

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEF Hoff VC
 Well Number and Location: MW30
 Sampler: Matt Machusick Colin Wade
 Packer Interval (BTOC): 215 ft Top 235 ft Bottom
 Pump Depth (BTOC): 225 ft bg Well Total Depth (BTOC): 253 ft BTOC
 Purging Method: Low Flow
 Gauging Date/Time: 6/11/12 9:00 Initial Depth to Water (BTOC): 4.68
 Sample Date/Time: 6/11/12 Sample Parameters:

Below
grade

Field Measurements

Time	Flow Rate (ml/min) <small>(gallons)</small>	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1200	→ Initial Purge		7.84	0.403	170	1.62	13.9			
1220			7.96	0.414	113	0.84	14.5			
1443			8.55	0.469	114	1.37	14.3			
1540			8.37	0.369	470	5.39	25.3			
1545			8.16	0.394	300	0.81	17.1			

BTOC = Below Top of Casing

Comments: ID -> Soft Bottom , Packer Interval is 20' 6"
Initial Tanker Reading 1311548 gallon

Form Completed By: MDM

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff - VC
 Well Number and Location: MW 3D
 Sampler: Matt Mackusick Colin Wulke
 Packer Interval (BTOC): 155 Top 175 Bottom
 Pump Depth (BTOC): 165 Well Total Depth (BTOC): 253
 Purging Method: 2" Groundto. Red. Flow
 Gauging Date/Time: 6/11/12 Initial Depth to Water (BTOC):
 Sample Date/Time: 6/11/12 Sample Parameters:

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1640	1.70		8.16	0.406	258	1.42	13.9			
1645	1.90		8.11	0.395	238	0.00	14.1			
1650	1312	13.3	8.10	0.401	181	0.0	14.9			
1700	1312	16.1	8.06	0.400	141	0.0	15.9			
1705	1312	17.4	8.05	0.401	147	0.0	15.5		Rate Increased	
1710	1312	17.3	8.03	0.397	203	0.0	14.7			
1715	1312	22.6	8.02	0.398	268	0.13	15.7		Reduce Rate Near Pump Intake	
1720	450ml/min		7.99	0.399	282	0.26	19.3			
1727	350ml/min		7.98	0.400	277	0.28	18.9			
1735	200 300	300	7.98	0.402	302	0.34	20.1			
1742	375		7.99	0.403	313	0.31	20.7			
1746	375		8.00	0.403	355	0.24	19.0			
1750	325		8.01	0.404	366	0.17	19.3			
1755	325		7.97	0.400	389	0.14	20.3			

BTOC = Below Top of Casing

Comments: Intake Totalizer = 131202.6 gallons
+ Totalizer doesn't work below ~ 0.500 ipm
→ Pressure Transducers indicate rate of drawdown and can be compared to flow rate to determine yield that doesn't produce drawdown. Rate is ~ 350 ml/min.

Form Completed By: MDM

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VC
 Well Number and Location: MW30
 Sampler: Colin R. Wade - PADEP
 Packer Interval (BTOC): 85 Top 105 Bottom
 Pump Depth (BTOC): 80 Well Total Depth (BTOC): _____
 Purging Method: 2" Grout/foam
 Gauging Date/Time: 6/12/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/12/12 1017 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
0855	1.1		6.79	0.435	184	0.80	13.5			
0905	0.5		8.02	0.423	84.6	0.00	13.8			
0915	0.5		8.09	0.421	80.3	0.00	13.9			
0920	0.5		8.09	0.421	61.1	0.00	14.0			
0925	0.5		8.08	0.422	52.2	0.00	14.0			
0930	0.5		8.07	0.422	44.7	0.00	14.1			
0935	0.5		8.06	0.422	41.3	0.00	14.1			
0940	0.5		8.04	0.423	35.8	0.00	14.0			
0945	0.5		8.04	0.424	31.9	0.00	14.0			
0950	1500 ml/min		8.03	0.424	43.1	0.00	13.9			
0955	1500 ml/min		8.03	0.424	28.1	0.00	14.1			
1000	1500 ml/min		8.02	0.425	28.0	0.00	13.9			
1005	1500 ml/min		8.01	0.425	26.4	0.00	13.9			
1010	1500 ml/min		8.01	0.425	27.1	0.00	13.8			
1015	1500 ml/min		8.00	0.426	26.7	0.00	13.8			

