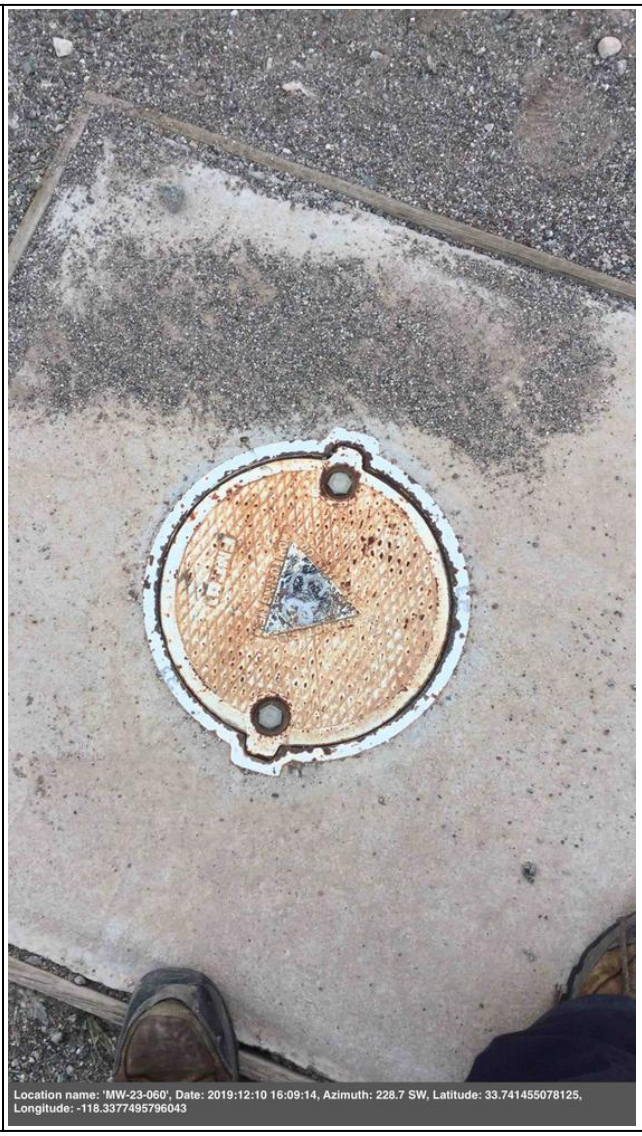
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:58	500	2000	28.7	9.01	17449	112.3	3.73	4	49.87	10.77	11.29
14:02	500	4000	28.9	9.04	17537	97.8	3.39	3	49.87	10.78	11.29
14:06	500	6000	28.9	9.06	17608	83.7	3.22	3	49.87	10.79	11.30
14:10	500	8000	28.9	9.06	17675	80.8	3.02	3	49.87	10.84	11.31
14:14	500	10000	28.9	9.07	17733	78.8	2.96	3	49.87	10.86	11.31

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings



ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-23-080

Date	12/09/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	53.28
Water Quality Meter	YSI	Gallons in Well	4.42
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	80.38
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	77.5
Water Column in Well	27.10	Total Volume to Remove	
		EB Sample ID	EB-716-Q419
Did Well Dewater?	No	EB Time	15:20
Sample Date	12/09/2019	MS/MSD Sample ID	
Sample Time	14:57	MS/MSD Sample Time	
Sample ID	MW-23-080-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/09/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:40	500	2000	29.2	9.49	18002	63.6	1.79	3	53.49	11.02	11.52
14:44	500	4000	29.4	9.53	18141	55.8	0.89	3	53.49	11.02	11.52
14:48	500	600	29.4	9.55	18196	50.9	0.64	3	53.49	11.02	11.52
14:52	500	8000	29.4	9.55	18224	48.6	0.48	3	53.49	11.02	11.52
14:56	500	10000	29.3	9.56	18265	44.8	0.44	3	53.49	11.02	11.52

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-24A

Date	12/03/2019	Sampler	Matt Trainotti
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	111.75
Water Quality Meter	YSI	Gallons in Well	9.84
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	126.83
Casing Material	PVC	Odor	none
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	118
Water Column in Well	15.08	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	08:44	MS/MSD Sample Time	
Sample ID	MW-24A-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:27	500	2000	30.4	8.32	4211	-240.5	1.29	16	111.93	2.22	2.86
08:31	500	4000	30.8	8.40	4143	-268.6	0.92	11	111.93	2.17	2.76
08:35	500	6000	31.0	8.47	4102	--280.8	0.66	5	111.93	2.11	2.62
08:39	500	8000	31.2	8.52	4013	-285.4	0.55	5	111.93	2.11	2.62
08:43	500	10000	31.2	8.52	3997	-288.8	0.49	5	111.93	2.11	2.62

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-24B

Date	12/03/2019	Sampler	Matt Trainotti
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	109.58
Water Quality Meter	YSI	Gallons in Well	67.47
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	213.00
Casing Material	PVC	Odor	none
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	203
Water Column in Well	103.42	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	09:34	MS/MSD Sample Time	
Sample ID	MW-24B-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-907-Q419	Post Sampling Turbidity	
Dup Sample Time	09:44	Purge Date	12/03/2019
Single Filter Turbidity	1		
Without Filter Turbidity	7		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:17	500	2000	31.0	7.99	18122	-244.2	0.88	28	109.68	10.91	12.01
09:21	500	4000	30.7	7.98	18324	-231.4	0.77	18	109.68	10.92	12.03
09:25	500	6000	31.6	7.95	18844	-219.7	0.54	11	109.68	11.12	12.42
09:29	500	8000	31.9	7.94	19388	-216.5	0.50	7	109.68	11.53	12.73
09:33	500	10000	31.9	7.94	19645	-213.4	0.47	7	109.68	11.62	12.77

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-24BR

Date	12/03/2019	Sampler	Matt Trainotti
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	gal	Depth to Water (ft bmp)	108.34
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Volume Purge – Grundfos RF2	Measured Well Depth (ft bmp)	QED
Casing Material	PVC	Odor	none
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	
Did Well Dewater?	Yes	Total Volume to Remove	
Sample Date	12/04/2019	EB Sample ID	
Sample Time	08:25	EB Time	
Sample ID	MW-24BR-Q419	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	1	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:05	2..5	125	31.3	7.95	14777	-249.3	0.57	2		8.51	9.61
08:15	2.5	160	31.6	7.88	14788	-252.2	0.53	1		8.51	9.61
08:24	2.5	190	32.1	7.85	14812	-241.0	0.55	1		8.52	9.63
10:17	2.5	30	31.2	8.27	15819	-290.6	0.50	2		9.15	10.27
10:31	2.5	60	31.0	8.18	15443	-295.4	0.41	2		8.92	10.02
10:45	2.5	95	30.9	8.21	14299	-240.9	0.45	2		8.21	9.14

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?		X		
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Required Actions				
Action Completed?		X		

Photos and Drawings

MW-25

Date	12/09/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	88.51
Water Quality Meter	YSI	Gallons in Well	11.72
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	106.47
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	96
Water Column in Well	17.96	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/09/2019	MS/MSD Sample ID	
Sample Time	12:24	MS/MSD Sample Time	
Sample ID	MW-25-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-908-Q419	Post Sampling Turbidity	
Dup Sample Time	12:34	Purge Date	12/09/2019
Single Filter Turbidity	1		
Without Filter Turbidity	8		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:07	500	2000	31.0	7.49	2147	80.9	5.49	16	88.60	1.08	1.39
12:11	500	4000	31.1	7.50	2118	78.6	5.45	11	88.60	1.07	1.37
12:15	500	6000	31.1	7.50	2115	76.3	5.41	9	88.60	1.07	1.37
12:19	500	8000	31.1	7.50	2114	76.1	5.40	8	88.60	1.07	1.37
12:23	500	10000	31.2	7.51	2110	76.3	5.38	8	88.60	1.07	1.37

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-26

Date	12/12/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	48.26
Water Quality Meter	YSI	Gallons in Well	13.49
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	68.94
Casing Material	PVC	Odor	none
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	61.5
Water Column in Well	20.68	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	08:36	MS/MSD Sample Time	
Sample ID	MW-26-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-909-Q419	Post Sampling Turbidity	
Dup Sample Time	08:46	Purge Date	12/12/2019
Single Filter Turbidity	1		
Without Filter Turbidity	3		

Field Parameters

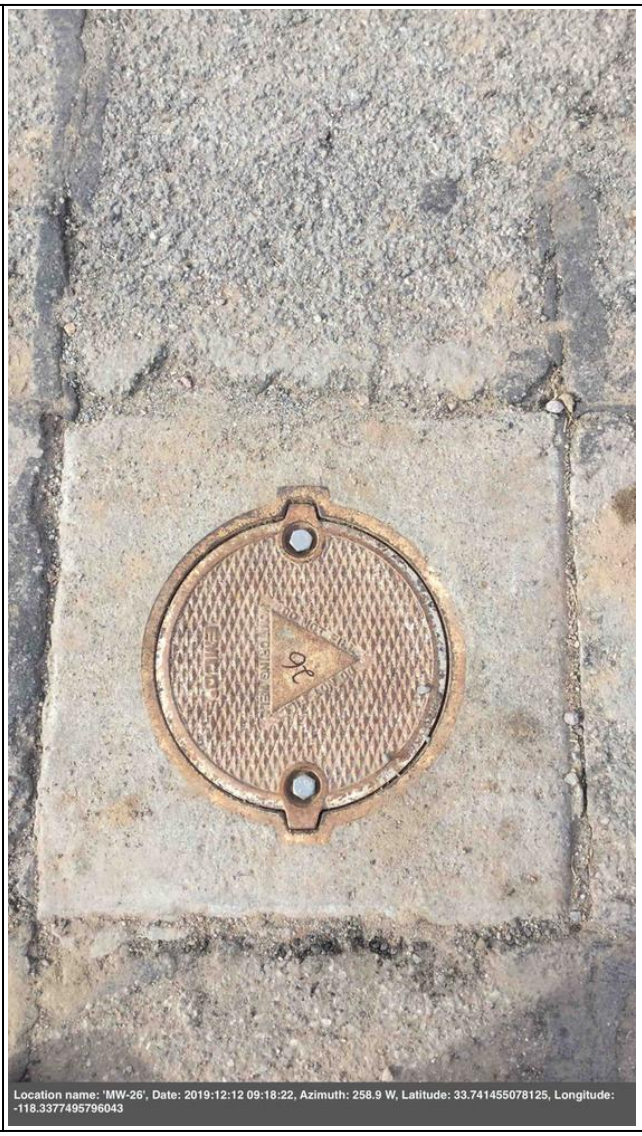
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:19	500	2000	29.3	7.46	3986	177.5	3.48	5	48.38	2.02	2.55
08:23	500	4000	29.5	7.43	4012	174.8	3.40	3	48.38	2.04	2.56
08:27	500	6000	29.5	7.41	4034	170.8	3.33	3	48.38	2.05	2.58
08:31	500	8000	29.5	7.40	4054	167.8	3.18	3	48.38	2.04	2.58
08:35	500	10000	29.5	7.40	4067	163.4	3.21	3	48.38	2.06	2.60

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?		X		
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-27-020

Date	12/10/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	8.11
Water Quality Meter	YSI	Gallons in Well	1.9
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	19.74
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	12
Water Column in Well	11.63	Total Volume to Remove	1.9
		EB Sample ID	Mw-27-020-eb-q419
Did Well Dewater?	No	EB Time	09:38
Sample Date	12/10/2019	MS/MSD Sample ID	
Sample Time	10:01	MS/MSD Sample Time	
Sample ID	MW-27-020-Q419	Double Filter Turbidity	
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	10	Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:44	500	2000	19.5	7.58	1144	-31.5	0.25	10	8.26	0.57	0.74
09:48	500	4000	19.6	7.57	1161	-37.3	0.16	9	8.26	0.58	0.75
09:52	500	6000	19.4	7.58	1163	-37.2	0.15	9	8.26	0.58	0.75
09:56	500	8000	19.5	7.60	1166	-37.0	0.13	9	8.26	0.58	0.75
10:00	500	10000	19.6	7.59	1168	-36.6	0.10	9	8.26	0.58	0.75

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-27-060

Date	12/10/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	8.93
Water Quality Meter	YSI	Gallons in Well	8.28
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	59.71
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	52
Water Column in Well	50.78	Total Volume to Remove	8.28
		EB Sample ID	Mw-27-060-eb-q419
Did Well Dewater?	No	EB Time	09:07
Sample Date	12/10/2019	MS/MSD Sample ID	
Sample Time	09:30	MS/MSD Sample Time	
Sample ID	MW-27-060-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:13	500	2000	18.9	7.53	1031	-101.3	0.50	7	9.02	0.51	0.66
09:17	500	4000	19.0	7.55	1036	-108.6	0.26	8	9.02	0.51	0.66
09:21	500	6000	19.1	7.58	1033	-106.6	0.21	8	9.02	0.51	0.66
09:25	500	8000	19.0	7.57	1034	-104.0	0.19	8	9.02	0.51	0.66
09:29	500	10000	19.0	7.55	1033	-106.6	0.19	8	9.02	0.51	0.66

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-27-085

Date	12/10/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	8.80
Water Quality Meter	YSI	Gallons in Well	12.43
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	85.03
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	82.5
Water Column in Well	76.23	Total Volume to Remove	12.43
		EB Sample ID	Mw-27-085-eb-q419
Did Well Dewater?	No	EB Time	08:35
Sample Date	12/10/2019	MS/MSD Sample ID	
Sample Time	09:00	MS/MSD Sample Time	
Sample ID	MW-27-085-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:43	500	2000	18.8	7.39	10100	-25.6	0.30	2	8.96	5.71	6.55
08:47	500	4000	19.0	7.40	10096	-18.8	0.27	2	8.96	5.72	6.56
08:51	500	6000	19.1	7.42	10098	-21.6	0.25	2	8.96	5.72	6.56
08:55	500	8000	19.0	7.43	10100	-23.6	0.22	2	8.96	5.72	6.56
08:59	500	10000	19.0	7.44	10101	-24.8	0.21	2	8.96	5.72	6.56

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?			X	
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-28-025

Date	12/09/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	8.91
Water Quality Meter	YSI	Gallons in Well	2.64
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	25.11
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	20
Water Column in Well	16.2	Total Volume to Remove	2.64
		EB Sample ID	Mw-28-025-eb-q419
Did Well Dewater?	No	EB Time	12:40
Sample Date	12/09/2019	MS/MSD Sample ID	
Sample Time	13:07	MS/MSD Sample Time	
Sample ID	MW-28-025-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/09/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:50	500	2000	22.9	7.03	1222	11.3	0.72	3	8.99	0.61	0.79
12:54	500	4000	22.8	7.04	1226	11.9	0.70	3	9.00	0.61	0.79
12:58	500	6000	22.8	7.03	1228	12.3	0.66	3	9.00	0.61	0.79
13:02	500	8000	22.9	7.03	1230	12.8	0.63	3	9.00	0.61	0.79
13:06	500	10000	23.0	7.02	1233	13.1	0.60	3	9.00	0.61	0.79

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-28-090

Date	12/09/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	15.24
Water Quality Meter	YSI	Gallons in Well	12.24
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	90.28
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	85
Water Column in Well	75.04	Total Volume to Remove	12.24
		EB Sample ID	Mw-28-090-eb-q419
Did Well Dewater?	No	EB Time	12:10
Sample Date	12/09/2019	MS/MSD Sample ID	
Sample Time	12:35	MS/MSD Sample Time	00:00
Sample ID	MW-28-090-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/09/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:18	500	2000	19.5	7.05	7769	-65.2	0.48	2	15.31	4.31	5.05
12:22	500	4000	19.5	7.06	7768	-65.1	0.47	2	15.31	4.31	5.05
12:26	500	6000	19.5	7.08	7769	-64.8	0.46	2	15.31	4.31	5.05
12:30	500	8000	19.5	7.09	7764	-64.7	0.44	2	15.31	4.31	5.04
12:34	500	10000	19.5	7.10	7758	-64.5	0.43	2	15.31	4.31	5.03

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-29

Date	12/10/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	31.72
Water Quality Meter	YSI	Gallons in Well	1.44
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	40.52
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	34
Water Column in Well	8.8	Total Volume to Remove	1.44
		EB Sample ID	Mw-29-eb-q419
Did Well Dewater?	No	EB Time	13:15
Sample Date	12/10/2019	MS/MSD Sample ID	
Sample Time	13:40	MS/MSD Sample Time	
Sample ID	MW-29-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:23	500	2000	24.1	7.25	1923	-114.6	0.87	9	31.91	0.97	1.24
13:27	500	4000	24.1	7.28	1904	-114.3	0.93	8	31.91	0.97	1.24
13:31	500	6000	24.1	7.28	1909	-114.1	0.87	8	31.91	0.97	1.24
13:35	500	8000	23.9	7.29	1915	-113.9	0.92	8	31.91	0.97	1.24
13:39	500	10000	23.8	7.28	1919	-113.6	0.88	8	31.91	0.97	1.24

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-30-030

Date	12/05/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Brown
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	14.75
Water Quality Meter	YSI	Gallons in Well	2.81
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	32.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	22
Water Column in Well	17.25	Total Volume to Remove	
		EB Sample ID	MW-30-030-EB-Q419
Did Well Dewater?	No	EB Time	12:25
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	12:52	MS/MSD Sample Time	
Sample ID	MW-30-030-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:35	500	2000	24.9	7.74	7129	-14.9	0.09	5	14.83	3.92	4.64
12:39	500	4000	24.9	7.72	7173	-23.9	0.08	3	14.83	3.93	4.66
12:43	500	6000	24.9	7.72	7175	-30.5	0.08	2	14.83	3.93	4.65
12:47	500	8000	25.0	7.71	7178	-32.0	0.09	2	14.83	3.93	4.65
12:51	500	10000	25.0	7.71	7178	-32.4	0.09	2	14.83	3.93	4.65

