

Straddle Packer Low-Flow Groundwater Sampling Log

 Project Name and Number: GTAC Hoff VC: 301604.TM.100116.3012,0301

 Well Number and Location: MW-9D-Open-83

 Sampler: USA Cole

 Packer Interval (BTOC): Open Top 83' Bottom

 Pump Depth (BTOC): 59' Well Total Depth (BTOC): 220' bgs

 Purging Method: Grunfos 2"

 Gauging Date/Time: 6/4/14 1313 Initial Depth to Water (BTOC): 15.98 bgs

 Sample Date/Time: 6/4/14 Sample Parameters: VOCs & 1,4-Dioxane

 Transducer Serial #: 82642 upper 82641 middle 81383 lower
82699 82693 82589
Field Measurements

Time	Flow Rate (ml/min)	Depth to Water (ft BTOC) bgs	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Depth (ft)	Middle Packer Depth (ft)	Lower Packer Depth (ft)	ORA mv
12.5 < 1314	2.5	15.98	8.25	1.21	-5	1.14	14.09	0.124	0.146	0.052	-56
14 < 1319	2.8	19.50	8.29	1.21	-5	1.22	14.10	4.566	6.207	0.812	-56
8.4 < 1324	2.8	28.70	8.16	1.20	-5	0.66	14.23	10.885	12.611	0.692	-69
12.5 < 1329	2.5	30.61	8.24	1.18	-5	1.75	14.43	15.260	16.344	0.641	-87
12.5 < 1334	2.5	33.68	8.33	1.15	-5	1.92	14.30	16.599	17.910	0.646	-98
~60 12.5 < 1339	2.5	39.09	8.52	1.11	-5	0.91	14.30	22.589	24.147	0.624	-115
12.5 < 1344	2.5	-	8.58	1.08	-5	0.00	14.11	26.985	28.577	0.614	-136
6.1 < 1349	0.9	-	8.47	1.05	-5	0.00	16.47	28.054	28.154	0.580	-140
83 4.5 < 1354	0.9	43.31	8.44	1.03	-5	0.00	16.54	27.562	27.606	0.597	-141
4.5 < 1359	0.9	42.65	8.35	1.00	-5	0.00	16.52	26.929	26.970	0.588	-135
4.5 < 1404	0.9	42.28	8.32	0.99	-5	0.00	16.42	26.527	26.575	0.554	-134
4.5 < 1409	0.9	41.94	8.29	0.99	-5	0.00	16.17	26.188	26.217	0.559	-132
1.8 < 1411	Sampled		Open-83								
John Cole 6/4/14											

 BTOC = Below Top of Casing -
 bgs ground surface

Comments: Gallons to be purged = 98 gallons. Turbidity was off the charts. Pump Stopped @ 1327 due to no gas in the generator. Pump was restarted @ 1329. ~~Water~~ was water was getting too low, kicked back pumping rate to 0.9 @ 1345. Couldn't get DTWs as the water tape was hitting the upper packer.

 Form Completed By: John Cole 6/4/14

Straddle Packer Low-Flow Groundwater Sampling Log

Project Name and Number: GTAC-HoffVC: 301604.TM.100116.3012.0301
 Well Number and Location: MW-9D-135-155
 Sampler: Lisa Cole
 Packer Interval (BTOC): 135' Top 155' Bottom
 Pump Depth (BTOC): 131' Well Total Depth (BTOC): 220' bgs
 Purging Method: Gruntfos 2"
 Gauging Date/Time: 6/4/14 1122 Initial Depth to Water (BTOC): 16.19 bgs
 Sample Date/Time: 6/4/14 1159 Sample Parameters: VOCs & 1,4-Dioxane
 Transducer Serial #: 82642 upper 82641 middle 81383 lower
82699 82693 82589