BTOC = Below Top of Casing

Comments:

Initial Totalizer Reading: 131223.1
Totalizer does not read when flow rate less ~0.5 gpm/min

Form Completed By: Colin R. Wade - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VC
 Well Number and Location: MW3D
 Sampler: Colin R. Wade - PADEP
 Packer Interval (BTOC): 50 Top 70 Bottom
 Pump Depth (BTOC): 50 46 ft Well Total Depth (BTOC): _____
 Purging Method: 2" Grundfos low flow
 Gauging Date/Time: 6/12/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/12/12 1211 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min) <small>gall/min</small>	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1042	0.9	7.94	8.02	0.429	139.0	0.28	13.5			
1047	0.9		8.02	0.427	46.4	0.00	13.5			
1052	0.9		8.00	0.428	39.5	0.00	13.5			
1057	0.9		7.97	0.430	35.6	0.00	13.5			
1102	1.5		7.94	0.432	31.8	0.00	13.5			
1107	0.95		7.91	0.434	22.4	0.00	13.4			
1112	0.9		7.89	0.435	18.7	0.00	13.5			
1117	0.9		7.87	0.435	16.1	0.00	13.4			
1122	0.9		7.86	0.436	16.3	0.00	13.5			
1130	1.0		7.86	0.436	5.0	0.15	13.6			
1135	1.0		7.85	0.436	4.1	0.01	13.6			
1140	1.0		7.85	0.436	4.9	0.00	13.6			
1145	1.0		7.85	0.436	6.2	0.00	13.5			
1150	1.0		7.84	0.436	9.4	0.00	13.5			
1155	1.0		7.83	0.436	2.0	0.00	13.6			
1200	1.0		7.84	0.436	4.8	0.00	13.5			
1205	1.0		7.84	0.435	4.5	0.00	13.6			

BTOC = Below Top of Casing

Comments: _____
Initial Totalizer : 131853.5
Final Totalizer : 131355.1
Water level stable pumping 1 gal/min

Form Completed By: Colin R. Wade - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VE
 Well Number and Location: MW2D
 Sampler: Colin R. Wade - PADEP
 Packer Interval (BTOC): 270 Top 290 Bottom
 Pump Depth (BTOC): 265 Well Total Depth (BTOC): 300
 Purging Method: 2" Grundfos
 Gauging Date/Time: 6/12/12 Initial Depth to Water (BTOC): 7.54
 Sample Date/Time: 6/12/12 1707 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1535	1.25 gal/min	7.95	0.133	9.9	1.52	14.7				
1600	250 mL/min	7.93	0.749	34.9	0.72	18.7				
1610	125 mL/min	7.93	0.723	26.2	0.62	18.7				
1630	125 mL/min	7.95	0.762	18.8	0.36	18.5				
1635	100 mL/min	7.94	0.756	14.2	0.27	19.6				
1640	0.5 gal/min	7.96	0.774	415.0	0.07	17.1				
1645	0.5 gal/min	7.96	0.756	63.8	0.00	17.8				
1650	600 mL/min	7.98	0.143	48.7	0.00	18.3				
1655	250 mL/min	7.97	0.733	34.4	0.70	19.1				
1700	0.5 gal/min	7.97	0.729	30.8	0.46	19.7				
1705	0.5 gal/min	8.00	0.743	720	0.04	16.9				

BTOC = Below Top of Casing

Comments: Initial Totalizer: 131355.1
Totalizer does not record less than 0.5 gal/min
Pump heating water, rate of pumping adjusted
Water level stable pumping 125 mL/min