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-30-050

Date	12/05/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	16.22
Water Quality Meter	YSI	Gallons in Well	23.68
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	52.51
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	45
Water Column in Well	36.29	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	12:10	MS/MSD Sample Time	
Sample ID	MW-30-050-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:53	500	2000	21.6	7.60	1039	29.6	0.26	2	16.30	0.51	0.67
11:57	500	4000	21.6	7.58	1048	26.4	0.19	1	16.30	0.52	0.68
12:01	500	6000	21.6	7.58	1051	23.2	0.18	1	16.30	0.52	0.68
12:05	500	8000	21.6	7.58	1051	22.2	0.18	1	16.30	0.52	0.68
12:09	500	10000	21.6	7.58	1052	21.7	0.18	1	16.30	0.52	0.68

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-31-060

Date	12/12/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	42.00
Water Quality Meter	YSI	Gallons in Well	11.65
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	59.86
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	51
Water Column in Well	17.86	Total Volume to Remove	11.65
		EB Sample ID	Eb-724-q419
Did Well Dewater?	No	EB Time	15:38
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	15:18	MS/MSD Sample Time	
Sample ID	MW-31-060-Q419	Double Filter Turbidity	
Duplicate Sample ID	Mw-910-q419	Post Sampling Turbidity	
Dup Sample Time	15:28	Purge Date	12/12/2019
Single Filter Turbidity	1		
Without Filter Turbidity	2		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:01	500	2000	28.2	7.73	3296	-14.1	0.33	2	42.11	1.72	2.14
15:05	500	4000	28.2	7.70	3351	-10.4	0.24	2	42.11	1.75	2.18
15:09	500	6000	28.2	7.69	3404	-10.2	0.19	2	42.11	1.78	2.21
15:13	500	8000	28.2	7.68	3412	-10.0	0.18	2	42.11	1.78	2.21
15:17	500	10000	28.2	7.67	3416	-9.9	0.15	2	42.11	1.78	2.21

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-31-135

Date	12/12/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	43.51
Water Quality Meter	YSI	Gallons in Well	14.89
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	134.79
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	123
Water Column in Well	91.28	Total Volume to Remove	14.89
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	14:37	MS/MSD Sample Time	
Sample ID	MW-31-135-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:20	500	2000	28.0	7.80	12313	-125.4	0.83	20	43.59	7.01	7.99
14:24	500	4000	28.2	7.82	12315	-125.8	0.66	8	43.59	7.02	8.01
14:28	500	6000	28.3	7.83	12478	-126.2	0.56	8	43.59	7.12	8.11
14:32	500	8000	28.4	7.84	12633	-126.5	0.52	8	43.59	7.21	8.20
14:36	500	10000	28.4	7.84	12671	-126.9	0.50	8	43.59	7.23	8.24

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

MW-32-020

Date	12/09/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	8.45
Water Quality Meter	YSI	Gallons in Well	1.96
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	20.44
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	18
Water Column in Well	11.99	Total Volume to Remove	1.96
		EB Sample ID	Mw-32-020-eb-q419
Did Well Dewater?	No	EB Time	14:02
Sample Date	12/09/2019	MS/MSD Sample ID	
Sample Time	14:29	MS/MSD Sample Time	
Sample ID	MW-32-020-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/09/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:12	500	2000	24.6	6.90	23316	-122.8	0.32	9	8.58	14.14	15.21
14:16	500	4000	24.7	6.83	23329	-122.6	0.33	8	8.58	14.17	15.23
14:20	500	6000	24.8	6.84	23348	-123.0	0.34	8	8.58	14.18	15.24
14:24	500	8000	24.7	6.84	23416	-124.7	0.36	8	8.58	14.18	15.24
14:28	500	10000	24.8	6.83	23508	-125.5	0.30	8	8.58	14.18	15.24

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-32-035

Date	12/09/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	9.19
Water Quality Meter	YSI	Gallons in Well	16.81
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	34.95
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	30
Water Column in Well	25.76	Total Volume to Remove	16.81
		EB Sample ID	Mw-32-035-eb-q419
Did Well Dewater?	No	EB Time	13:32
Sample Date	12/09/2019	MS/MSD Sample ID	
Sample Time	13:59	MS/MSD Sample Time	
Sample ID	MW-32-035-Q419	Double Filter Turbidity	2
Single Filter Turbidity	4	Post Sampling Turbidity	
Without Filter Turbidity	19	Purge Date	12/09/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:42	500	2000	25.0	7.04	9980	-127.9	0.30	20	9.33	5.61	6.48
13:46	500	4000	25.1	7.03	9972	-127.5	0.32	19	9.33	5.59	6.46
13:50	500	6000	25.0	7.03	9940	-129.1	0.28	19	9.33	5.59	6.46
13:54	500	8000	25.0	7.03	9943	-130.3	0.26	19	9.33	5.59	6.46
13:58	500	10000	25.0	7.04	9946	-132.5	0.26	19	9.33	5.59	6.46

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-33-040

Date	12/05/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	34.32
Water Quality Meter	YSI	Gallons in Well	1.1
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	41.05
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	38
Water Column in Well	6.73	Total Volume to Remove	1.1
		EB Sample ID	Mw-33-040-eb-q419
Did Well Dewater?	No	EB Time	12:00
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	12:25	MS/MSD Sample Time	
Sample ID	MW-33-040-Q419	Double Filter Turbidity	
Duplicate Sample ID	Mw-911-q419	Post Sampling Turbidity	
Dup Sample Time	12:35	Purge Date	12/05/2019
Single Filter Turbidity	1		
Without Filter Turbidity	1		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:02	500	2000	26.9	7.52	16346	86.2	1.13	3	34.55	9.57	10.65
12:06	500	4000	27.2	7.30	15625	95.3	1.12	2	34.55	9.08	10.12
12:10	500	6000	27.3	7.22	15215	94.8	1.09	2	34.55	8.80	9.86
12:14	500	8000	27.3	7.25	14896	92.4	1.04	2	34.55	8.80	9.86
12:16	500	10000	27.1	7.23	14726	89.5	1.07	1	34.55	8.80	9.86
12:20	500	12000	27.4	7.20	14324	84.2	1.01	1	34.55	8.80	9.86
12:24	500	14000	27.2	7.21	14216	81.9	0.97	1	34.55	8.80	9.86

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-33-090

Date	12/05/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Volume Units	Ml	Casing Volume to Remove	1
Water Quality Meter	YSI	Depth to Water (ft bmp)	34.48
Sampling Type	Low Flow – Grundfos RF2	Gallons in Well	36.3
Casing Material	PVC	Measured Well Depth (ft bmp)	90.12
Casing Diameter (in)	4	Odor	None
Water Column in Well	55.64	Pump Intake Depth (ft bmp)	85
		Total Volume to Remove	36.3
Did Well Dewater?	No	EB Sample ID	
Sample Date	12/05/2019	EB Time	
Sample Time	11:28	MS/MSD Sample ID	
Sample ID	MW-33-090-Q419	MS/MSD Sample Time	
Duplicate Sample ID	Mw-912-q419	Double Filter Turbidity	
Dup Sample Time	11:38	Post Sampling Turbidity	
Single Filter Turbidity	1	Purge Date	12/05/2019
Without Filter Turbidity	6		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:11	500	2000	24.5	7.59	9226	85.9	0.73	7	34.59	5.19	6.02
11:15	500	4000	25.5	7.48	9298	80.5	0.56	6	34.59	5.20	6.05
11:19	500	6000	25.5	7.43	9249	75.1	0.53	6	34.59	5.20	6.05
11:23	500	8000	25.6	7.39	9291	74.0	0.52	6	34.59	5.18	6.02
11:27	500	10000	25.5	7.33	9318	72.6	0.50	6	34.59	5.18	6.02

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-33-150

Date	12/05/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	34.82
Water Quality Meter	YSI	Gallons in Well	18.88
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	150.55
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	145
Water Column in Well	115.73	Total Volume to Remove	18.88
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	10:37	MS/MSD Sample Time	
Sample ID	MW-33-150-Q419	Double Filter Turbidity	
Duplicate Sample ID	Mw-913-Q419	Post Sampling Turbidity	
Dup Sample Time	10:47	Purge Date	12/05/2019
Single Filter Turbidity	3		
Without Filter Turbidity	8		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:20	500	2000	23.4	7.48	14611	117.2	0.80	10	34.97	8.53	9.52
10:24	500	4000	24.0	7.40	14608	114.6	0.78	8	34.97	8.51	9.53
10:28	500	6000	24.2	7.33	14581	112.6	0.75	8	34.97	8.51	9.53
10:32	500	8000	24.5	7.38	14655	111.3	0.78	8	34.97	8.52	9.52
10:36	500	10000	24.2	7.41	14718	109.8	0.69	8	34.97	8.52	9.52

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-33-210

Date	12/05/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	34.53
Water Quality Meter	YSI	Gallons in Well	28.56
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	209.66
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	205
Water Column in Well	175.13	Total Volume to Remove	28.56
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	09:42	MS/MSD Sample Time	
Sample ID	MW-33-210-Q419	Double Filter Turbidity	
Duplicate Sample ID	Mw-914-Q419	Post Sampling Turbidity	
Dup Sample Time	09:52	Purge Date	12/05/2019
Single Filter Turbidity	2		
Without Filter Turbidity	5		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:25	500	2000	24.7	7.59	19713	176.1	0.56	9	34.66	11.73	12.80
09:29	500	4000	24.8	7.58	19770	126.5	0.49	5	34.66	11.77	12.56
09:33	500	6000	24.6	7.56	19859	115.3	0.41	5	34.66	11.82	12.89
09:37	500	8000	24.7	7.55	19783	118.1	0.32	5	34.66	11.82	12.89
09:41	500	10000	25.0	7.54	19799	110.2	0.23	5	34.66	11.82	12.89

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-34-055

Date	12/10/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	8.32
Water Quality Meter	YSI	Gallons in Well	30.6
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	55.22
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	50
Water Column in Well	46.9	Total Volume to Remove	30.6
		EB Sample ID	Mw-34-055-eb-q419
Did Well Dewater?	No	EB Time	11:30
Sample Date	12/10/2019	MS/MSD Sample ID	
Sample Time	11:58	MS/MSD Sample Time	
Sample ID	MW-34-055-Q419	Double Filter Turbidity	
Duplicate Sample ID	Mw-915-q419	Post Sampling Turbidity	
Dup Sample Time	12:08	Purge Date	12/10/2019
Single Filter Turbidity	1		
Without Filter Turbidity	4		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:37	500	2000	18.9	7.57	992	-75.5	0.19	3	8.44	0.49	0.64
11:41	500	4000	18.9	7.52	990	-80.4	0.16	3	8.44	0.49	0.64
11:45	500	6000	19.0	7.53	991	-82.7	0.13	4	8.44	0.49	0.64
11:49	500	8000	19.0	7.54	992	-83.4	0.1	4	8.44	0.49	0.64
11:53	500	10000	19.0	7.55	993	-84.2	0.12	4	8.44	0.49	0.64
11:57	500	12000	18.9	7.55	995	-84.7	0.10	4	8.44	0.49	0.64

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-34-080

Date	12/10/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	8.47
Water Quality Meter	YSI	Gallons in Well	46.54
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	79.80
Casing Material	PVC	Odor	None
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	78
Water Column in Well	71.33	Total Volume to Remove	46.54
		EB Sample ID	Mw-34-080-eb-q419
Did Well Dewater?	No	EB Time	10:49
Sample Date	12/10/2019	MS/MSD Sample ID	
Sample Time	11:13	MS/MSD Sample Time	00:00
Sample ID	MW-34-080-Q419	Double Filter Turbidity	
Duplicate Sample ID	Mw-916-q419	Post Sampling Turbidity	
Dup Sample Time	11:23	Purge Date	12/10/2019
Single Filter Turbidity	1		
Without Filter Turbidity	3		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:56	500	2000	19.4	7.41	8578	-28.3	0.22	3	8.56	4.80	5.57
11:00	500	4000	19.4	7.39	8572	-33.1	0.20	3	8.56	4.79	5.57
11:04	500	6000	19.4	7.38	8567	-39.9	0.19	3	8.56	4.79	5.57
11:08	500	8000	19.4	7.34	8566	-40.2	0.15	3	8.56	4.79	5.57
11:12	500	10000	19.4	7.31	8557	-40.8	0.10	3	8.56	4.79	5.57

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-34-100

Date	12/10/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	8.57
Water Quality Meter	YSI	Gallons in Well	14.86
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	99.67
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	94
Water Column in Well	91.1	Total Volume to Remove	14.86
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/10/2019	MS/MSD Sample ID	
Sample Time	10:42	MS/MSD Sample Time	
Sample ID	MW-34-100-Q419	Double Filter Turbidity	
Duplicate Sample ID	Mw-917-q419	Post Sampling Turbidity	
Dup Sample Time	10:52	Purge Date	12/10/2019
Single Filter Turbidity	1		
Without Filter Turbidity	2		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:25	500	2000	19.2	7.65	12779	-65.9	0.76	2	8.67	7.40	8.34
10:29	500	4000	19.5	7.60	13620	-68.5	0.64	2	8.67	7.55	8.50
10:33	500	6000	19.3	7.59	13705	-67.9	0.44	2	8.67	7.96	8.93
10:37	500	8000	19.3	7.58	13826	-67.0	0.40	2	8.67	7.96	8.93
10:41	500	10000	19.3	7.57	13869	-66.6	0.38	2	8.67	7.96	8.93

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-35-060

Date	12/13/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	28.92
Water Quality Meter	YSI	Gallons in Well	4.66
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	57.51
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	51
Water Column in Well	28.59	Total Volume to Remove	
		EB Sample ID	EB-726-Q419
Did Well Dewater?	No	EB Time	11:00
Sample Date	12/13/2019	MS/MSD Sample ID	
Sample Time	10:46	MS/MSD Sample Time	
Sample ID	MW-35-060-Q419	Double Filter Turbidity	1
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	14	Purge Date	12/13/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:29	500	2000	27.0	7.59	6579	60.9	1.23	63	29.01	3.59	4.26
10:33	500	4000	27.2	7.55	6474	54.6	1.19	39	29.01	3.52	4.20
10:37	500	6000	27.3	7.54	6433	52.9	1.18	15	29.01	3.48	4.19
10:41	500	8000	27.3	7.54	6430	51.8	1.16	14	29.01	3.48	4.19
10:45	500	10000	27.3	7.54	6427	51.3	1.16	14	29.01	3.48	4.19

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-35-135

Date	12/13/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	28.05
Water Quality Meter	YSI	Gallons in Well	20.64
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	154.61
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	126
Water Column in Well	126.56	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/13/2019	MS/MSD Sample ID	
Sample Time	10:10	MS/MSD Sample Time	
Sample ID	MW-35-135-Q419	Double Filter Turbidity	1
Duplicate Sample ID	MW-918-Q419	Post Sampling Turbidity	
Dup Sample Time	10:20	Purge Date	12/13/2019
Single Filter Turbidity	2		
Without Filter Turbidity	27		

Field Parameters

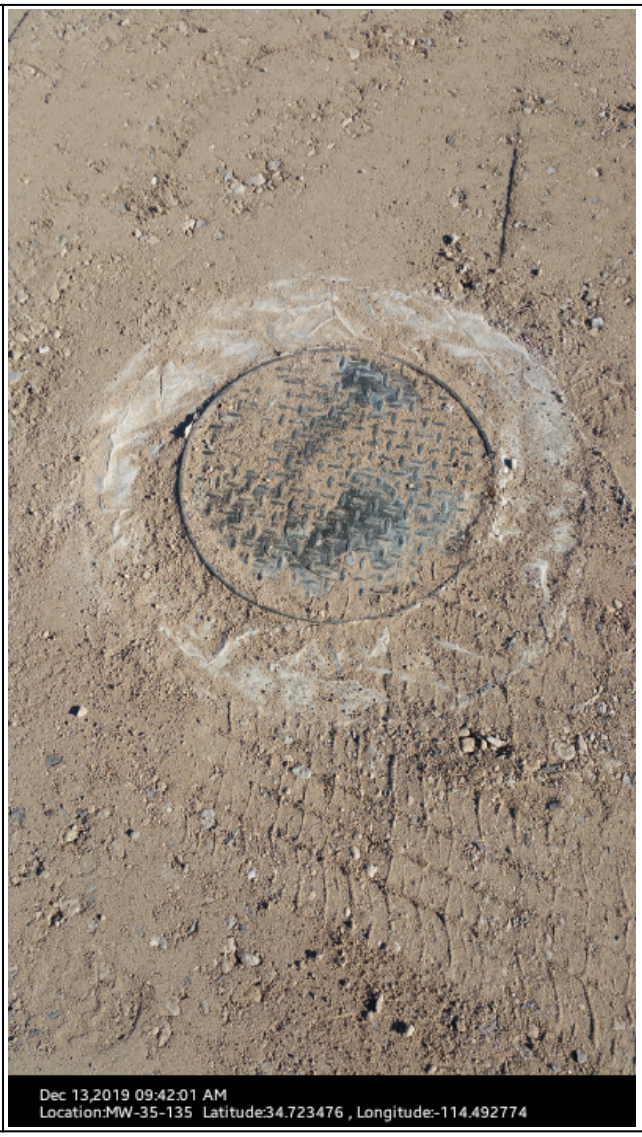
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:53	500	2000	26.9	7.70	11475	41.9	0.25	41	28.13	6.51	7.45
09:57	500	4000	26.8	7.68	11485	38.5	0.23	32	28.13	6.50	7.46
10:01	500	6000	27.0	7.66	11510	37.6	0.23	28	28.13	6.50	7.47
10:05	500	8000	27.0	7.65	11496	35.0	0.24	27	28.13	6.50	7.47
10:09	500	10000	27.0	7.65	11493	34.6	0.24	27	28.13	6.50	7.47