Field Measurements

Time	Flow Rate (ml/min)	Depth to Water (ft -BTOC)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Depth (ft)	Middle Packer Depth (ft)	Lower Packer Depth (ft)	ORP mV
1123			8.60	1.23	87.7	5.06	15.00	0.070	0.404	0.075	-84
1128								0.055	0.348	0.089	
1141	3	16.29	7.74	1.24	94.2	5.32	14.71	0.058	0.169	0.038	-23
1146	3	16.19	7.97	1.23	101.0	2.85	13.31	0.034	1.254	0.246	-24
1151	3	16.19	7.80	1.21	120.0	1.69	13.27	0.003	1.537	0.380	-44
1156	3	16.17	7.69	1.19	115.0	1.59	13.32	0.000	1.702	0.516	-6
1159	Sampled 135-155										
Lisa Cole 6/4/14											

BTOC = Below Top of Casing
 bgs ground surface

Comments: Gallons to be purged = 49 gallons. Gas line to bottom packer blew @ 1125. Stopped test. Restarted pump @ 1128. Line blew again @ 1130. Stopped pump. Restarted test/pump @ 1141. Pumped Purged > 55 gallons.

Form Completed By: Lisa Cole 6/4/14

Straddle Packer Low-Flow Groundwater Sampling Log

Project Name and Number: GTAC-HoffVC: 301604.TM.100116.3012.0301
 Well Number and Location: MW-9D-155-175
 Sampler: Lisa Cole
 Packer Interval (BTOC): 155' Top 175' Bottom
 Pump Depth (BTOC): 151' Well Total Depth (BTOC): 220' bgs
 Purging Method: Gruntfos 2"
 Gauging Date/Time: 6/4/14 1015 Initial Depth to Water (BTOC): 116.30 bgs
 Sample Date/Time: 6/4/14 1050 Sample Parameters: VOCs & 1,4-Dioxane
 Transducer Serial #: 82642 upper 82641 middle 81383 lower
82699 82693 82589

Field Measurements

Time	Flow Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Depth (ft)	Middle Packer Depth (ft)	Lower Packer Depth (ft)	ORP mV
1026	1.7	16.47	9.12	0.999	4820	3.32	13.18	0.893	0.412	0.090	-108
1031	2.7	16.80	8.46	1.12	1330	2.65	12.97	0.251	0.871	0.116	-58
1036	2.7	16.93	7.82	1.08	396.0	2.88	13.15	0.567	2.420	0.272	-7
1041	2.7	17.08	7.83	1.08	380.0	3.01	13.12	0.623	2.513	0.361	-3
1046	2.7	16.95	7.69	1.09	349.0	3.58	13.01	0.489	2.047	0.893	5
1050	Sample MW-9D-155-175										
1053	Duplicate collected.										
Lisa Cole 6/4/14											

BTOC = Below Top of Casing
 bgs ground surface

Comments: Gallons to be purged = 52 gallons. Purged > 60 gallons @ 1044 pumped stopped → generator ran out of gas. Restarted pump @ 1046. (Did not restart test).

Form Completed By: Lisa Cole 6/4/14



Straddle Packer Low-Flow Groundwater Sampling Log

Project Name and Number: GTAC-HoffVC: 301604.TM.100116.3012.0301Well Number and Location: MW-9D-194-214Sampler: Lisa ColePacker Interval (BTOC): 194' Top 214' BottomPump Depth (BTOC): 190' Well Total Depth (BTOC): 220' bgsPurging Method: Grunfos 2"Gauging Date/Time: 6/4/14 910 Initial Depth to Water (BTOC): 16.20 bgsSample Date/Time: 6/4/14 934Sample Parameters: VOCs & 1,4-DioxaneTransducer Serial #: 82642 upper 82641 middle 81383 lower82699 82693 82589