Form Completed By: Colin R. Wade - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VC
 Well Number and Location: MWQD
 Sampler: Colin R. Wade - PADEP
 Packer Interval (BTOC): 200 Top 200 Bottom
 Pump Depth (BTOC): 195 Well Total Depth (BTOC): 300
 Purging Method: 2" Grind/6s low flow
 Gauging Date/Time: 6/13/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/13/12 1005 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
0840	0.8 gal/min		8.03	0.790	246.0	1.1	14.7			
0900	0.5 gal/min		7.99	0.723	156.0	0.00	15.1			
0920	0.5 gal/min		7.97	0.703	85.0	0.00	15.5			
0930	0.5 gal/min		7.97	0.694	88.3	0.00	15.5			
0935	0.5 gal/min		7.97	0.692	85.9	0.00	15.6			
0940	0.45 gal/min		7.97	0.694	86.7	0.00	15.8			
0945	0.5 gal/min		7.97	0.694	100.0	0.00	15.9			
0950	0.5 gal/min		7.97	0.692	97.2	0.00	16.0			
0955	0.5 gal/min		7.97	0.691	85.6	0.00	16.1			
1000	0.5 gal/min		7.95	0.691	60.6	0.00	16.0			
1005	0.5 gal/min		7.96	0.690	46.4	0.00	16.1			

BTOC = Below Top of Casing

Comments: _____
Initial Totalizer 131376.2 Final: 131416.4
Well level stable = ~ 0.5 gal/min

Form Completed By: Colin R. Wade - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VC
 Well Number and Location: MW20
 Sampler: Colin R. Wade - PADEP
 Packer Interval (BTOC): 100 Top 100 Bottom
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): 300
 Purging Method: 2" Sandbar Low Flow
 Gauging Date/Time: 6/13/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/13/12 1140 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1103	0.4 gal/min		7.90	0.785	59.5	1.28	17.1			
1115	0.5 gal/min		7.86	0.820	27.2	0.00	20.4			
1125	0.4 gal/min		7.81	0.851	18.0	0.00	20.8			
1135	0.55 gal/min		7.80	0.848	35.6	0.00	19.3			
1140	0.55 gal/min		7.71	0.872	29.7	0.00	20.2			
1145	0.55 gal/min		7.73	0.910	26.3	0.00	20.4			
1150	0.55 gal/min		7.68	0.950	14.4	0.00	20.6			
1155	0.55 gal/min		7.64	0.986	9.0	0.00	20.5			
1200	0.5 gal/min		7.61	1.09	3.0	0.00	20.6			
1205	0.5 gal/min		7.58	1.11	0.0	0.00	21.3			
1210	0.5 gal/min		7.56	1.14	0.0	0.00	21.2			
1215	0.5 gal/min		7.54	1.16	0.0	0.00	21.0			
1220	0.5 gal/min		7.52	1.18	0.0	0.00	20.5			
1225	0.5 gal/min		7.51	1.20	0.0	0.00	20.0			
1230	0.5 gal/min		7.53	1.80	0.0	0.00	20.1			
1235	0.5 gal/min		7.54	1.90	3.8	0.00	19.7			

BTOC = Below Top of Casing

Comments: _____
Initial Totalizer: 131416.4

Form Completed By: Colin R. Wade - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VC
 Well Number and Location: MW2D
 Sampler: Cole R Wade
 Packer Interval (BTOC): 75 Top 65 Bottom
 Pump Depth (BTOC): 40 Well Total Depth (BTOC): _____
 Purging Method: 2" Groundtes low flow
 Gauging Date/Time: 6/13/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/13/12 Sample Parameters: VFA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1345	0.5 gal/min		8.02	0.737	91.8	2.14	20.5			
1350	250 ml/min		7.96	0.678	73.6	0.41	21.7			
1355	150 ml/min		7.91	0.669	69.8	0.46	23.4			
1400	0.61 gal/min		7.95	0.673	90.0	0.43	17.6			
1405	0.6 gal/min		8.03	0.695	88.0	0.00	16.8			
1410	0.5 gal/min		8.05	0.689	86.7	0.00	17.0			
1415	0.5 gal/min		8.06	0.685	76.1	0.00	17.3			
1420	0.5 gal/min		8.06	0.681	72.8	0.00	17.5			
1425	0.5 gal/min		8.07	0.680	67.1	0.00	17.9			
1430	0.5 gal/min		8.07	0.678	66.8	0.00	18.2			
1435	0.5 gal/min		8.06	0.677	72.1	0.00	18.4			
1440	0.5 gal/min		8.08	0.677	75.0	0.00	18.2			
1445	0.5 gal/min		8.08	0.676	74.0	0.00	18.0			
1450	0.5 gal/min		8.05	0.676	63.9	0.00	18.0			
1455	0.5 gal/min		8.04	0.675	61.7	0.00	18.1			