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings



ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-36-020

Date	12/04/2019	Sampler	Matt Trainotti
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	13.18
Water Quality Meter	YSI	Gallons in Well	0.37
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	22.31
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	15
Water Column in Well	9.13	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	10:12	MS/MSD Sample Time	
Sample ID	MW-36-020-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	6	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:55	500	2000	21.9	7.39	6101	-167.7	1.86	15	13.31	3.33	3.91
09:59	500	4000	21.9	7.37	6118	-188.8	1.63	10	13.31	3.33	3.94
10:03	500	6000	21.9	7.37	6132	-195.4	1.43	6	13.31	3.34	3.97
10:07	500	8000	21.9	7.37	6143	-204.1	1.78	6	13.31	3.36	4.04
10:11	500	10000	22.0	7.37	6144	-206.7	2.00	6	13.31	3.35	3.99

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

MW-36-040

Date	12/04/2019	Sampler	Matt Trainotti
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	16.60
Water Quality Meter	YSI	Gallons in Well	1.06
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	42.50
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	35
Water Column in Well	25.90	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	11:50	MS/MSD Sample Time	
Sample ID	MW-36-040-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:33	500	2000	21.0	7.92	1059	-193.9	1.48	10	16.67	0.53	0.69
11:37	500	4000	20.9	7.96	1072	-240.8	0.80	6	16.67	0.53	0.69
11:41	500	6000	20.9	7.97	1077	-252.0	0.60	3	16.67	0.53	0.69
11:45	500	8000	20.8	7.94	1075	-257.9	0.54	3	16.67	0.53	0.69
11:49	500	10000	20.8	7.91	1074	-263.9	0.47	3	16.67	0.53	0.69

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

MW-36-050

Date	12/04/2019	Sampler	Matt Trainotti
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	16.81
Water Quality Meter	YSI	Gallons in Well	1.48
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	53.02
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	48.5
Water Column in Well	36.21	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	13:39	MS/MSD Sample Time	
Sample ID	MW-36-050-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:22	500	2000	20.7	7.59	1019	-138.3	1.02	5	16.86	0.50	0.66
13:26	500	4000	20.5	7.53	1017	-192.5	0.87	3	16.86	0.50	0.66
13:30	500	6000	20.3	7.49	1015	-200.1	0.63	3	16.86	0.50	0.66
13:34	500	8000	20.2	7.48	1015	-219.3	0.55	3	16.86	0.50	0.65
13:38	500	10000	20.3	7.47	1014	-225.3	0.51	3	16.86	0.50	0.66

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-36-070

Date	12/04/2019	Sampler	Matt Trainotti
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	16.27
Water Quality Meter	YSI	Gallons in Well	2.28
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	72.19
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	65
Water Column in Well	55.92	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	11:06	MS/MSD Sample Time	
Sample ID	MW-36-070-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:49	500	2000	21.1	7.91	1039	-178.8	2.12	8	16.40	0.51	0.67
10:53	500	4000	20.8	7.82	1029	-201.1	1.11	3	16.40	0.51	0.67
10:57	500	6000	20.6	7.79	1036	-219.8	0.82	3	16.40	0.52	0.67
11:01	500	8000	20.4	7.77	1039	-230.9	0.61	3	16.40	0.52	0.67
11:05	500	10000	20.4	7.77	1041	-237.6	0.55	3	16.40	0.52	0.67

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-36-090

Date	12/04/2019	Sampler	Matt Trainotti
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	16.52
Water Quality Meter	YSI	Gallons in Well	3.09
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	92.30
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	85
Water Column in Well	75.78	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	12:45	MS/MSD Sample Time	
Sample ID	MW-36-090-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:28	500	2000	20.1	7.35	5368	-166.8	1.37	11	16.57	2.91	3.49
12:32	500	4000	20.1	7.35	531	-185.2	1.18	5	16.57	2.91	3.49
12:36	500	6000	20.0	7.34	5379	-200.4	1.14	3	16.57	2.91	3.49
12:40	500	8000	20.1	7.34	5385	-206.3	1.16	3	16.57	2.91	3.49
12:44	500	10000	20.1	7.34	5396	-208.9	1.16	3	16.57	2.91	3.49

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-36-100

Date	12/04/2019	Sampler	Matt Trainotti
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	17.25
Water Quality Meter	YSI	Gallons in Well	15.08
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	109.73
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	93
Water Column in Well	92.48	Total Volume to Remove	
		EB Sample ID	EB-704-Q419
Did Well Dewater?	No	EB Time	15:15
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	14:40	MS/MSD Sample Time	
Sample ID	MW-36-100-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:23	500	2000	20.0	7.26	7684	-124.4	1.28	489	17.44	4.25	4.98
14:27	500	4000	20.0	7.25	7700	-152.3	0.83	72	17.44	4.27	5.00
14:31	500	6000	20.0	7.25	7722	-163.3	0.67	12	17.44	4.27	5.02
14:35	500	8000	20.2	7.25	7739	-169.4	0.60	3	17.44	4.29	5.03
14:39	500	10000	20.2	7.47	1015	-226.7	0.56	3	17.44	0.50	0.65

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-37D

Date	12/19/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	32.11
Water Quality Meter	YSI	Gallons in Well	31.68
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	226.37
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	190
Water Column in Well	194.26	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/19/2019	MS/MSD Sample ID	
Sample Time	12:44	MS/MSD Sample Time	
Sample ID	MW-37D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:23	500	2000	28.1	7.81	13813	49.6	0.79	5	32.19	7.93	8.98
12:27	500	4000	28.3	7.79	13822	47.0	0.76	4	32.19	7.94	8.97
12:31	500	6000	28.2	7.76	13816	45.3	0.75	4	32.19	7.92	8.95
12:35	500	8000	28.3	7.76	13807	44.6	0.75	3	32.19	7.92	8.95
12:39	500	10000	28.3	7.76	13796	44.1	0.74	3	32.19	7.92	8.95
12:43	500	12000	28.3	7.76	13790	43.6	0.74	3	32.19	7.92	8.95

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-37S

Date	12/19/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	32.18
Water Quality Meter	YSI	Gallons in Well	8.93
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	86.90
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	74
Water Column in Well	54.72	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/19/2019	MS/MSD Sample ID	
Sample Time	13:20	MS/MSD Sample Time	
Sample ID	MW-37S-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	12/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:03	500	2000	28.5	7.76	7470	56.0	1.04	14	32.26	4.09	4.86
13:07	500	4000	28.8	7.73	7470	47.0	0.96	9	32.26	4.09	4.84
13:11	500	6000	28.9	7.73	7459	44.6	0.92	7	32.26	4.09	4.84
13:15	500	8000	28.9	7.73	7456	42.9	0.91	7	32.26	4.09	4.84
13:19	500	10000	28.9	7.73	7455	42.3	0.91	7	32.26	4.09	4.84

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-38D

Date	12/18/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	71.10
Water Quality Meter	YSI	Gallons in Well	18.27
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	183.11
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	173
Water Column in Well	112.01	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/18/2019	MS/MSD Sample ID	
Sample Time	12:56	MS/MSD Sample Time	
Sample ID	MW-38D-Q419	Double Filter Turbidity	1
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	15	Purge Date	12/18/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:39	500	2000	29.8	8.59	22902	39.8	0.15	23	71.23	13.73	14.83
12:43	500	4000	30.3	8.41	22920	32.9	0.12	17	71.23	13.75	14.93
12:47	500	6000	30.5	8.37	22851	31.0	0.10	15	71.23	13.75	14.90
12:51	500	8000	30.5	8.36	22856	30.7	0.10	15	71.23	13.75	14.91
12:55	500	10000	30.5	8.36	22863	30.5	0.10	15	71.23	13.75	14.91

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-38S

Date	12/18/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	71.21
Water Quality Meter	YSI	Gallons in Well	4.43
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	98.35
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	85
Water Column in Well	27.14	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/18/2019	MS/MSD Sample ID	
Sample Time	13:32	MS/MSD Sample Time	
Sample ID	MW-38S-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/18/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:15	500	2000	30.2	7.98	1670	72.2	0.62	39	71.32	0.83	1.07
13:19	500	4000	30.4	8.02	1645	71.7	0.51	12	71.32	0.83	1.07
13:23	500	6000	30.4	8.03	1659	71.4	0.54	6	71.32	0.83	1.07
13:27	500	8000	30.4	8.03	1662	71.0	0.55	5	71.32	0.83	1.07
13:31	500	10000	30.4	8.03	1662	71.0	0.55	5	71.32	0.83	1.07

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-39-040

Date	12/05/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	15.49
Water Quality Meter	YSI	Gallons in Well	0.98
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	39.57
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	35
Water Column in Well	24.08	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	12:10	MS/MSD Sample Time	
Sample ID	MW-39-040-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:53	500	2000	21.2	7.49	1163	-198.8	0.67	10	15.62	0.44	0.74
11:57	500	4000	21.6	7.53	1160	-194.5	0.55	5	15.62	0.44	0.74
12:01	500	6000	21.7	7.55	1160	-198.8	0.49	3	15.62	0.44	0.74
12:05	500	8000	21.9	7.55	1160	-188.6	0.44	3	15.62	0.44	0.74
12:09	500	10000	21.9	7.55	1155	-184.8	0.40	3	15.62	0.44	0.74

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-39-050

Date	12/05/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	15.50
Water Quality Meter	YSI	Gallons in Well	1.58
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	54.30
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	49.5
Water Column in Well	38.80	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	13:26	MS/MSD Sample Time	
Sample ID	MW-39-050-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/05/2019

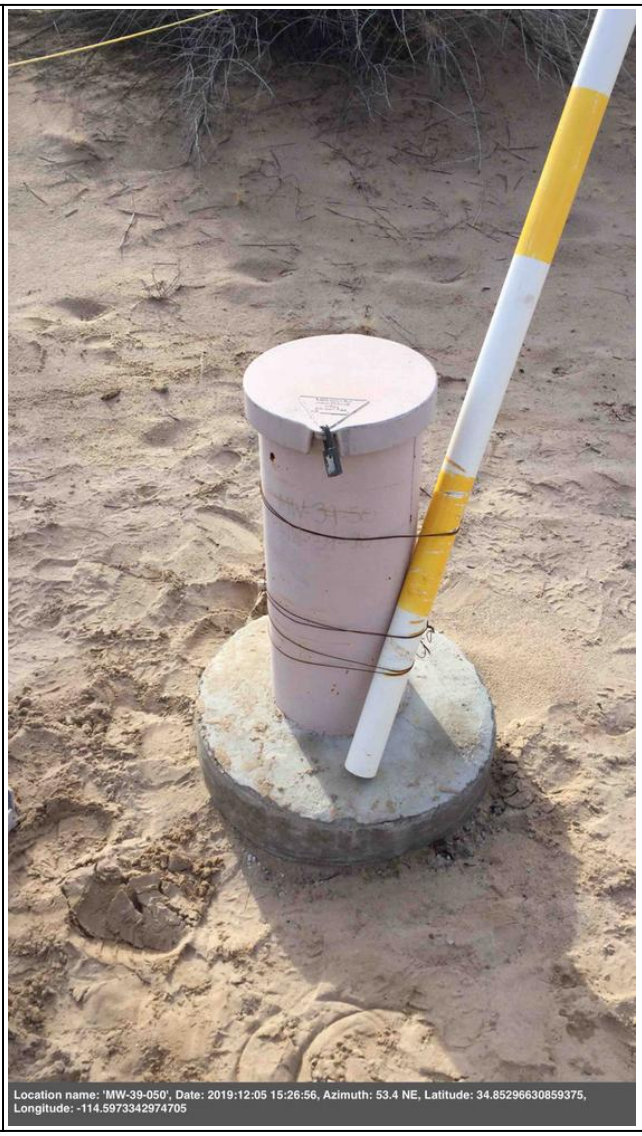
Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:09	500	2000	21.6	7.94	1108	8.9	0.48	5	15.60	0.44	0.71
13:13	500	4000	21.6	7.97	1115	14.8	0.41	3	15.60	0.45	0.72
13:17	500	6000	21.7	7.99	1118	18.3	0.37	3	15.60	0.44	0.71
13:21	500	8000	21.6	8.01	1118	20.4	0.33	3	15.60	0.45	0.72
13:25	500	10000	21.6	8.03	1121	24.0	0.30	3	15.60	0.44	0.72

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-39-060

Date	12/05/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	15.77
Water Quality Meter	YSI	Gallons in Well	2.02
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	65.40
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	54
Water Column in Well	49.63	Total Volume to Remove	
		EB Sample ID	EB-706-Q419
Did Well Dewater?	No	EB Time	15:00
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	14:34	MS/MSD Sample Time	
Sample ID	MW-39-060-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:17	500	2000	22.3	8.00	1418	-4.8	0.44	38	17.05	0.45	0.95
14:21	500	4000	22,3	8.01	1420	3.9	0.38	22	17.05	0.45	0.95
14:25	500	6000	22.3	8.02	1422	16.8	0.33	14	17.05	0.45	0.95
14:29	500	8000	22.3	8.02	1426	20.8	0.30	4	17.05	0.45	0.95
14:33	500	10000	22.3	8.03	1425	24.8	0.25	3	17.05	0.45	0.95

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-39-070

Date	12/05/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	16.16
Water Quality Meter	YSI	Gallons in Well	2.26
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	71.58
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	65
Water Column in Well	55.42	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	12:50	MS/MSD Sample Time	
Sample ID	MW-39-070-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/05/2019

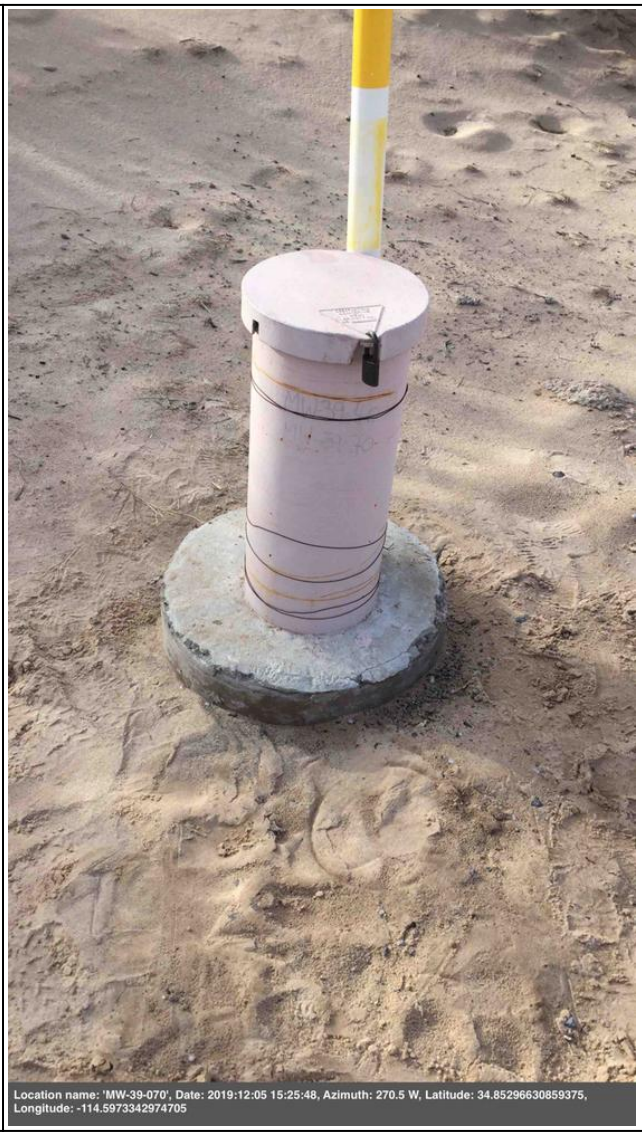
Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:33	500	2000	21.6	7.98	2086	-35.2	0.41	6	16.20	1.08	1.33
12:37	500	4000	21.5	7.96	2088	-20.3	0.37	3	16.20	1.08	1.33
12:41	500	6000	21.6	7.95	2090	-8.4	0.29	3	16.20	1.08	1.33
12:45	500	8000	21.5	7.92	2092	4.8	0.26	3	16.20	1.08	1.33
12:49	500	10000	21.5	7.90	2092	8.8	0.24	3	16.20	1.08	1.33

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-39-080

Date	12/05/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	16.11
Water Quality Meter	YSI	Gallons in Well	2.69
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	82.18
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	75
Water Column in Well	66.07	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	13:58	MS/MSD Sample Time	
Sample ID	MW-39-080-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:41	500	2000	22.4	8.01	3056	-190.9	0.38	3	16.16	1.59	1.96
13:45	500	4000	22.4	8.03	3878	-192.8	0.33	3	16.16	1.59	1.96
13:49	500	6000	22.4	8.05	4480	-194.8	0.30	3	16.16	1.59	1.96
13:53	500	8000	22.4	8.05	4689	-202.8	0.27	3	16.16	1.59	1.96
13:57	500	10000	22.4	8.07	4909	-206.6	0.22	3	16.16	1.59	1.96