Field Measurements

Time	Flow Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Depth (ft)	Middle Packer Depth (ft)	Lower Packer Depth (ft)	ORP mV
12.5 <	911 2.5	16.20	6.45	1.20	64.8	5.42	12.82	0.048	1.490	0.089	5
12.5 <	916 2.5	16.30	7.91	1.02	31.8	2.93	12.73	0.138	3.302	0.490	-47
13 <	921 2.6	16.45	7.60	1.00	2.9	3.40	12.72	0.186	3.405	0.634	-20
13 <	926 2.6	16.55	7.45	0.97	0.0	4.85	12.78	0.292	3.931	0.832	-2
13 <	931 2.6	16.59	7.39	0.96	0.0	5.35	12.77	0.363	4.104	0.936	5
	934 Sampled	194-214									

BTOC = Below Top of Casing

bgs Ground Surface

Comments: Gallons to be purged = 58.4 gallons. Purged >60 gallonsForm Completed By: Lisa Cole 6/4/14

Straddle Packer Low-Flow Groundwater Sampling Log

Project Name and Number: GTAC-Hoff VC: 308604.TM.100116.3012.0301
Well Number and Location: MW-10D-75-95 Open-75
Sampler: Lisa Cole
Packer Interval (BTOC): 75' Open Top 95' 75' Bottom
Pump Depth (BTOC): 71' Well Total Depth (BTDC): 205' bgs
Purging Method: Grunfos 2"
Gauging Date/Time: 6/3/14 1045 Initial Depth to Water (BTOC): 28.55 bgs
Sample Date/Time: 6/3/14 Sample Parameters: VOCs & 1,4-Dioxane
Transducer Serial #: 82642 upper 82641 middle 81383 lower
82699 82693 82589

Field Measurements

Time	Flow Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Depth (ft)	Middle Packer Depth (ft)	Lower Packer Depth (ft)	ORP mV
1047	1.6	28.55	8.80	0.547	-5	1.81	14.91	0.710	0.621	0.095	-93
1052	2.2	30.50	8.72	0.577	-5	1.36	14.15	3.172	3.073	0.118	-101
1057	2.2	34.60	8.65	0.595	-5	0.91	14.17	8.677	8.519	0.197	-113
1102	1	39.40	8.48	0.663	799.0	0.73	16.41	10.659	10.540	0.185	-118
1107	1	39.95	8.36	0.681	794.0	0.60	16.13	11.093	10.998	0.175	-111
1112	1	40.05	8.34	0.692	793.0	0.58	16.25	11.263	11.115	0.191	-111
1117	1	40.42	8.30	0.697	819.0	0.50	16.49	11.540	11.417	0.169	-111
1122	0.9	40.55	8.15	0.730	-5	0.54	16.63	11.771	11.659	0.179	-99
1127	0.9	40.71	8.09	0.745	-5	0.57	16.83	11.857	11.699	0.167	-90
1132	0.9	40.81	8.02	0.753	-5	0.60	16.85	11.965	11.835	0.176	-88
1137	0.9	40.83	7.99	0.754	-5	0.61	16.84	12.058	11.966	0.163	-81
1142	0.9	40.81	7.92	0.759	-5	0.64	16.71	12.006	11.920	0.170	-76
1143	Sampled		MW-10D-Open-75								

BTOC = Below Top of Casing

Comments: Gallons to be purged = 68 gallons. Purged > 68 gallonsForm Completed By: Jesica Cole 6/3/14

Straddle Packer Low-Flow Groundwater Sampling Log

Project Name and Number: GTAC-Hoff VC: 301604.TM.100116.3012.0301
 Well Number and Location: MW-10D-99-119
 Sampler: Lisa Cole
 Packer Interval (BTOC): 99' Top 119' Bottom
 Pump Depth (BTOC): 95' Well Total Depth (BTOC): 205' bgs
 Purging Method: Grunfos 2"
 Gauging Date/Time: 6/3/14 925 Initial Depth to Water (BTOC): 28.60 bgs
 Sample Date/Time: 6/3/14 955 Sample Parameters: VOCs & 1,4-Dioxane
 Transducer Serial #: 82642 upper 82641 middle 81383 lower
82699 82693 82589