BTOC = Below Top of Casing

Comments: _____
Initial Totalizer: 131440.6
0.1357 - Upper packer deflated; zones now 40 - 65 ft
Final Totalizer: _____

Form Completed By: Cole R Wade - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VC
 Well Number and Location: MW-10
 Sampler: Richard Staron
 Packer Interval (BTOC): 250 Top 270 Bottom
 Pump Depth (BTOC): 245 Well Total Depth (BTOC): _____
 Purging Method: 2" Grundfos Low Flow
 Gauging Date/Time: 6-14-12 Initial Depth to Water (BTOC): 2510
 Sample Date/Time: 6-14-12 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1025	~.5gpm		8.12	0.899	2.7	5.13	14.8			
1027	"		7.58	1.07	0.0	0.95	14.2			
1030	"		7.51	1.07	0.0	0.11	14.2			
1035	<.5gpm		7.53	1.07	0.6	0.08	14.5			
1040	<.5gpm		7.53	1.06	0.0	0.00	15.6			
1100	<.5gpm		7.52	1.05	0.0	0.18	19.99	Flow went to Zone		
1105	~.5gpm		7.55	1.14	0.0	0.39	15.0			
1110	~.5gpm		7.56	1.10	0.00	0.00	16.0			
1115	~.5gpm		7.55	1.06	0.00	0.00	16.2			
1120	~.5gpm		7.55	1.07	0.00	0.11	15.7			
1130	1.5gpm		7.58	1.07	6.8	0.00	14.7	Increase flow rate		

BTOC = Below Top of Casing

Comments: Initial Totalizer: 131481.4 - Final- 131516.2
1133 stopped purge when pump was tripped.
Sampled after collecting 35 gallons due to poor yield.
Zone yield ~ 0.052 gpm

Form Completed By: Richard Staron

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VC
 Well Number and Location: MW-1D
 Sampler: Richard M. Staron
 Packer Interval (BTOC): 130 Top 150 Bottom
 Pump Depth (BTOC): 125 Well Total Depth (BTOC): _____
 Purging Method: 2" Ground Pops
 Gauging Date/Time: 6-14-12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6-14-12 Sample Parameters: _____

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1320	1gpm		7.69	0.989	4.9	0.49	14.5			
1322	1gpm		7.44	0.975	59.0	0.23	14.7			
1324	1gpm		7.66	0.965	68.8	0.22	15.0	WC Depth	66.892	
1328	1gpm		7.68	0.937	67.7	0.08	16.1			
1335	<.1gpm		7.65	0.927	41.9	0.30	17.2			
1340	.5gpm		7.75	0.850	75.8	0.24	17.2	WC Depth	24.699	
1345	Stopped pump									
1348	WC depth	25.500 feet								
1430	WC depth	26.107 feet								

BTOC = Below Top of Casing

Comments: Initial totalizer 131516.2 Final 131529.5 13.3gal
Initial WC 601.2' Stopped @ 20.00 depth WC (FT).
Some water from line leaked back into well.

Form Completed By: Richard Staron

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VC
 Well Number and Location: MW50
 Sampler: Colin R. Wade - PADEP
 Packer Interval (BTOC): 170 Top 190 Bottom
 Pump Depth (BTOC): 180 Well Total Depth (BTOC): 5.00
 Purging Method: 2nd Grounding
 Gauging Date/Time: 6/15/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/15/12 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
0813	0		8.49	0.001	26.7	8.54	28.7			
0815	1.3 gal/min		8.08	0.624	44.4	0.82	13.2			
0840	0.5 gal/min		7.97	0.677	44.2	6.57	14.8			
0845	0.4 gal/min		8.00	0.683	52.3	5.97	15.4			
0850	100 ml/min		7.96	0.680	53.0	5.94	15.1			
0855	0.4 gal/min		7.99	0.667	37.4	5.24	15.5			
0900	400 ml/min		7.98	0.617	33.1	4.69	16.0			
0905	300 ml/min		7.95	0.631	29.7	4.37	16.8			
0910	250 ml/min		7.93	0.624	25.2	4.13	17.8			
0915	250 ml/min		7.89	0.624	12.0	4.01	18.7			
0920	200 ml/min		7.88	0.624	19.0	3.89	19.0			
0925	200 ml/min		7.89	0.624	17.3	3.88	18.8			

BTOC = Below Top of Casing

Comments: _____
Initial Totalizer: 131509.5
Water level stable @ 200 ml/min flow rate
Possible air bubbles in vent - DO not accurate.