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-39-100

Date	12/05/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	16.25
Water Quality Meter	YSI	Gallons in Well	16.59
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	117.98
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	90
Water Column in Well	101.73	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	13:30	MS/MSD Sample Time	
Sample ID	MW-39-100-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:09	500	2000	22.4	7.26	13029	38.6	0.17	139	16.30	7.37	8.18
13:13	500	4000	22.4	7.30	10383	33.2	0.14	69	16.30	5.94	6.83
13:17	500	6000	22.5	7.31	12896	31.9	0.11	27	16.30	7.50	8.48
13:21	500	8000	22.5	7.31	13059	30.6	0.11	9	16.30	7.53	8.50
13:25	500	10000	22.5	7.32	13050	30.3	0.12	8	16.30	7.53	8.50
13:29	500	12000	22.5	7.32	13053	30.1	0.12	8	16.30	7.53	8.50

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-40D

Date	12/11/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	111.50
Water Quality Meter	YSI	Gallons in Well	25.09
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	265.32
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	250
Water Column in Well	153.82	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	09:48	MS/MSD Sample Time	
Sample ID	MW-40D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:27	500	2000	30.0	7.59	15917	38.1	0.25	11	111.59	9.26	10.35
09:31	500	4000	30.2	7.62	16023	29.9	0.26	5	111.59	9.34	10.43
09:35	500	6000	30.5	7.62	16279	27.0	0.29	4	111.59	9.53	10.71
09:39	500	8000	30.7	7.65	16686	26.6	0.47	4	111.59	9.73	10.86
09:43	500	10000	30.7	7.65	16758	25.9	0.51	4	111.59	9.74	10.88
09:47	500	12000	30.8	7.65	16763	25.3	0.52	4	111.59	9.74	10.88

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

MW-40S

Date	12/11/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	110.91
Water Quality Meter	YSI	Gallons in Well	3.72
Sampling Type	Hydrasleeve	Measured Well Depth (ft bmp)	133.71
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	
Water Column in Well	22.8	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	10:00	MS/MSD Sample Time	
Sample ID	MW-40S-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:00			25.8	7.22	2049	76.9	3.21	9		1.05	1.33

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Dec 11,2019 09:09:51 AM
Location:MW-40S Latitude:34.717603 , Longitude:-114.496236

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-41D

Date	12/17/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	25.10
Water Quality Meter	YSI	Gallons in Well	43.37
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	291.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	281
Water Column in Well	265.9	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/17/2019	MS/MSD Sample ID	
Sample Time	13:18	MS/MSD Sample Time	
Sample ID	MW-41D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/17/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:01	500	2000	27.0	7.80	20117	36.9	0.30	3	25.20	11.97	13.07
13:05	500	4000	27.0	7.79	20269	32.6	0.26	2	25.20	12.07	13.32
13:09	500	6000	27.1	7.83	22078	23.9	0.23	2	25.20	13.26	14.37
13:13	500	8000	27.3	7.84	22157	21.7	0.20	2	25.20	13.29	14.40
13:17	500	10000	27.3	7.84	22163	21.0	0.19	2	25.20	13.30	14.41

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-41M

Date	12/17/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	25.32
Water Quality Meter	YSI	Gallons in Well	26.86
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	190.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	180
Water Column in Well	164.68	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/17/2019	MS/MSD Sample ID	
Sample Time	14:00	MS/MSD Sample Time	
Sample ID	MW-41M-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/17/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:43	500	2000	27.7	7.76	15397	29.6	0.32	76	25.40	8.94	10.00
13:47	500	4000	27.8	7.74	15374	30.5	0.29	27	25.40	8.92	9.98
13:51	500	6000	28.0	7.74	15328	25.0	0.26	10	25.40	8.88	9.95
13:55	500	8000	28.0	7.74	15320	23.5	0.25	9	25.40	8.88	9.95
13:59	500	10000	28.1	7.74	15318	23.1	0.25	9	25.40	8.88	9.95

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-41S

Date	12/17/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	25.91
Water Quality Meter	YSI	Gallons in Well	5.81
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	61.51
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	50
Water Column in Well	35.6	Total Volume to Remove	
		EB Sample ID	EB-729-Q419
Did Well Dewater?	No	EB Time	15:00
Sample Date	12/17/2019	MS/MSD Sample ID	
Sample Time	14:42	MS/MSD Sample Time	
Sample ID	MW-41S-Q419	Double Filter Turbidity	1
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	15	Purge Date	12/17/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:25	500	2000	28.0	7.80	7050	53.1	3.92	53	25.99	3.85	4.60
14:29	500	4000	28.3	7.82	7048	51.6	3.86	27	25.99	3.85	4.58
14:33	500	6000	28.3	7.82	7045	55.2	3.87	16	25.99	3.85	4.60
14:37	500	8000	28.3	7.84	7054	56.3	3.84	15	25.99	3.85	4.57
14:41	500	10000	28.3	7.84	7056	56.	3.84	15	25.99	3.85	4.57

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-42-030

Date	12/11/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	11.23
Water Quality Meter	YSI	Gallons in Well	3.04
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	29.88
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	19.8
Water Column in Well	18.65	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	10:16	MS/MSD Sample Time	
Sample ID	MW-42-030-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:59	500	2000	21.8	7.85	3412	-124.5	0.43	4	11.29	1.79	2.21
10:03	500	4000	22.6	7.95	3091	-130.2	0.15	3	11.29	1.60	1.99
10:07	500	6000	22.7	7.96	3078	-129.7	0.14	3	11.29	1.60	1.99
10:11	500	8000	22.7	7.98	3041	-131.2	0.11	3	11.29	1.60	1.99
10:15	500	10000	22.7	7.98	3040	-131.6	0.10	3	11.29	1.60	1.9

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

MW-42-055

Date	12/11/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	11.24
Water Quality Meter	YSI	Gallons in Well	7.19
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	55.30
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	47.5
Water Column in Well	44.06	Total Volume to Remove	7.19
		EB Sample ID	Mw-42-055-eb-q419
Did Well Dewater?	No	EB Time	09:20
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	09:44	MS/MSD Sample Time	
Sample ID	MW-42-055-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:27	500	2000	20.5	8.15	1020	74.0	0.56	2	11.30	0.49	0.64
09:31	500	4000	20.8	8.12	991	-80.7	0.34	2	11.30	0.49	0.64
09:35	500	6000	20.8	8.10	989	-82.8	0.28	2	11.30	0.49	0.64
09:39	500	8000	20.7	8.11	991	-83.0	0.15	2	11.30	0.49	0.64
09:43	500	10000	20.7	8.11	991	-83.9	0.13	2	11.30	0.49	0.64

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-42-065

Date	12/11/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	10.71
Water Quality Meter	YSI	Gallons in Well	8.87
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	65.11
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	61
Water Column in Well	54.4	Total Volume to Remove	8.87
		EB Sample ID	Mw-42-065-eb-q418
Did Well Dewater?	No	EB Time	08:50
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	09:13	MS/MSD Sample Time	
Sample ID	MW-42-065-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:56	500	2000	20.5	7.49	3008	77.0	0.78	4	10.77	0.89	1.14
09:00	500	4000	20.5	7.40	3014	70.8	0.60	3	10.77	1.01	1.29
09:04	500	6000	20.6	7.35	3022	65.5	0.37	3	10.77	1.37	1.72
09:08	500	8000	20.7	7.33	3045	62.3	0.28	3	10.77	1.59	1.98
09:12	500	10000	20.8	7.34	3133	60.3	0.25	3	10.77	1.60	1.98

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

MW-43-025

Date	12/12/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Brown
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	10.04
Water Quality Meter	YSI	Gallons in Well	2.29
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	24.09
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	20
Water Column in Well	14.05	Total Volume to Remove	2.29
		EB Sample ID	Mw-43-025-eb-q419
Did Well Dewater?	No	EB Time	09:53
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	10:15	MS/MSD Sample Time	
Sample ID	MW-43-025-Q419	Double Filter Turbidity	4
Single Filter Turbidity	9	Post Sampling Turbidity	
Without Filter Turbidity	231	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:58	500	2000	21.7	7.27	1656	-124.5	0.55	73	10.20	0.84	1.07
10:02	500	4000	21.8	7.28	1651	-129.8	0.17	233	10.20	0.83	1.07
10:06	500	6000	21.7	7.30	1640	-138.8	0.18	226	10.20	0.83	1.07
10:10	500	8000	21.8	7.29	1642	-140.2	0.17	228	10.20	0.83	1.07
10:14	500	10000	21.8	7.29	1644	-141.5	0.16	231	10.20	0.83	1.07

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-43-075

Date	12/12/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	10.36
Water Quality Meter	YSI	Gallons in Well	10.47
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	74.56
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	70
Water Column in Well	64.2	Total Volume to Remove	10.47
		EB Sample ID	Mw-43-075-eb-q419
Did Well Dewater?	No	EB Time	09:24
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	09:47	MS/MSD Sample Time	
Sample ID	MW-43-075-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:30	500	2000	20.9	7.04	12084	-118.8	0.32	2	10.40	6.39	7.31
09:34	500	4000	21.0	7.02	12083	-124.8	0.22	2	10.40	6.63	7.65
09:38	500	6000	20.9	7.03	12089	-128.8	0.17	2	10.40	6.95	7.87
09:42	500	8000	21.0	7.04	12092	-130.2	0.15	2	10.40	6.98	7.91
09:46	500	1000	21.0	7.04	12098	-130.5	0.13	2	10.40	6.98	7.91

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-43-090

Date	12/12/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	10.59
Water Quality Meter	YSI	Gallons in Well	12.9
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	89.66
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	85
Water Column in Well	79.07	Total Volume to Remove	12.9
		EB Sample ID	Mw-43-090-eb-q419
Comments	Low flow	EB Time	08:51
Did Well Dewater?	No	MS/MSD Sample ID	
Sample Date	12/12/2019	MS/MSD Sample Time	
Sample Time	09:13	Double Filter Turbidity	
Sample ID	MW-43-090-Q419	Post Sampling Turbidity	
Single Filter Turbidity	1	Purge Date	12/12/2019
Without Filter Turbidity	4		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:56	500	2000	20.3	6.95	16696	-18.0	0.58	5	10.63	9.83	10.84
09:00	500	4000	20.4	6.91	16721	-20.5	0.33	4	10.63	9.85	10.86
09:04	500	6000	20.5	6.92	16959	-23.9	0.25	4	10.63	10.01	11.03
09:08	5000	8000	20.7	6.92	17060	-29.9	0.21	4	10.63	10.44	11.47
09:12	500	10000	20.8	6.92	17198	-33.8	0.20	4	10.63	1052	11.55

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-44-070

Date	12/11/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	19.45
Water Quality Meter	YSI	Gallons in Well	8.23
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	69.90
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	66
Water Column in Well	50.45	Total Volume to Remove	8.23
		EB Sample ID	Mw-44-070-eb-q419
Did Well Dewater?	No	EB Time	13:47
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	14:11	MS/MSD Sample Time	
Sample ID	MW-44-070-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:54	500	2000	20.5	7.58	1106	-93.4	0.47	12	19.50	0.55	0.71
13:58	500	4000	20.3	7.55	1126	-102.4	0.20	5	19.50	0.56	0.73
14:02	500	6000	20.3	7.57	1137	-105.2	0.17	5	19.50	0.57	0.74
14:06	500	8000	20.2	7.56	1144	-113.3	0.16	5	19.50	0.57	0.74
14:10	500	10000	20.2	7.56	1148	-115.5	0.15	5	19.50	0.57	0.74

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-44-115

Date	12/11/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	19.92
Water Quality Meter	YSI	Gallons in Well	15.48
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	114.84
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	110
Water Column in Well	94.92	Total Volume to Remove	15.48
		EB Sample ID	Eb-722-q419
Did Well Dewater?	No	EB Time	14:50
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	14:43	MS/MSD Sample Time	
Sample ID	MW-44-115-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:26	500	2000	20.1	7.79	11415	19.7	0.72	2	20.00	6.53	7.42
14:30	500	4000	20.3	7.83	11434	1.2	0.45	2	20.00	6.53	7.42
14:34	500	6000	20.4	7.80	11360	-6.0	0.39	2	20.00	6.49	7.39
14:38	500	8000	20.4	7.81	11349	-9.0	0.36	2	20.00	6.48	7.37
14:42	500	10000	20.4	7.82	11339	-10.9	0.30	2	20.00	6.47	7.36

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-44-125

Date	12/11/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	19.60
Water Quality Meter	YSI	Gallons in Well	17.14
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	124.71
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	120.5
Water Column in Well	105.11	Total Volume to Remove	17.14
		EB Sample ID	Mw-44-125-eb-q419
Did Well Dewater?	No	EB Time	13:07
Sample Date	12/11/2019	MS/MSD Sample ID	
Sample Time	13:31	MS/MSD Sample Time	
Sample ID	MW-44-125-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/11/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:14	500	2000	20.6	7.48	14446	-44.8	0.48	10	19.71	0.77	1.00
13:18	500	4000	20.7	7.50	14537	-44.4	0.38	2	19.71	1.02	1.39
13:22	500	6000	20.7	7.51	14630	-43.9	0.26	2	19.71	8.24	9.26
13:26	500	8000	20.7	7.52	14959	-44.5	0.23	2	19.71	8.82	9.82
13:30	500	10000	20.7	7.53	15334	-46.9	0.20	2	19.71	8.98	9.99

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

MW-46-175

Date	12/04/2019	Sampler	Riggie
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	29.77
Water Quality Meter	YSI	Gallons in Well	23.68
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	174.97
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	170
Water Column in Well	145.2	Total Volume to Remove	23.68
		EB Sample ID	Eb-796-Q419
Did Well Dewater?	No	EB Time	15:40
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	15:36	MS/MSD Sample Time	
Sample ID	MW-46-175-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:19	500	2000	17.4	8.14	19559	126.1	1.74	8	29.91	11.50	12.53
15:23	500	4000	17.2	8.16	19322	125.1	1.68	7	29.94	11.54	12.56
15:27	500	6000	17.1	8.16	19340	124.6	1.63	7	29.94	11.55	12.571
15:31	500	8000	17.0	8.18	19344	124.1	1.59	7	29.94	11.55	12.57
15:35	500	10000	16.9	8.18	19364	123.8	1.55	7	29.94	11.55	12.57

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-46-205

Date	12/04/2019	Sampler	Riggie
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	29.89
Water Quality Meter	YSI	Gallons in Well	28.58
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	205.14
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	200
Water Column in Well	175.25	Total Volume to Remove	28.58
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	15:05	MS/MSD Sample Time	
Sample ID	MW-46-205-Q419	Double Filter Turbidity	
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:48	500	2000	18.0	7.74	19879	148.7	1.78	10	29.96	11.91	12.95
14:52	500	4000	17.8	7.83	20059	144.7	1.52	12	29.96	12.10	13.13
14:56	500	6000	17.7	7.88	20219	142.9	1.42	9	29.96	12.11	13.13
15:00	500	8000	17.6	7.91	20205	141.5	1.35	9	29.96	12.11	13.13
15:04	500	10000	17.5	7.94	20229	140.1	1.37	9	29.96	12.11	13.13

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-47-055

Date	12/04/2019	Sampler	
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Water Column in Well	25.06	Depth to Water (ft bmp)	30.14
		Gallons in Well	
Did Well Dewater?	No	Measured Well Depth (ft bmp)	55.20
Sample Date	12/04/2019	Odor	None
Sample Time	12:42	Pump Intake Depth (ft bmp)	
Sample ID	MW-47-055-Q419	Total Volume to Remove	
Single Filter Turbidity	3	EB Sample ID	
Without Filter Turbidity	7	EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:25	500	2000	26.2	7.73	3699	70.0	3.28	7	30.26	1.94	2.40
12:29	500	4000	26.6	7.62	4750	73.9	3.16	6	30.26	1.97	2.44
12:33	500	6000	26.5	7.55	4702	77.6	2.35	7	30.26	2.52	3.07
12:37	500	8000	26.6	7.50	4748	77.0	2.32	7	30.26	2.53	3.08
12:41	500	10000	26.5	7.50	4754	76.7	2.29	7	30.26	2.54	3.09

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-47-115

Date	12/04/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	30.44
Water Quality Meter	YSI	Gallons in Well	13.81
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	115.11
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	110
Water Column in Well	84.67	Total Volume to Remove	13.81
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	12:12	MS/MSD Sample Time	
Sample ID	MW-47-115-Q419	Double Filter Turbidity	
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:55	500	2000	26.6	7.70	13078	26.7	0.99	6	30.59	7.51	8.51
11:59	500	4000	26.9	7.60	14505	26.5	0.38	4	30.59	8.40	9.44
12:03	500	6000	26.9	7.58	14741	26.0	0.25	4	30.59	8.54	9.58
12:07	500	8000	26.8	7.57	14769	22.5	0.20	4	30.59	8.55	9.60
12:11	500	10000	26.8	7.55	14822	20.9	0.23	4	30.59	8.55	9.60

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-48

Date	12/17/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	31.91
Water Quality Meter	YSI	Gallons in Well	16.98
Sampling Type	Volume Purge – Grundfos RF2	Measured Well Depth (ft bmp)	136.01
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	133
Water Column in Well	104.1	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/19/2019	MS/MSD Sample ID	
Sample Time	08:30	MS/MSD Sample Time	
Sample ID	MW-48-Q419	Double Filter Turbidity	1
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	16	Purge Date	12/17/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:30			26.5	7.96	18550	80.5	3.42	16	81.20	11.02	12.08
09:57	1	4	28.2	7.86	18787	47.6	2.18	12	56.83	11.09	12.20
10:01	1	8	28.2	7.79	18748	45.0	2.34	43	81.09	11.05	12.16
10:05	1	12	28.2	7.78	18693	44.3	2.33	11	106.11	11.03	12.14
10:09	1	16	28.4	7.78	18756	42.6	2.35	8	130.09	11.09	12.21
10:10	1	17									