Field Measurements

Time	Flow Rate (gal/min)	Depth to Water (ft BTOC)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Depth (ft)	Middle Packer Depth (ft)	Lower Packer Depth (ft)	ORP mV
11.55 933	2.3	28.60	8.24	0.632	286.0	1.36	13.74	6.037	1.749	0.074	-88
10.55 938	2.1	28.00	8.31	0.736	228.0	0.95	13.85	-0.075	22.427	0.125	-97
10.55 943	2.1	27.80	7.89	0.768	249.0	0.66	14.19	-0.217	30.206	0.160	-67
10.55 948	2.1	27.79	7.73	0.760	255.0	0.56	14.44	-0.279	27.406	0.149	-53
4.25 953	2.1	27.75	7.89	0.760	248.0	0.65	14.37	-0.281	27.591	0.153	-49
955	Sampled MW-10D-99-119										
Lisa Cole 6/3/14											

BTOC = Below Top of Casing
 bgs ground surface

Comments: Gallons to be purged = 41 gallons. Purged > 47 gallons

Form Completed By: Lisa Cole 6/3/14

Straddle Packer Low-Flow Groundwater Sampling Log

Project Name and Number: GTAC-Hoff VC: 301604.TM.100116.3012.0301

Well Number and Location: MW-10D-119-139

Sampler: Lisa Cole

Packer Interval (BTOC): 119' Top 139' Bottom

Pump Depth (BTOC): 115' Well Total Depth (BTGC): 205' bgs

Purging Method: Granfs 2"

Gauging Date/Time: 6/2/14 1545 Initial Depth to Water (BTOC): 28.80 bgs

Sample Date/Time: 6/2/14 1633 Sample Parameters: VOCs & 1,4-Dioxane

Transducer Serial #: 82642 upper 82641 middle 81383 lower
82699 82693 82589

Field Measurements

Time	Flow Rate (ml/min)	Depth to Water (ft BTOC) bgs	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Depth (ft)	Middle Packer Depth (ft)	Lower Packer Depth (ft)	ORP mV
1546	0.75	28.80	7.28	0.000	6.4	4.91	15.92	0.025	0.929	0.051	-4
1551	0.9	28.83	8.62	0.776	657.0	2.22	15.76	0.096	8.017	0.111	-66
1556	0.9	28.93	8.38	0.999	632.0	1.91	14.62	0.131	15.098	0.131	-68
1601	0.9	29.06	8.24	0.999	626.0	0.46	14.42	0.239	18.915	0.133	-56
1606	0.9	29.45	8.02	0.999	648.0	0.08	14.52	0.408	20.357	0.138	-41
1611	0.9	29.60	8.02	0.90	659.0	0.01	13.91	0.474	21.850	0.128	-41
1616	1.15	29.69	7.96	0.999	596.0	0.00	13.95	0.567	26.093	0.153	-43
1621	1.15	29.75	7.98	0.999	513.0	0.00	13.94	0.634	26.881	0.133	-50
1626	1.15	29.45	7.99	0.90	489.0	0.00	13.99	0.684	27.281	0.120	-43
1631	1.15	29.45	7.96	0.90	518.0	0.00	13.86	0.653	27.575	0.135	-48
1633	Sample MW-10D-119-139										

BTOC = Below Top of Casing
 bgs ground surface

Comments: Gallons to be purged = 44 gallons. Purged > 45 gallons.

Form Completed By: Lisa Cole 6/2/14

Straddle Packer Low-Flow Groundwater Sampling Log

Project Name and Number: GTAC-Hoff VC: 301604.TM.100116.3012.0301

Well Number and Location: MW-10D-150-170

Sampler: Lisa Cole

Packer Interval (BTOC): 150' Top 170' Bottom

Pump Depth (BTOC): 146' Well Total Depth (BTOC): 205'

Purging Method: Grounds 2"

Gauging Date/Time: 6/2/14 1426 Initial Depth to Water (BTOC): 30.85 bgs

Sample Date/Time: 6/2/14 1507 Sample Parameters: VOCs & 1,4-Dioxane

Transducer Serial #: 82642 upper 82641 middle 81383 lower
82699 82693 82589

Field Measurements

Time	Flow Rate (ml/min)	Depth to Water (ft BTOC) bgs	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Depth (ft)	Middle Packer Depth (ft)	Lower Packer Depth (ft)	ORP mv
1426	2.1	30.85	7.84	0.662	-	5.71	15.34	6.515	6.515	0.049	-6
1437	2.5	30.85	7.09	0.677	-5.0	3.30	13.14	0.553	0.554	0.043	23
1442	2.5	"	7.52	0.90	948.0	1.52	13.08	4.706	4.761	0.240	-3
1447	2.5	36.95	7.54	0.999	916.0	0.78	13.15	6.930	6.922	0.239	0
1452	2.5	34.95	7.46	0.976	800.0	1.37	12.97	4.933	4.931	0.258	11
1457	2.5	36.25	7.58	0.90	650.0	0.57	13.12	7.162	7.119	0.257	1
1502	2.5	37.40	7.59	0.90	602.0	0.47	13.14	7.604	7.552	0.280	1
1507	Sampled MW-10D-150-170										

12.5
12.5
7.5
7.5
5
12.5

BTOC = Below Top of Casing
 bgs ground surface

Comments: Gallons to be purged = 49 gallons. Turbidity was off the scale of the U-22 so @ 1430 I stopped pumping and re-calibrated the Horiba. Pump Stopped @ 1450. Generator stopped running @ 1450 due to low fuel. Restarted pumping @ 1452. Did not restart data loggers.

Form Completed By: Lisa Cole 6/2/14

Straddle Packer Low-Flow Groundwater Sampling Log

 Project Name and Number: GTAC-Hoff VC: 301604.TM.100116.3012.0301

 Well Number and Location: MW-10D-171-205

 Sampler: Lisa Cole

 Packer Interval (BTOC): 171' Top 205' Bottom

 Pump Depth (BTOC): 167' Well Total Depth (BTOC): 205' bgs

 Purging Method: Grunfos 2"

 Gauging Date/Time: 6/2/14 1115 Initial Depth to Water (BTOC): 29.30' bgs

 Sample Date/Time: 6/2/14 1346 Sample Parameters: VOCs & 1,4-Dioxane

 Transducer Serial #: 82642 upper 82641 middle 81383 lower
82699 82693 82589

Field Measurements

Time	Flow Rate (ml/min)	Depth to Water (ft -BTOC)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Depth (ft)	Middle Packer Depth (ft)	Lower Packer Depth (ft)	ORP mV
1319	1.8	29.30	7.53	0.739	686.0	13.64	13.08	0.070	0.062	0.038	46
1324	2.5	31.45	7.38	0.921	639.0	11.66	12.93	0.084	0.072	0.022	41
1329	2.5	31.45	7.17	0.950	576.0	8.30	12.88	0.124	0.651	0.083	53
1335	3	29.30	7.00	0.655	632.0	4.71	13.07	0.143	1.110	0.145	58
1340	3	29.30	6.99	0.763	635.0	2.72	12.98	0.161	1.139	0.163	59
1345	3	29.30	6.96	0.770	563.0	1.79	13.00	0.171	1.145	0.193	59
Sampled MW-10-171-205 @ 1346											
Lisa Cole 6/2/14											

 BTOC = Below Top of Casing
 bgs ground surface

 Comments: Gallons to be purged = 73.10 gal. Pump kicked off @ 1333. Had to restart generator. Restart pump @ 1335. Pumped > 79 gallons.

 Form Completed By: Lisa Cole 6/2/14