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-49-135

Date	12/10/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	3
Purge Volume Units	Gal	Depth to Water (ft bmp)	33.19
Water Quality Meter	YSI	Gallons in Well	10.29
Sampling Type	Volume Purge – Check ball valve	Measured Well Depth (ft bmp)	145.31
Casing Material	PVC	Odor	None
Casing Diameter (in)	1.5	Pump Intake Depth (ft bmp)	144
Water Column in Well	112.12	Total Volume to Remove	30.87
		EB Sample ID	Mw-49-135-eb-q419
Did Well Dewater?	No	EB Time	14:05
Sample Date	12/10/2019	MS/MSD Sample ID	
Sample Time	14:36	MS/MSD Sample Time	
Sample ID	MW-49-135-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:10	1	5	21.0	7.66	13818	-133.9	0.21	9	33.30	8.00	8.97
14:15	1	10	20.9	7.69	13793	-140.8	0.18	9	33.30	8.00	8.97
14:20	1	15	20.9	7.70	13781	-144.2	0.10	9	33.30	8.00	8.97
14:25	1	20	20.9	7.71	13770	-150.9	0.12	9	33.30	8.00	8.97
14:30	1	25	20.8	7.71	13759	-155.2	0.13	9	33.30	8.00	8.97
14:35	1	31	20.8	7.72	13751	-160.2	0.12	9	33.30	8.00	8.97

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

MW-49-275

Date	12/05/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	31.19
Water Quality Meter	YSI	Gallons in Well	39.73
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	274.77
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	270
Water Column in Well	243.58	Total Volume to Remove	39.73
		EB Sample ID	Mw-49-275-eb-q419
Did Well Dewater?	No	EB Time	14:55
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	15:22	MS/MSD Sample Time	
Sample ID	MW-49-275-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/05/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
15:05	500	2000	24.5	7.22	12575	137.6	0.99	3	31.33	7.19	8.13
15:09	500	4000	25.0	7.18	12662	130.5	0.88	2	31.33	17.19	20.22
15:13	500	6000	25.2	7.15	12770	128.5	0.87	2	31.33	17.20	20.23
15:17	500	8000	25.5	7.10	12780	125.0	0.72	2	31.33	17.20	20.23
15:21	500	10000	25.3	7.12	12823	120.9	0.69	2	31.33	17.20	20.23

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

MW-49-365

Date	12/05/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	32.75
Water Quality Meter	YSI	Gallons in Well	54.14
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	364.66
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	360
Water Column in Well	331.91	Total Volume to Remove	54.14
		EB Sample ID	Mw-49-365-eb-q419
Did Well Dewater?	NA	EB Time	14:10
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	14:39	MS/MSD Sample Time	
Sample ID	MW-49-365-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/05/2019

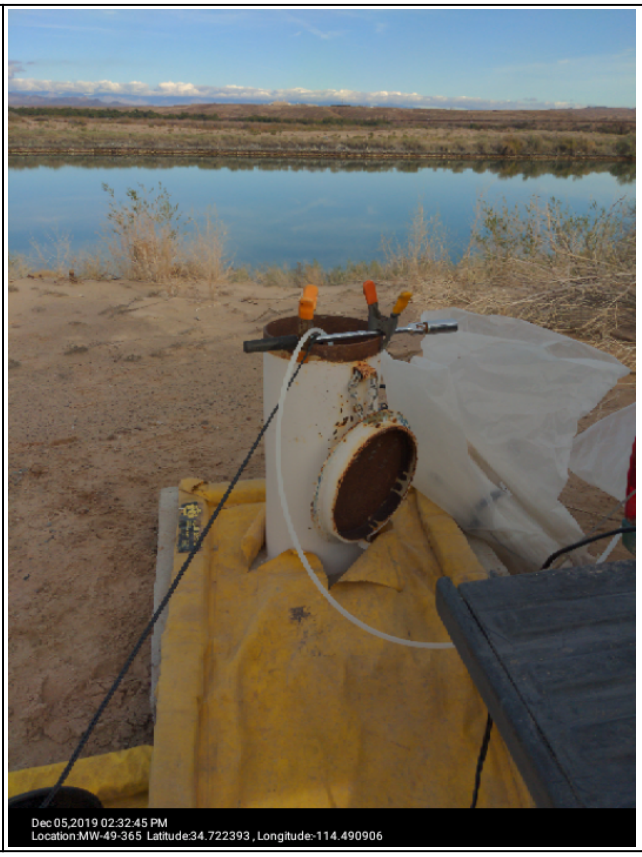
Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:22	500	2000	23.1	7.59	35616	163.6	1.43	10	32.88	22.48	23.16
14:26	500	4000	23.2	7.40	36058	155.6	1.12	9	32.88	22.80	23.47
14:30	500	6000	23.2	7.32	36130	151.6	1.01	9	32.88	22.85	23.54
14:34	500	8000	22.9	7.22	36319	149.2	0.87	9	32.88	22.97	23.61
14:38	500	10000	22.8	7.23	36322	147.8	0.90	9	32.88	22.96	23.60

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings



ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-50-095

Date	12/12/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	43.12
Water Quality Meter	YSI	Gallons in Well	8.63
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	96.00
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	90
Water Column in Well	52.88	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	11:27	MS/MSD Sample Time	
Sample ID	MW-50-095-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/12/2019

Field Parameters

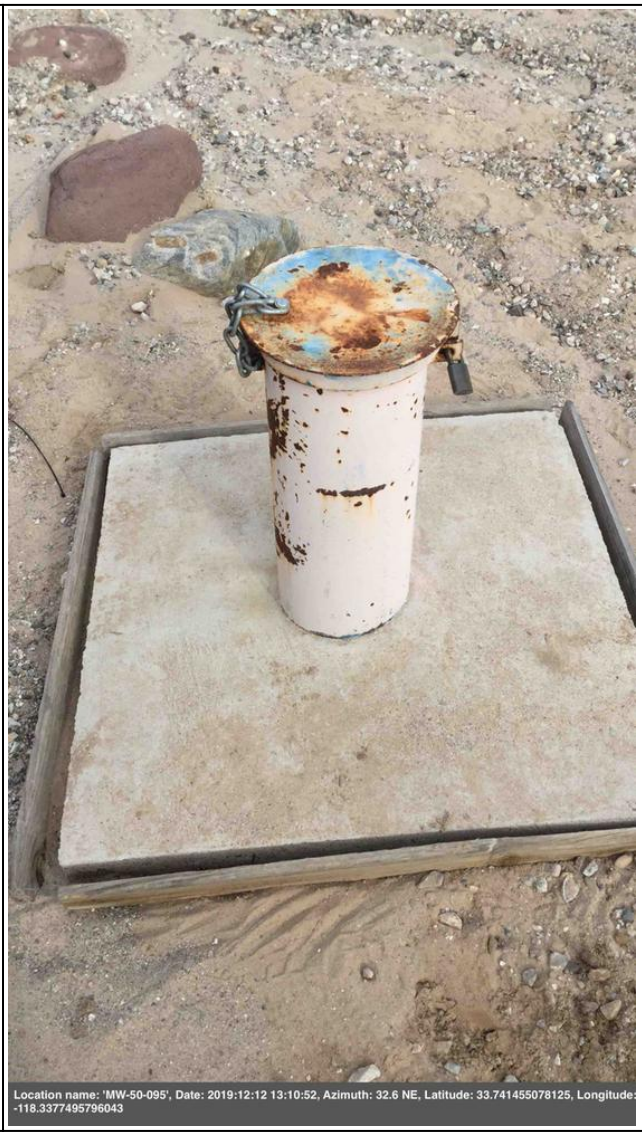
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:13	500	2000	28.5	7.60	5908	177.8	1.86	12	43.12	3.33	3.78
11:25	500	4000	28.6	7.55	5932	172.8	1.66	3	43.12	3.33	3.79
11:25	500	6000	28.5	7.53	5976	168.9	1.55	3	43.12	3.35	3.80
11:25	500	8000	28.6	7.50	6004	163.8	1.49	3	43.12	3.37	3.84
11:26	500	10000	28.5	7.50	6054	162.8	1.24	3	43.12	3.38	3.87

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings



ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-50-200

Date	12/12/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	43.48
Water Quality Meter	YSI	Gallons in Well	26.11
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	203.55
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	195
Water Column in Well	160.07	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	12:36	MS/MSD Sample Time	
Sample ID	MW-50-200-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-919-Q419	Post Sampling Turbidity	
Dup Sample Time	12:46	Purge Date	12/12/2019
Single Filter Turbidity	1		
Without Filter Turbidity	1		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:19	500	2000	29.2	7.53	20386	280.5	1.71	3	43.98	12.76	13.04
12:23	500	4000	29.3	7.57	20567	263.4	1.55	1	43.98	12.76	13.04
12:27	500	2000	29.3	7.60	20564	245.8	1.44	1	43.98	12.76	13.04
12:31	500	8000	29.5	7.62	20708	233.8	1.22	1	43.98	12.76	13.04
12:35	500	10000	29.4	7.61	20754	229.8	1.13	1	43.98	12.76	13.04

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-51

Date	12/12/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	47.90
Water Quality Meter	YSI	Gallons in Well	42.30
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	112.73
Casing Material	PVC	Odor	none
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	104.5
Water Column in Well	64.83	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	09:30	MS/MSD Sample Time	
Sample ID	MW-51-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-920-Q419	Post Sampling Turbidity	
Dup Sample Time	09:40	Purge Date	12/12/2019
Single Filter Turbidity	1		
Without Filter Turbidity	1		

Field Parameters

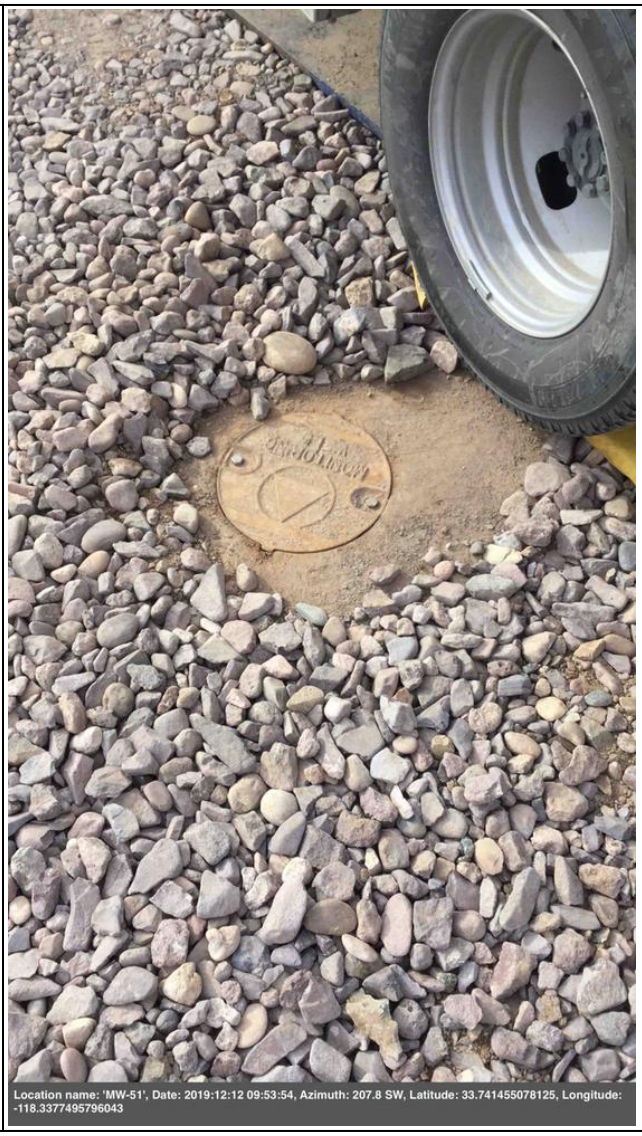
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:12	500	2000	30.0	7.03	12345	233.6	1.88	3	48.04	7.20	7.90
09:16	500	4000	30.1	7.07	12456	220.8	1.55	1	48.04	7.20	7.90
09:20	500	6000	30.1	7.07	12510	209.7	1.27	1	48.02	7.20	7.90
09:24	500	8000	30.1	7.10	12578	203.6	1.24	1	48.02	7.23	7.94
09:28	500	10000	30.0	7.11	12703	200.9	1.22	1	48.02	7.23	7.94

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings



ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-52D

Date	12/12/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	9.74
Water Quality Meter	YSI	Gallons in Well	3.15
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	87.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	86
Water Column in Well	77.26	Total Volume to Remove	3.15
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	12:24	MS/MSD Sample Time	
Sample ID	MW-52D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:07	500	2000	19.8	7.89	21664	-145.7	0.45	1	9.78	13.05	14.08
12:11	500	4000	19.8	7.90	21691	-148.5	0.25	1	9.78	13.07	14.09
12:15	500	6000	19.8	7.91	21704	-146.8	0.21	1	9.78	13.08	14.11
12:19	500	8000	19.7	7.92	21705	-144.9	0.14	1	9.78	13.08	14.11
12:23	500	10000	19.7	7.92	21706	-142.0	0.13	1	9.78	13.08	14.11

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-52M

Date	12/12/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	9.66
Water Quality Meter	YSI	Gallons in Well	2.38
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	68.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	67
Water Column in Well	58.34	Total Volume to Remove	2.38
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	11:53	MS/MSD Sample Time	
Sample ID	MW-52M-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:36	500	2000	19.4	7.37	16402	-104.6	0.88	1	9.70	9.65	10.65
11:40	500	4000	19.5	7.40	16409	-109.6	0.60	1	9.70	9.65	10.65
11:44	500	6000	19.7	7.41	16437	-115.1	0.67	1	9.70	9.67	10.66
11:48	500	8000	19.8	7.41	16422	-123.5	0.65	1	9.70	9.64	10.67
11:52	500	10000	19.8	7.42	16411	-125.7	0.71	1	9.70	9.65	10.67

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-52S

Date	12/12/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	9.42
Water Quality Meter	YSI	Gallons in Well	1.57
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	48.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	48
Water Column in Well	38.58	Total Volume to Remove	1.57
		EB Sample ID	Eb-724-q419
Did Well Dewater?	No	EB Time	13:10
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	13:02	MS/MSD Sample Time	
Sample ID	MW-52S-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:45	500	2000	19.4	6.91	11546	-94.7	0.25	3	9.48	6.51	7.41
12:49	500	4000	19.4	6.90	11425	-93.3	0.19	3	9.48	6.50	7.39
12:53	500	6000	19.4	6.89	11258	-92.1	0.18	3	9.48	6.42	7.30
12:57	500	8000	19.4	6.88	11244	-87.6	0.15	3	9.48	6.98	6.83
13:01	500	10000	19.4	6.87	11233	-85.7	0.13	3	9.48	6.98	6.83

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-53D

Date	12/12/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	12.22
Water Quality Meter	YSI	Gallons in Well	4.58
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	124.66
Casing Material	PVC	Odor	None
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	124
Water Column in Well	112.44	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	10:44	MS/MSD Sample Time	
Sample ID	MW-53D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:27	500	2000	18.7	8.18	23100	-82.8	0.32	2	12.30	16.13	17.08
10:31	500	4000	18.6	8.15	26281	-83.3	0.35	2	12.30	16.12	17.08
10:35	500	6000	18.6	8.13	26224	-93.1	0.40	2	12.30	16.08	17.07
10:39	500	8000	18.6	8.12	26230	-93.5	0.38	2	12.30	16.08	17.07
10:43	500	10000	18.6	8.11	26233	-94.0	0.30	2	12.30	16.08	17.07

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-53M

Date	12/12/2019	Sampler	Reggie
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	12.30
Water Quality Meter	YSI	Gallons in Well	3.56
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	99.63
Casing Material	PVC	Odor	None
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	99
Water Column in Well	87.33	Total Volume to Remove	3.56
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/12/2019	MS/MSD Sample ID	
Sample Time	11:10	MS/MSD Sample Time	
Sample ID	MW-53M-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	12/12/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:53	500	2000	18.9	7.99	19499	-126.3	0.61	1	12.33	8.41	9.5875
10:57	500	4000	18.9	8.00	19500	-134.2	0.63	1	12.33	9.45	105495
11:01	500	6000	18.9	8.02	19500	-139.1	0.71	1	12.33	10.60	11.6999
11:05	500	8000	18.7	8.03	19511	-144.0	0.73	1	12.33	11.37	12.4670
11:09	500	10000	18.8	8.03	19526	-146.0	0.75	1	12.33	11.71	12.7630

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-54-085

Date	12/10/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	13.27
Water Quality Meter	YSI	Gallons in Well	11.9
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	86.21
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	82
Water Column in Well	72.94	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/10/2019	MS/MSD Sample ID	
Sample Time	08:10	MS/MSD Sample Time	
Sample ID	MW-54-085-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:53	500	2000	26.9	7.40	10602	20.6	0.13	11	13.35	5.99	6.90
07:57	500	4000	27.0	7.41	10635	17.0	0.11	7	13.35	6.00	6.91
08:01	500	6000	27.0	7.41	10638	15.3	0.11	5	13.35	6.00	6.91
08:05	500	8000	27.1	7.41	10639	15.1	0.10	5	13.35	6.00	6.91
08:09	500	10000	27.1	7.42	10643	14.7	0.10	5	13.35	6.00	6.91

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-54-140

Date	12/10/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	12.80
Water Quality Meter	YSI	Gallons in Well	20.29
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	137.22
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	133
Water Column in Well	124.42	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/10/2019	MS/MSD Sample ID	MW-54-140-Q419
Sample Time	07:28	MS/MSD Sample Time	07:28
Sample ID	MW-54-140-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:11	500	2000	25.9	7.79	13151	6.9	0.24	25	12.91	7.55	8.54
07:15	500	4000	26.1	7.75	13173	-1.9	0.19	14	12.91	7.56	8.55
07:19	500	6000	26.2	7.74	13179	-4.0	0.18	9	12.91	7.56	8.55
07:23	500	8000	26.2	7.74	13181	-5.2	0.18	8	12.91	7.56	8.55
07:27	500	10000	26.2	7.74	13183	-6.1	0.17	8	12.91	7.56	8.55

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-54-195

Date	12/10/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	13.52
Water Quality Meter	YSI	Gallons in Well	29.04
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	191.58
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	186
Water Column in Well	178.06	Total Volume to Remove	
		EB Sample ID	MW-54-195-EB-Q419
Did Well Dewater?	No	EB Time	07:00
Sample Date	12/10/2019	MS/MSD Sample ID	
Sample Time	07:39	MS/MSD Sample Time	
Sample ID	MW-54-195-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/10/2019

Field Parameters

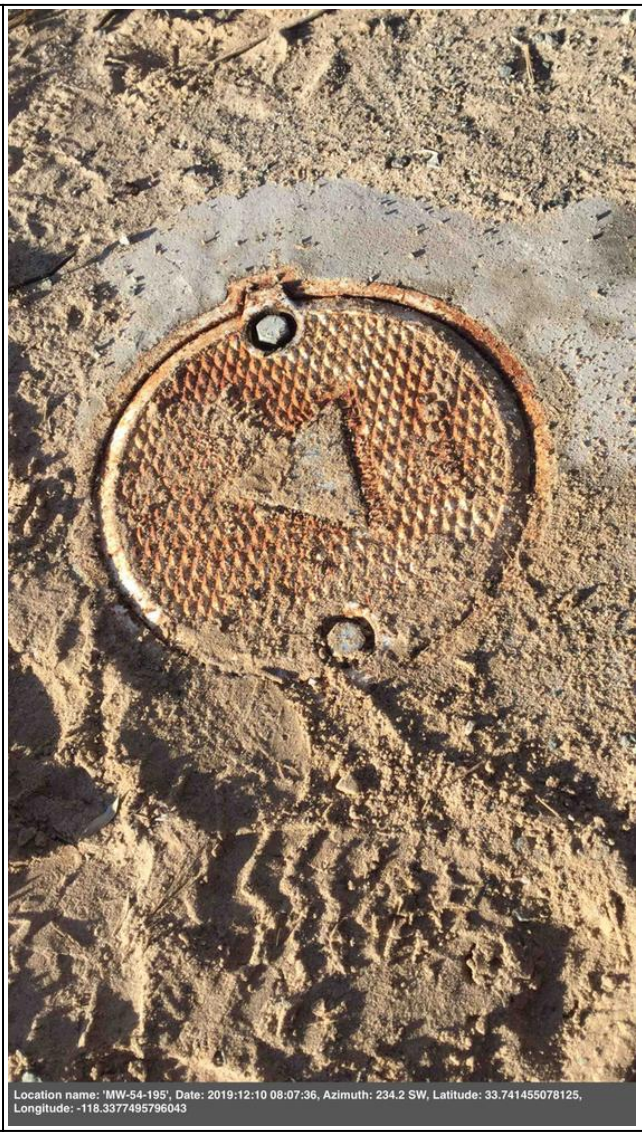
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
07:22	500	2000	25.2	7.90	18659	-243.8	0.73	3	13.55	11.35	11.91
07:26	500	4000	25.5	7.83	18897	-255.6	0.30	3	13.55	11.44	12.10
07:30	500	6000	25.5	7.81	18902	-258.9	0.26	3	13.55	11.49	12.14
07:34	500	8000	25.5	7.81	18937	-262.8	0.16	3	13.55	11.56	12.44
07:38	500	10000	25.5	7.80	18954	--265.8	0.12	3	13.55	11.63	12.49

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?			X	
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings



ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-55-045

Date	12/10/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	10.98
Water Quality Meter	YSI	Gallons in Well	6.28
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	49.47
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	42
Water Column in Well	38.49	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/10/2019	MS/MSD Sample ID	
Sample Time	10:38	MS/MSD Sample Time	
Sample ID	MW-55-045-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:21	500	2000	27.7	7.71	1300	33.9	0.12	48	11.06	0.64	0.84
10:25	500	4000	28.1	7.68	1308	10.6	0.06	23	11.06	0.65	0.85
10:29	500	6000	28.1	7.65	1310	8.9	0.07	10	11.06	0.65	0.85
10:33	500	8000	28.1	7.64	1310	7.2	0.07	9	11.06	0.65	0.85
10:37	500	10000	28.2	7.64	1311	7.0	0.06	9	11.06	0.65	0.85

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-55-120

Date	12/10/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	10.92
Water Quality Meter	YSI	Gallons in Well	17.87
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	120.51
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	113
Water Column in Well	109.59	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/10/2019	MS/MSD Sample ID	
Sample Time	10:02	MS/MSD Sample Time	
Sample ID	MW-55-120-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:45	500	2000	27.3	7.90	8683	31.9	0.83	15	10.99	4.82	5.64
09:49	500	4000	27.5	7.92	8488	35.2	0.95	9	10.99	4.69	5.51
09:53	500	6000	27.5	7.92	8439	36.5	1.03	7	10.99	4.68	5.48
09:57	500	8000	27.6	7.92	8431	36.8	1.01	7	10.99	4.68	5.48
10:01	500	10000	27.6	7.92	8429	37.4	1.01	7	10.99	4.68	5.48

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-56D

Date	12/10/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	12/10/2019	EB Sample ID	
Sample Time	09:44	EB Time	
Sample ID	MW-56D-Q419	MS/MSD Sample ID	
Duplicate Sample ID	MW-921-Q419	MS/MSD Sample Time	
Dup Sample Time	09:54	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:27	500	2000	20.9	7.44	21983	-109.8	0.67	4		13.66	14.11
09:31	500	4000	21.1	7.58	22032	-115.7	0.43	3		13.66	14.11
09:35	500	6000	21.1	7.61	22165	-122.5	0.28	3		13.71	14.17
09:39	500	8000	21.1	7.61	22304	-128.7	0.20	3		13.73	14.21
09:43	500	10000	21.1	7.63	22398	-133.5	0.16	3		13.73	14.21

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?		X		
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-56M

Date	12/10/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	12/10/2019	EB Sample ID	
Sample Time	10:34	EB Time	
Sample ID	MW-56M-Q419	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	3	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:17	500	2000	22.6	7.35	14254	-102.3	0.78	3		8.54	9.12
10:21	500	4000	22.8	7.37	14367	-111.7	0.46	3		8.57	9.13
10:25	500	6000	22.8	7.39	14489	-115.2	0.34	1		8.59	9.16
10:29	500	8000	22.9	7.40	14602	-119.6	0.26	3		8.59	9.18
10:33	500	10000	22.9	7.41	14786	-121.3	0.21	3		8.59	9.18

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-56S

Date	12/10/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Low Flow – Peristaltic Pump	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	none
Casing Diameter (in)	1	Pump Intake Depth (ft bmp)	
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	12/10/2019	EB Sample ID	
Sample Time	11:16	EB Time	
Sample ID	MW-56S-Q419	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	3	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:59	500	2000	21.8	7.28	5789	-70.8	0.67	3		3.43	3.70
11:03	500	4000	22.0	7.31	5803	-74.8	0.44	3		3.43	3.70
11:07	500	6000	22.0	7.33	5854	-83.2	0.36	3		3.46	3.74
11:11	500	8000	22.1	7.36	5876	-88.6	0.30	3		3.46	3.74
11:15	500	10000	22.0	7.37	5887	-90.7	0.27	3		3.46	3.75

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-57-070

Date	12/06/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	53.00
Water Quality Meter	YSI	Gallons in Well	2.50
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	68.31
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	62.5
Water Column in Well	15.31	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/06/2019	MS/MSD Sample ID	
Sample Time	09:04	MS/MSD Sample Time	
Sample ID	MW-57-070-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/06/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:03	300	1200	28.2	7.33	2485	-18.8	2.28	21	53.22	1.27	1.67
09:07	300	2400	28.4	7.27	2654	-33.8	1.84	11	53.25	1.31	1.70
09:11	300	3600	28.4	7.23	2777	-42.9	1.57	7	53.29	1.35	1.73
09:15	300	8000	28.4	7.20	2832	-45.6	1.71	5	53.29	1.39	1.77
09:19	300	6000	28.4	7.24	2832	-50.8	1.63	5	53.32	1.39	1.77

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

MW-57-185

Date	12/06/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	52.98
Water Quality Meter	YSI	Gallons in Well	46.96
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	180.94
Casing Material	PVC	Odor	none
Casing Diameter (in)	3	Pump Intake Depth (ft bmp)	150
Water Column in Well	127.96	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/06/2019	MS/MSD Sample ID	
Sample Time	10:04	MS/MSD Sample Time	
Sample ID	MW-57-185-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/06/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:47	300	1200	27.8	9.90	20054	-167.8	0.89	12	53.12	11.1	12.8
09:51	300	2400	27.8	9.76	20064	-176.8	0.76	5	53.12	11.1	12.8
09:55	300	3600	27.8	9.67	20073	-190.9	0.63	5	53.12	11.1	12.8
09:59	300	4800	27.8	9.64	20102	-199.9	0.55	5	53.12	11.1	12.8
10:03	300	6000	27.8	9.63	20123	-204.8	0.49	5	53.12	11.1	12.8

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-58-065

Date	12/13/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	
Purge Volume Units	Na	Casing Volume to Remove	0
Casing Material	PVC	Depth to Water (ft bmp)	0.0
Casing Diameter (in)	2	Gallons in Well	11.03
Water Column in Well	67.65	Measured Well Depth (ft bmp)	67.65
		Odor	
Comments	Well is dry	Pump Intake Depth (ft bmp)	
Did Well Dewater?	NA	Total Volume to Remove	0.0
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/13/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:45	0	0							0		

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	
Remarks				

Photos and Drawings

Dec 13,2019 10:44:44 AM
Location:MW-58-065 Latitude:34.714073 , Longitude:-114.490505

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-58BR

Date	12/13/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	66.80
Water Quality Meter	YSI	Gallons in Well	48.74
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	100.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	6	Pump Intake Depth (ft bmp)	98
Water Column in Well	33.2	Total Volume to Remove	48.74
		EB Sample ID	Eb-728-q419
Did Well Dewater?	No	EB Time	11:05
Sample Date	12/13/2019	MS/MSD Sample ID	
Sample Time	10:37	MS/MSD Sample Time	
Sample ID	MW-58BR-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	12/13/2019

Field Parameters

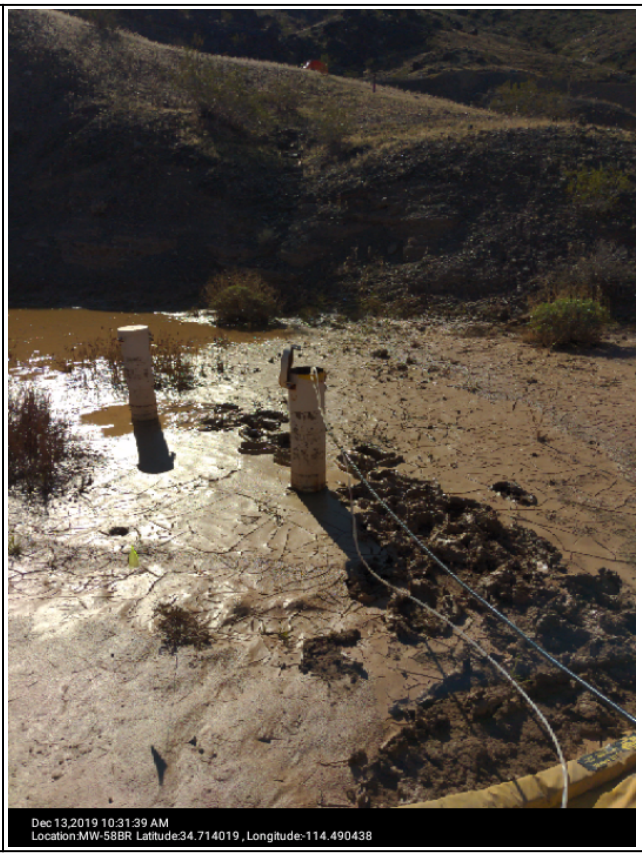
Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:16	200	800	28.6	7.58	10211	-166.5	0.16	3	66.88	5.68	8.23
10:20	200	1600	28.7	7.57	10208	-167.4	0.11	3	66.68	5.68	8.23
10:24	200	2400	28.8	7.56	10204	-168.2	0.12	3	66.68	5.68	8.23
10:28	200	3200	28.9	7.55	10205	-168.8	0.12	3	66.68	5.68	8.23
10:32	200	4000	29.0	7.55	10206	-169.4	0.13	3	66.68	5.68	8.23
10:36	200	4800	29.0	7.54	10207	-170.0	0.15	3	66.68	5.68	8.23

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings



ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-59-100

Date	12/13/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	86.20
Water Quality Meter	YSI	Gallons in Well	2.35
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	100.63
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	93.5
Water Column in Well	14.43	Total Volume to Remove	2.35
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/13/2019	MS/MSD Sample ID	
Sample Time	09:12	MS/MSD Sample Time	
Sample ID	MW-59-100-Q419	Double Filter Turbidity	
Duplicate Sample ID	Mw-922-q419	Post Sampling Turbidity	
Dup Sample Time	09:22	Purge Date	12/13/2019
Single Filter Turbidity	2		
Without Filter Turbidity	30		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:55	500	2000	28.4	7.17	14242	151.0	4.84	112	86.33	8.16	9.20
08:59	500	4000	28.5	7.10	14048	151.8	4.86	30	86.33	8.08	9.11
09:03	500	6000	28.5	7.09	13744	151.8	4.80	30	86.33	7.89	8.93
09:07	500	8000	29.0	7.08	13367	152.4	4.84	30	86.33	7.65	8.68
09:11	500	10000	28.6	7.07	13208	153.3	4.70	30	86.33	7.56	8.58

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-60-125

Date	12/06/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	99.77
Water Quality Meter	YSI	Gallons in Well	3.63
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	122.01
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	113
Water Column in Well	22.24	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/06/2019	MS/MSD Sample ID	
Sample Time	08:50	MS/MSD Sample Time	
Sample ID	MW-60-125-Q419	Double Filter Turbidity	1
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	22	Purge Date	12/06/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:33	300	1200	26.9	7.43	8741	86.9	3.86	57	99.86	4.87	5.69
08:37	300	2400	28.3	7.45	8749	83.6	3.78	32	99.88	4.87	5.69
08:41	300	3600	28.6	7.45	8753	81.3	3.72	23	99.88	4.87	5.69
08:45	300	4800	28.6	7.46	8755	80.6	3.70	22	99.88	4.87	5.69
08:49	300	6000	28.7	7.46	8756	80.1	3.69	22	99.88	4.86	5.69

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-61-110

Date	12/06/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	88.77
Water Quality Meter	YSI	Gallons in Well	3.71
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	111.50
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	102
Water Column in Well	22.73	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/06/2019	MS/MSD Sample ID	
Sample Time	08:31	MS/MSD Sample Time	
Sample ID	MW-61-110-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	12/06/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:14	500	2000	28.7	6.64	17546	120.7	0.87	12	88.88	10.65	11.31
08:18	500	4000	28.7	6.67	17689	110.4	0.66	9	88.88	10.65	11.31
08:22	500	6000	28.9	6.68	17698	95.8	0.41	7	88.88	10.65	11.31
08:26	500	8000	29.0	6.69	17702	90.4	0.38	4	88.88	10.65	11.31
08:30	500	10000	29.0	6.70	17723	87.9	0.35	4	88.88	10.65	11.31

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-62-065

Date	12/03/2019	Sampler	Riggie
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	1
Purge Volume Units	Ml	Depth to Water (ft bmp)	48.78
Water Quality Meter	YSI	Gallons in Well	2.68
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	65.22
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	60
Water Column in Well	16.44	Total Volume to Remove	2.68
		EB Sample ID	EB-795-Q419
Did Well Dewater?	No	EB Time	15:10
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	15:06	MS/MSD Sample Time	
Sample ID	MW-62-065-Q419	Double Filter Turbidity	
Single Filter Turbidity	4	Post Sampling Turbidity	
Without Filter Turbidity	11	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:49	500	2000	28.5	7.94	6472	93.4	2.50	16	48.85	3.51	4.19
14:53	500	4000	28.7	7.80	6437	96.6	3.17	13	48.85	3.50	4.18
14:57	500	6000	28.8	7.75	6421	97.8	3.22	12	48.85	3.50	4.18
15:01	500	8000	28.8	7.73	6418	98.2	3.28	12	48.85	3.50	4.18
15:05	500	10000	28.9	7.71	6415	98.8	3.30	11	48.85	3.50	4.18

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?			X	

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-62-110

Date	12/03/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Gal	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Grab Sample	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	None
Comments	Flute Well 3V purge	Pump Intake Depth (ft bmp)	
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	12/04/2019	EB Sample ID	
Sample Time	15:10	EB Time	
Sample ID	MW-62-110-Q419	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	2	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:15	0.5	1.5	24.3	7.44	13550	46.8	0.84	2		7.82	8.80
08:15	0.5	4.5	27.6	7.46	10637	-15.9	0.16	2		6.00	6.91
15:10			27.6	7.49	10962	-15.3	0.19	2		6.03	6.90
15:40	0.5	3.0	27.6	7.43	11238	-10.9	0.13	2		6.34	7.28

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?			X	
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?			X	
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Dec 03,2019 08:21:44 AM
Location:MW-62-110 Latitude:34.715229 , Longitude:-114.489085

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-62-190

Date	12/03/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Gal	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	
Comments	Flute Well 3V purge	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	
Sample Date	12/04/2019	Total Volume to Remove	
Sample Time	15:00	EB Sample ID	
Sample ID	MW-62-190-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:10	0.5	1.5	25.8	7.16	19267	39.9	0.96	3		11.47	12.55
08:10	0.5	4.5	27.7	7.45	19069	-23.9	0.12	2		11.28	12.38
15:00			27.6	7.48	18965	-16.9	0.15	2		11.26	12.36
15:30	0.5	3.0	27.8	7.48	19194	-19.6	0.11	2		11.28	12.43

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?			X	
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?			X	
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Dec 03,2019 08:21:59 AM
Location:MW-62-190 Latitude:34.715214 , Longitude:-114.489309

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-63-065

Date	12/06/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	51.74
Water Quality Meter	YSI	Gallons in Well	2.16
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	65.00
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	56
Water Column in Well	13.26	Total Volume to Remove	
		EB Sample ID	EB-708-Q419
Did Well Dewater?	No	EB Time	12:00
Sample Date	12/06/2019	MS/MSD Sample ID	
Sample Time	11:43	MS/MSD Sample Time	
Sample ID	MW-63-065-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/06/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:03	300	1200	26.0	7.05	7654	22.0	2.89	24	51.96	4.21	4.91
12:04	300	2400	26.2	7.08	7665	-2.8	2.47	11	51.96	4.21	4.91
12:04	300	3600	26.4	7.11	7669	-22.8	2.23	5	51.96	4.22	4.92
12:04	300	4800	26.4	7.12	7712	-48.8	2.32	5	51.96	4.23	4.94
12:05	300	6000	26.4	7.13	7734	-53.8	2.38	5	51.96	4.34	5.02

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-64BR

Date	12/06/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	121.31
Water Quality Meter	YSI	Gallons in Well	200.65
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	258.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	6	Pump Intake Depth (ft bmp)	
Water Column in Well	136.69	Total Volume to Remove	
		EB Sample ID	
Comments	Dedicated QED	EB Time	
Did Well Dewater?	No	MS/MSD Sample ID	
Sample Date	12/06/2019	MS/MSD Sample Time	
Sample Time	09:40	Double Filter Turbidity	
Sample ID	MW-64BR-Q419	Post Sampling Turbidity	
Single Filter Turbidity	1	Purge Date	12/06/2019
Without Filter Turbidity	1		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:11	200	800	22.8	7.39	14329	92.0	1.90	2	121.40	8.30	9.30
09:15	200	1600	22.9	7.42	14270	60.9	0.50	2	121.43	8.27	9.25
09:19	200	2400	22.4	7.45	14209	55.6	0.52	1	121.44	8.23	9.23
09:23	200	3200	22.3	7.46	14202	53.6	0.46	1	121.44	8.23	9.22
09:27	200	4000	22.3	7.46	14206	52.9	0.44	1	121.45	8.23	9.22
09:31	200	4800	22.3	7.46	14211	52.3	0.43	1	121.45	8.22	9.22
09:35	200	5600	22.3	7.46	14215	52.1	0.41	1	121.45	8.22	9.22
09:39	200	6400	22.3	7.46	14216	52.0	0.40	1	121.45	8.22	9.22

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-65-160

Date	12/03/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	140.90
Water Quality Meter	YSI	Gallons in Well	3.18
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	160.42
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	155
Water Column in Well	19.52	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	12:34	MS/MSD Sample Time	
Sample ID	MW-65-160-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	6	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:17	300	1200	25.4	7.23	4236	96.6	3.23	19	140.95	2.25	2.75
12:21	300	2400	25.8	7.16	4250	90.6	2.86	11	140.95	2.26	2.76
12:25	300	3600	26.1	7.13	4262	89.6	2.59	7	140.95	2.26	2.76
12:29	300	4800	26.1	7.12	4263	88.6	2.55	6	140.95	2.26	2.76
12:33	300	6000	26.2	7.12	4265	87.9	2.53	6	140.95	2.26	2.76

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-65-225

Date	12/03/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	140.60
Water Quality Meter	YSI	Gallons in Well	13.83
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	225.38
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	220
Water Column in Well	84.78	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	11:54	MS/MSD Sample Time	
Sample ID	MW-65-225-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:33	500	2000	29.2	7.24	7191	90.4	1.63	13	140.69	3.98	4.71
11:37	500	4000	29.6	7.26	7203	84.5	1.59	8	140.69	3.98	4.71
11:41	500	6000	29.6	7.26	7205	82.1	1.55	6	140.69	3.98	4.71
11:45	500	8000	29.7	7.25	7206	81.5	1.53	5	140.69	3.98	4.71
11:49	500	10000	29.7	7.25	7211	80.3	1.52	5	140.69	3.99	4.72
11:53	500	12000	29.8	7.26	7213	79.9	1.50	5	140.69	3.99	4.72

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-66-165

Date	12/03/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	130.79
Water Quality Meter	YSI	Gallons in Well	4.94
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	161.08
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	152
Water Column in Well	30.29	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	11:04	MS/MSD Sample Time	
Sample ID	MW-66-165-Q419	Double Filter Turbidity	1
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	25	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:47	500	2000	30.1	7.19	3907	97.9	4.60	125	130.86	2.07	2.56
10:51	500	4000	30.3	7.23	3950	92.8	4.36	39	130.86	2.07	2.56
10:55	500	6000	30.5	7.24	3956	91.0	4.21	26	130.86	2.07	2.56
10:59	500	8000	30.6	7.24	3959	90.6	4.19	25	130.86	2.07	2.56
11:03	500	10000	30.6	7.24	3961	89.8	4.17	25	130.86	2.07	2.56

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-66-230

Date	12/03/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Yellow
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	131.21
Water Quality Meter	YSI	Gallons in Well	15.66
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	227.20
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	220
Water Column in Well	95.99	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	10:24	MS/MSD Sample Time	
Sample ID	MW-66-230-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:07	500	2000	28.2	7.89	18961	80.1	0.96	19	131.35	11.24	12.35
10:11	500	4000	28.9	7.87	18990	59.9	0.82	11	131.35	11.25	12.36
10:15	500	6000	29.3	7.86	19004	53.2	0.73	9	131.35	11.25	12.36
10:19	500	8000	29.5	7.86	19006	51.0	0.71	8	131.35	11.25	12.36
10:23	500	10000	29.6	7.86	19008	50.6	0.70	8	131.35	11.25	12.36

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-66BR-270

Date	12/03/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Extraction Port	Casing Volume to Remove	
Purge Volume Units	Gal	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Volume Purge – Grundfos RF2	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	Sulphur
Casing Diameter (in)	6	Pump Intake Depth (ft bmp)	
Did Well Dewater?	Yes	Total Volume to Remove	
Sample Date	12/10/2019	EB Sample ID	
Sample Time	12:30	EB Time	
Sample ID	MW-66BR-270-Q419	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	8	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:59	5	20	30.5	9.16	18628	-30.9	0.12	17		10.96	12.10
09:03	5	40	30.6	9.10	18627	-59.6	0.09	10		10.95	12.10
09:07	5	60	30.5	9.20	18622	-62.6	0.08	9		10.95	12.10
09:11	5	80	30.5	9.21	18626	-63.9	0.08	9		10.95	12.10
12:30			30.8	8.86	18499	-109.6	0.07	8		10.86	12.01

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?			X	
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?		X		
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-67-185

Date	12/04/2019	Sampler	Nara Tep
Weather Conditions	Rain	Color	Green
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	170.29
Water Quality Meter	YSI	Gallons in Well	2.7
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	186.82
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	182
Water Column in Well	16.53	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	11:12	MS/MSD Sample Time	
Sample ID	MW-67-185-Q419	Double Filter Turbidity	1
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	35	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:51	200	1200	22.1	8.18	6952	77.4	2.95	139	170.33	3.82	4.51
10:55	200	2400	22.8	7.89	7004	85.9	2.97	59	170.33	3.84	4.55
10:59	200	3200	22.9	7.85	7013	86.9	2.90	39	170.33	3.85	4.56
11:03	200	4000	23.1	7.82	7014	87.6	3.06	36	170.33	3.85	4.56
11:07	200	4800	23.1	7.81	7021	88.0	3.11	35	170.33	3.85	4.56
11:11	200	5600	23.1	7.81	7022	88.1	3.12	35	170.33	3.85	4.56

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

MW-67-225

Date	12/04/2019	Sampler	Nara Tep
Weather Conditions	Rain	Color	Green
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	170.44
Water Quality Meter	YSI	Gallons in Well	8.94
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	225.24
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	217
Water Column in Well	54.8	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	10:20	MS/MSD Sample Time	
Sample ID	MW-67-225-Q419	Double Filter Turbidity	1
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	15	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:02	500	2000	30.1	8.26	6587	63.0	2.34	55	170.53	3.57	4.27
10:07	500	4000	30.3	8.19	6549	60.1	2.30	39	170.53	3.57	4.26
10:11	500	6000	30.6	8.16	6531	57.6	2.21	16	170.53	3.56	4.26
10:15	500	8000	30.6	8.15	6529	55.6	2.19	15	170.53	3.56	4.26
10:19	500	10000	30.7	8.15	6525	55.1	2.18	15	170.53	3.56	4.26

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-67-260

Date	12/04/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	170.39
Water Quality Meter	YSI	Gallons in Well	14.66
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	260.29
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	255
Water Column in Well	89.9	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	09:34	MS/MSD Sample Time	
Sample ID	MW-67-260-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:05	200	800	26.5	9.89	18668	-19.6	0.96	61	170.43	11.04	12.14
09:09	200	1600	26.8	9.41	18737	-15.6	0.92	46	170.4	11.08	12.18
09:13	200	2400	26.5	8.89	18756	-11.3	0.79	38	170.43	11.10	12.27
09:17	200	3200	26.5	8.76	18762	-9.5	0.73	21	170.43	11.10	12.28
09:21	200	4000	26.5	8.75	18763	-8.8	0.71	14	170.43	11.10	12.28
09:25	200	4800	26.5	8.75	18769	-8.1	0.70	10	170.43	11.10	12.28
09:29	200	5600	26.5	8.76	18773	-7.9	0.68	9	170.43	11.10	12.28
09:33	200	6400	26.6	8.76	18776	-7.3	0.67	9	170.43	11.10	12.28

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-68-180

Date	12/04/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Green
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	165.44
Water Quality Meter	YSI	Gallons in Well	2.35
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	179.87
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	172
Water Column in Well	14.43	Total Volume to Remove	
		EB Sample ID	EB-703-Q419
Did Well Dewater?	No	EB Time	15:30
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	13:14	MS/MSD Sample Time	
Sample ID	MW-68-180-Q419	Double Filter Turbidity	1
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	39	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:51	200	800	25.7	7.49	5469	68.9	4.87	96	165.51	2.95	3.55
12:57	200	1600	25.7	7.45	5447	70.1	4.82	61	165.51	2.93	3.53
13:01	200	2400	25.8	7.45	5443	72.3	4.80	49	165.51	2.93	3.53
13:05	200	3200	25.8	7.44	5440	72.6	4.76	41	165.51	2.93	3.53
13:09	200	4000	25.8	7.44	5439	72.9	4.74	39	165.51	2.93	3.53
13:13	200	4800	25.8	7.44	5438	73.1	4.74	39	165.51	2.93	3.53

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-68-240

Date	12/04/2019	Sampler	Nara Tep
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	165.64
Water Quality Meter	YSI	Gallons in Well	12.1
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	239.81
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	230
Water Column in Well	74.17	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/04/2019	MS/MSD Sample ID	
Sample Time	12:16	MS/MSD Sample Time	
Sample ID	MW-68-240-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:59	500	2000	29.6	7.63	17333	24.9	0.57	17	165.73	10.18	11.30
12:03	500	4000	31.1	7.59	17428	16.9	0.26	11	165.73	10.19	11.33
12:07	500	6000	31.3	7.55	17433	13.6	0.23	9	165.73	10.19	11.33
12:11	500	8000	31.4	7.54	17439	13.1	0.22	8	165.73	10.19	11.33
12:15	500	10000	31.4	7.54	17441	12.8	0.22	8	165.73	10.19	11.33

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-68BR-280

Date	12/04/2019	Sampler	Nara Tep
Weather Conditions	Rain	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	163.61
Water Quality Meter	YSI	Gallons in Well	169.39
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	279.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	6	Pump Intake Depth (ft bmp)	
Water Column in Well	115.39	Total Volume to Remove	
		EB Sample ID	
Comments	Dedicated QED	EB Time	
Did Well Dewater?	No	MS/MSD Sample ID	
Sample Date	12/04/2019	MS/MSD Sample Time	
Sample Time	14:16	Double Filter Turbidity	
Sample ID	MW-68BR-280-Q419	Post Sampling Turbidity	
Single Filter Turbidity	1	Purge Date	12/04/2019
Without Filter Turbidity	2		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:47	200	800	26.5	8.09	22318	43.9	1.63	3	163.70	13.40	14.49
13:51	200	1600	26.7	8.29	22324	38.9	0.96	2	163.75	13.40	14.50
13:55	200	2400	26.8	8.33	22350	35.1	0.83	2	163.77	13.40	14.50
13:59	200	3200	26.8	8.35	22356	34.3	0.79	2	163.78	13.40	14.50
14:03	200	4000	26.8	8.37	22358	33.5	0.79	2	163.77	13.40	14.50
14:07	200	4800	26.9	8.37	22360	31.6	0.77	2	163.78	13.40	14.50
14:11	200	5600	26.9	8.38	22363	31.1	0.76	2	163.77	13.40	14.50
14:15	20	6400	26.9	8.38	22369	30.6	0.73	2	163.78	13.40	14.50

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

MW-69-195

Date	12/03/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	174.82
Water Quality Meter	YSI	Gallons in Well	3.38
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	195.56
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	186
Water Column in Well	20.74	Total Volume to Remove	
		EB Sample ID	EB-701-Q419
Did Well Dewater?	No	EB Time	15:45
Sample Date	12/03/2019	MS/MSD Sample ID	
Sample Time	13:48	MS/MSD Sample Time	
Sample ID	MW-69-195-Q419	Double Filter Turbidity	1
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	32	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:31	300	1200	23.7	7.43	2741	90.3	1.88	41	174.90	1.42	1.78
13:35	300	2400	24.3	7.39	2774	81.3	1.34	37	174.90	1.44	1.80
13:39	300	3600	24.5	7.36	2779	77.9	1.30	33	174.90	1.44	1.80
13:43	300	4800	24.5	7.35	2782	75.6	1.29	32	174.90	1.44	1.80
13:47	300	6000	24.6	7.35	2784	75.1	1.27	32	174.90	1.44	1.80

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-70-105

Date	12/17/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	81.90
Water Quality Meter	YSI	Gallons in Well	3.76
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	104.95
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	95
Water Column in Well	23.05	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/17/2019	MS/MSD Sample ID	
Sample Time	11:08	MS/MSD Sample Time	
Sample ID	MW-70-105-Q419	Double Filter Turbidity	1
Single Filter Turbidity	3	Post Sampling Turbidity	
Without Filter Turbidity	35	Purge Date	12/17/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:51	500	2000	28.7	7.89	2948	36.9	0.20	63	82.02	1.62	1.91
10:55	500	4000	28.7	7.86	2958	32.7	0.16	40	82.02	1.63	1.92
10:59	500	6000	28.8	7.85	2967	32.1	0.16	36	82.02	1.63	1.92
11:03	500	8000	28.8	7.85	2968	31.6	0.15	35	82.02	1.63	1.92
11:07	500	10000	28.8	7.85	2970	31.5	0.15	35	82.02	1.63	1.92

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?		X		
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-70BR-225

Date	12/17/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Green
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	81.54
Water Quality Meter	YSI	Gallons in Well	146.25
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	225.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	5	Pump Intake Depth (ft bmp)	174
Water Column in Well	143.46	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/17/2019	MS/MSD Sample ID	
Sample Time	11:54	MS/MSD Sample Time	
Sample ID	MW-70BR-225-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/17/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:33	500	2000	28.3	7.71	12413	56.9	0.31	26	81.68	7.08	8.07
11:37	500	4000	28.6	7.68	12597	58.0	0.28	14	81.70	7.23	8.24
11:41	500	6000	28.6	7.67	12896	58.3	0.27	11	81.70	7.32	8.36
11:45	500	8000	28.6	7.68	13098	59.1	0.20	9	81.70	7.47	8.46
11:49	500	10000	28.7	7.68	13112	59.4	0.19	8	81.70	7.51	8.52
11:53	500	12000	28.6	7.68	13120	59.6	0.17	8	81.70	7.51	8.52

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?		X		
Traffic Poles Intact?			X	
Concrete Pad Intact?			X	
Erosion Around Wellhead?			X	
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?			X	
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-71-035

Date	12/17/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Gal	Depth to Water (ft bmp)	28.92
Water Quality Meter	YSI	Gallons in Well	1.07
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	35.48
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	34
Water Column in Well	6.56	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/18/2019	MS/MSD Sample ID	
Sample Time	08:30	MS/MSD Sample Time	
Sample ID	MW-71-035-Q419	Double Filter Turbidity	1
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	16	Purge Date	12/17/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:30			26.5	7.40	16540	60.4	1.48	16	30.01	9.74	10.80
08:43	0.1	0.4	26.8	7.37	16488	57.9	0.92	9	29.68	9.67	10.71
08:47	0.1	0.8	27.0	7.35	16480	55.9	0.86	13	31.06	9.67	10.71
08:51	0.1	1.2	27.1	7.35	16477	54.0	0.85	23	33.58	9.67	10.71

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

SCADE
Dec 17,2019 08:35:02 AM
Location:MW-71-035 Latitude:34.714901 , Longitude:-114.49109

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-72-080

Date	12/06/2019	Sampler	Matt Trainotti
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	60.20
Water Quality Meter	YSI	Gallons in Well	3.07
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	79.00
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	70
Water Column in Well	18.80	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/06/2019	MS/MSD Sample ID	
Sample Time	11:00	MS/MSD Sample Time	
Sample ID	MW-72-080-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/06/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:44	500	2000	26.8	7.64	17324	-220.8	0.97	15	60.30	10.87	11.11
10:48	500	4000	26.8	7.66	17348	-243.8	0.71	10	60.30	10.87	11.11
10:52	500	6000	26.9	7.66	17396	-254.5	0.55	5	60.30	10.87	11.11
10:56	500	8000	26.9	7.67	17402	-257.8	0.43	5	60.30	10.87	11.11
10:59	500	10000	26.9	7.67	17453	-264.5	0.38	5	60.30	10.87	11.11

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?	X			
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			
Photo Taken?	X			

Item	Yes	No	NA	Notes
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-72BR-200

Date	12/06/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	59.81
Water Quality Meter	YSI	Gallons in Well	205.79
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	200.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	6	Pump Intake Depth (ft bmp)	152
Water Column in Well	140.19	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/06/2019	MS/MSD Sample ID	
Sample Time	10:38	MS/MSD Sample Time	
Sample ID	MW-72BR-200-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	8	Purge Date	12/06/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:09	300	1200	27.4	7.89	12503	-131.7	0.15	34	59.96	7.34	8.35
10:13	300	2400	27.6	7.85	12930	-134.9	0.11	19	59.99	7.32	8.39
10:17	300	3600	27.6	7.86	13277	-144.6	0.11	15	60.01	7.62	8.61
10:21	300	4800	27.6	7.88	14696	-145.0	0.11	13	60.01	8.40	9.36
10:25	300	6000	27.6	7.95	14746	-142.9	0.12	9	60.01	8.55	9.59
10:29	300	7200	27.6	7.96	14789	-141.0	0.11	8	60.02	8.58	9.63
10:33	300	8400	27.6	7.97	14851	-140.6	0.11	8	60.02	8.60	9.62
10:37	300	9600	27.4	7.98	14890	-140.0	0.11	8	60.02	8.63	9.65

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?		X		
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-73-080

Date	12/06/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	52.26
Water Quality Meter	YSI	Gallons in Well	4.48
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	79.70
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	75
Water Column in Well	27.44	Total Volume to Remove	
		EB Sample ID	EB-707-Q419
Did Well Dewater?	No	EB Time	12:15
Sample Date	12/06/2019	MS/MSD Sample ID	
Sample Time	11:58	MS/MSD Sample Time	
Sample ID	MW-73-080-Q419	Double Filter Turbidity	1
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	14	Purge Date	12/06/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:41	200	800	26.6	7.38	10903	76.2	1.91	29	52.36	6.08	6.97
11:45	200	1600	27.3	7.41	9515	77.6	2.38	19	52.40	5.29	6.14
11:49	200	2400	27.4	7.42	9337	78.9	2.40	15	52.41	5.19	6.05
11:53	200	3200	27.4	7.42	9310	77.6	2.43	14	52.41	5.19	6.05
11:57	200	4000	27.4	7.42	9306	77.0	2.44	14	52.41	5.19	6.05

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?	X			
Well Labeled on Casing or Pad?		X		
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?	X			
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

MW-74-240

Date	12/03/2019	Sampler	Nara Tep
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	215.54
Water Quality Meter	YSI	Gallons in Well	3.99
Sampling Type	Low Flow – QED Bladder Pump	Measured Well Depth (ft bmp)	240.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	230
Water Column in Well	24.46	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/05/2019	MS/MSD Sample ID	
Sample Time	14:18	MS/MSD Sample Time	
Sample ID	MW-74-240-Q419	Double Filter Turbidity	1
Single Filter Turbidity	2	Post Sampling Turbidity	
Without Filter Turbidity	24	Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:01	200	15000	26.4	7.90	794	49.6	1.44	30	216.30	0.39	0.51
14:05	200	15800	26.4	8.01	787	43.0	0.96	26	217.01	0.38	0.50
14:09	200	16600	26.4	8.03	788	42.3	0.92	25	217.76	0.38	0.50
14:13	200	17400	26.4	8.03	788	42.1	0.91	25	218.33	0.38	0.50
14:17	200	18200	26.4	8.04	789	40.6	0.88	24	218.96	0.38	0.50
14:29	100	400	22.7	7.49	817	92.8	2.23	15	216.39	0.40	0.53
14:33	100	800	24.7	7.75	810	82.6	1.80	26	217.11	0.39	0.52
14:37	100	1200	24.9	7.89	806	76.0	1.29	39	217.79	0.39	0.52
14:41	100	1600	25.0	7.96	796	65.9	0.84	99	218.35	0.38	0.51
14:45	100	2000	25.2	8.03	789	57.9	0.69	130	218.93	0.38	0.51
14:49	400	3600	24.9	8.10	788	55.2	0.47	79	219.68	0.38	0.51
14:53	400	5200	25.1	8.13	788	54.0	0.43	47	220.99	0.38	0.51
14:57	400	7800	25.3	8.14	789	51.5	0.41	39	222.19	0.38	0.51
15:01	400	9400	25.3	8.14	792	52.0	0.39	36	224.50	0.39	0.51
15:05	400	11000	25.3	8.15	791	52.3	0.39	35	226.03	0.39	0.51
15:09	400	12600	25.3	8.15	791	53.1	0.38	35	227.96	0.39	0.51
15:13	400	14200	25.4	8.16	792	51.0	0.38	34	229.45	0.39	0.51
15:13											

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			

Item	Yes	No	NA	Notes
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-03D

Date	12/19/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	102.98
Water Quality Meter	YSI	Gallons in Well	27.88
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	273.91
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	252
Water Column in Well	170.93	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/19/2019	MS/MSD Sample ID	
Sample Time	09:54	MS/MSD Sample Time	
Sample ID	OW-03D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	12/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:25	500	2000	29.8	7.98	10633	20.1	0.45	6	103.05	5.96	6.93
09:29	500	4000	29.9	7.95	10587	16.8	0.46	4	103.05	5.88	6.89
09:33	500	6000	29.9	7.96	10566	16.1	0.46	3	103.05	5.93	6.89
09:37	500	8000	29.9	7.96	10686	15.5	0.45	3	103.05	5.98	6.94
09:41	500	10000	30.0	7.96	10660	15.3	0.46	2	103.15	5.99	6.93
09:45	500	12000	30.0	7.96	10632	15.2	0.45	2	103.05	5.99	6.93
09:49	500	14000	30.0	7.96	10627	14.8	0.45	2	103.05	5.97	6.91
09:53	500	16000	30.0	7.96	10622	14.6	0.44	2	103.05	5.97	6.91

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-03M

Date	12/19/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	103.18
Water Quality Meter	YSI	Gallons in Well	16.44
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	203.95
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	190
Water Column in Well	100.77	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/19/2019	MS/MSD Sample ID	
Sample Time	10:50	MS/MSD Sample Time	
Sample ID	OW-03M-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	4	Purge Date	12/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:29	500	2000	29.2	7.96	6858	-16.8	0.84	20	103.29	3.67	4.40
10:33	500	4000	29.6	7.95	6631	7.1	0.81	12	103.29	3.73	4.42
10:37	500	6000	29.5	7.95	6660	17.1	0.78	6	103.29	3.60	4.34
10:41	500	8000	29.6	7.95	6723	20.7	0.75	4	103.29	3.59	4.37
10:45	500	10000	29.6	7.95	6726	21.3	0.75	4	103.29	3.59	4.37
10:49	500	12000	29.6	7.95	6730	22.0	0.74	4	103.29	3.59	4.37

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-03S

Date	12/19/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	102.90
Water Quality Meter	YSI	Gallons in Well	2.81
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	120.10
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	110
Water Column in Well	17.2	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	12/19/2019	MS/MSD Sample ID	
Sample Time	11:28	MS/MSD Sample Time	
Sample ID	OW-03S-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	12/19/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:11	500	2000	29.4	7.83	1409	70.9	1390	14	103.01	0.70	0.91
11:15	500	4000	30.0	7.81	1400	70.1	1383	7	103.01	0.70	0.91
11:19	500	6000	30.1	7.81	1398	69.5	1381	5	103.01	0.70	0.91
11:23	500	8000	30.1	7.80	1396	68.0	1380	5	103.01	0.70	0.91
11:27	500	10000	30.2	7.80	1395	67.9	1380	5	103.01	0.70	0.91

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

PE-01

Date	12/04/2019	Sampler	Spencer Doolittle
Weather Conditions	Rain	Color	Clear
Purge Method	Extraction Port	Casing Volume to Remove	
Water Quality Meter	YSI	Depth to Water (ft bmp)	
Sampling Type	Extraction port	Gallons in Well	
Did Well Dewater?	No	Measured Well Depth (ft bmp)	
Sample Date	12/04/2019	Odor	None
Sample Time	14:30	Pump Intake Depth (ft bmp)	
Sample ID	PE-01-Q419	Total Volume to Remove	
Single Filter Turbidity	1	EB Sample ID	
Without Filter Turbidity	4	EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:30			18.8	7.61	5120	181.7	5.15	4		2.77	3.3280

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

PGE-07BR

Date	12/03/2019	Sampler	Matt Trainotti
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	gal	Depth to Water (ft bmp)	110.64
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Volume Purge – Grundfos RF2	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	none
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	
Did Well Dewater?	Yes	Total Volume to Remove	
Sample Date	12/04/2019	EB Sample ID	
Sample Time	09:00	EB Time	
Sample ID	PGE-07BR-Q419	MS/MSD Sample ID	
Single Filter Turbidity	11	MS/MSD Sample Time	
Without Filter Turbidity	32	Double Filter Turbidity	1
		Post Sampling Turbidity	
		Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:48	2.5	80	31.1	7.39	21637	-288.0	0.54	22		12.89	14.06
08:59	2.5	110	31.4	7.44	21450	-299.1	0.54	33		12.74	13.91
11:31	2.5	20	30.9	7.97	20013	-382.5	0.43	70		11.83	12.97
11:32	2.5	40	31.8	7.77	20331	-389.9	0.38	55		12.03	13.33
11:34	2.5	60	32.0	7.67	20276	-388.2	0.37	148		11.99	13.17

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

PGE-08

Date	12/10/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Extraction Port	Casing Volume to Remove	3
Purge Volume Units	Gal	Depth to Water (ft bmp)	143.23
Water Quality Meter	YSI	Gallons in Well	602.99
Sampling Type	Volume Purge – Grundfos RF2	Measured Well Depth (ft bmp)	554.00
Casing Material	PVC	Odor	Sulphur
Casing Diameter (in)	6	Pump Intake Depth (ft bmp)	
Water Column in Well	410.77	Total Volume to Remove	1808.97
		EB Sample ID	
Comments	Dedicated 3" grundfos pump	EB Time	
Did Well Dewater?	No	MS/MSD Sample ID	
Sample Date	12/10/2019	MS/MSD Sample Time	
Sample Time	16:44	Double Filter Turbidity	
Sample ID	PGE-08-Q419	Post Sampling Turbidity	
Single Filter Turbidity	1	Purge Date	12/10/2019
Without Filter Turbidity	1		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:13	8	160	30.1	8.39	20796	-46.9	0.23	1	203.96	12.45	13.51
13:33	8	320	30.6	8.45	20998	-73.9	0.13	1	207.08	12.54	13.65
13:53	8	480	30.5	8.32	19402	-85.0	0.09	1	207.12	11.48	12.61
14:13	8	640	30.5	8.26	19869	-89.1	0.08	1	207.16	12.46	13.54
14:33	8	800	30.2	8.29	21089	-92.6	0.11	1	207.20	12.58	13.68
14:53	8	960	30.3	8.30	21055	-94.3	0.11	1	207.20	12.57	13.68
15:13	8	1120	30.3	8.30	21066	-95.0	0.10	1	207.23	12.57	13.68
15:33	8	1280	30.3	8.31	21068	-95.3	0.10	1	207.23	12.57	13.68
15:53	8	1440	30.4	8.31	21065	-96.1	0.10	1	207.23	12.57	13.68
16:13	8	1600	30.4	8.31	21073	-96.5	0.09	1	207.23	12.57	13.68
16:33	8	1760	30.4	8.32	21075	-97.2	0.08	1	207.23	12.57	13.68
16:43	8	1840	30.4	8.32	21076	-97.6	0.08	1	207.23	12.57	13.68

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			

Item	Yes	No	NA	Notes
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

PM-03

Date	12/16/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Gal	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Extraction port	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	
Sample Date	12/16/2019	Total Volume to Remove	
Sample Time	09:20	EB Sample ID	
Sample ID	PM-03-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/16/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:20	1	5	26.8	7.90	1485	89.0	3.18	2		0.75	0.96

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?			X	
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?			X	
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Dec 16,2019 09:16:31 AM
Location:PM-03 Latitude:0 , Longitude:0

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

PM-04

Date	12/16/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Extraction Port	Casing Volume to Remove	
Purge Volume Units	Gal	Depth to Water (ft bmp)	
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Extraction port	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	None
Did Well Dewater?	No	Pump Intake Depth (ft bmp)	
Sample Date	12/16/2019	Total Volume to Remove	
Sample Time	09:40	EB Sample ID	
Sample ID	PM-04-Q419	EB Time	
Single Filter Turbidity	1	MS/MSD Sample ID	
Without Filter Turbidity	2	MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/16/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:40	1	5	27.9	7.95	2556	58.9	3.51	2		1.33	1.67

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?			X	
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?		X		
Traffic Poles Intact?	X			
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?			X	
PVC Cap Present?			X	
Standing Water in Annulus?			X	
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Dec 16,2019 09:32:06 AM
Location:PM-04 Latitude:34.726813 , Longitude:-114.51666

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

TW-01

Date	12/03/2019	Sampler	Matt Trainotti
Weather Conditions	Cloudy	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	gal	Depth to Water (ft bmp)	168.10
Water Quality Meter	YSI	Gallons in Well	
Sampling Type	Volume Purge – Grundfos RF2	Measured Well Depth (ft bmp)	
Casing Material	PVC	Odor	none
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	
Did Well Dewater?	No	Total Volume to Remove	
Sample Date	12/03/2019	EB Sample ID	EB-702-Q419
Sample Time	14:20	EB Time	15:30
Sample ID	TW-01-Q419	MS/MSD Sample ID	
Single Filter Turbidity	1	MS/MSD Sample Time	
Without Filter Turbidity	1	Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:30		70	28.8	7.32	12527	-109.3	1.20	5		7.14	8.15
13:41		280	29.0	7.33	10556	-199.6	1.04	2		5.82	6.66
13:45		140	28.9	7.33	11588	-116.5	1.04			6.57	7.54
14:00		210	29.0	7.33	10798	-118.8	1.01	2		6.10	7.03
14:19		340	29.0	7.33	10379	-120.8	1.07	1		5.82	6.66

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		
Standing or Ponded Water?		X		
Lock in Place?		X		
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?		X		
Concrete Pad Intact?		X		
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?		X		
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			
Action Completed?		X		

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

TW-02D

Date	12/04/2019	Sampler	Spencer Doolittle
Weather Conditions	Rain	Color	Clear
Purge Method	Extraction Port	Casing Volume to Remove	
Water Quality Meter	YSI	Depth to Water (ft bmp)	
Sampling Type	Extraction port	Gallons in Well	
Did Well Dewater?	No	Measured Well Depth (ft bmp)	
Sample Date	12/04/2019	Odor	None
Sample Time	14:35	Pump Intake Depth (ft bmp)	
Sample ID	TW-02D-Q419	Total Volume to Remove	
Single Filter Turbidity	1	EB Sample ID	
Without Filter Turbidity	12	EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:35			18.2	7.82	5092	200.2	7.63	12		2.76	3.3130

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

TW-03D

Date	12/04/2019	Sampler	Spencer Doolittle
Weather Conditions	Rain	Color	Clear
Purge Method	Extraction Port	Casing Volume to Remove	
Water Quality Meter	YSI	Depth to Water (ft bmp)	
Sampling Type	Extraction port	Gallons in Well	
Did Well Dewater?	No	Measured Well Depth (ft bmp)	
Sample Date	12/04/2019	Odor	None
Sample Time	14:25	Pump Intake Depth (ft bmp)	
Sample ID	TW-03D-Q419	Total Volume to Remove	
Single Filter Turbidity	1	EB Sample ID	
Without Filter Turbidity	2	EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:25			19.1	7.62	7180	195.0	5.51	2		3.98	4.6865

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

C-BNS-D

Date	12/10/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/10/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?		X		

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

C-CON-D

Date	12/04/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

C-MAR-S

Date	12/04/2019	Sampler	
		Color	
		Casing Volume to Remove	
		Depth to Water (ft bmp)	
		Gallons in Well	
		Measured Well Depth (ft bmp)	
		Odor	
		Pump Intake Depth (ft bmp)	
		Total Volume to Remove	
		EB Sample ID	
		EB Time	
		MS/MSD Sample ID	
		MS/MSD Sample Time	
		Double Filter Turbidity	
		Post Sampling Turbidity	
		Purge Date	12/04/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivit (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				

Photos and Drawings