Form Completed By: Colin R. Wade - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VC
 Well Number and Location: MW5P
 Sampler: Colin R. Wade
 Packer Interval (BTOC): 140 Top 150 Bottom
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): 250
 Purging Method: 2" Grundfos low flow
 Gauging Date/Time: 6/15/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/15/12 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1008	1.5 gal/min		7.90	0.650	10.2	1.85	13.4			
1028	1.1 gal/min		7.99	0.621	20.6	0.00	14.0			
1033	1.1 gal/min		7.96	0.627	21.8	0.00	13.9			
1038	1.4 gal/min		7.96	0.635	22.8	0.00	14.1			
1042	1.6 gal/min		7.93	0.645	28.5	0.00	13.9			
1047	1.6 gal/min		7.94	0.656	23.0	0.00	14.0			
1052	1.1 gal/min		7.90	0.670	24.7	0.02	13.9			
1058	1.0 gal/min		7.90	0.682	21.2	0.06	14.1			
1103	1.0 gal/min		7.89	0.691	27.2	0.09	14.1			
1108	1.2 gal/min		7.86	0.703	21.5	0.16	14.0			
1114	1.0 gal/min		7.86	0.716	32.3	0.22	14.1			
1119	1.0 gal/min		7.86	0.727	23.4	0.28	14.2			
1125	1.0 gal/min		7.84	0.742	18.7	0.36	14.2			
1130	1.0 gal/min		7.83	0.747	25.0	0.40	14.2			

BTOC = Below Top of Casing

Comments: _____
Initial Totalizer 131547.9
Water level stable @ ~ 1 gpm

Form Completed By: Colin R. Wade - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEF
 Well Number and Location: MW50
 Sampler: Colin R. Wood - PADEF
 Packer Interval (BTOC): 75 Top 95 Bottom
 Pump Depth (BTOC): 80 Well Total Depth (BTOC): _____
 Purging Method: 2" Groundhog low flow
 Gauging Date/Time: 6/15/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/15/12 1305 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
12:10		51.50	7.53	0.630	83.3	4.49	15.2			
12:11			7.63	0.693	50.4	1.28	13.7			
12:13	22 gpm		7.65	0.721	41.5	0.79	13.5			
12:15			7.66	0.758	36.3	1.34	13.5			
12:20			7.68	0.756	49.2	2.74	13.6			
12:26		44.96	7.67	0.765	46.7	2.33	13.5			
12:31			7.68	0.775	42.8	2.14	13.6			
12:36			7.67	0.781	33.1	1.85	13.6			
12:41			7.66	0.789	26.9	1.65	13.5			
12:46			7.66	0.793	23.0	1.50	13.5			
12:51			7.66	0.798	17.8	1.36	13.6			
12:56			7.66	0.803	15.6	1.25	13.5			
13:01			7.65	0.808	15.6	1.21	13.4			

BTOC = Below Top of Casing

Comments: HORIBA analyzer recalibrated before pumping
Initial Totalizer: 13/636.2
Initial Depth 51.50

Form Completed By: _____

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP
 Well Number and Location: MW-5D
 Sampler: Colin Wade PADEP
 Packer Interval (BTOC): 55 Top 75 Bottom
 Pump Depth (BTOC): 45 Well Total Depth (BTOC): _____
 Purging Method: 2" Groundflow
 Gauging Date/Time: 6/15/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/15/12 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1:35		34.10	7.87	0.633	85.1	2.45	14.3			
1:36			7.78	0.667	61.8	1.10	14.1			
1:37			7.73	0.708	41.7	0.45	13.9			
1:40		28.60	7.72	0.721	36.8	0.38	13.8			
1:45			7.72	0.728	29.8	0.47	13.8			
1:50		28.48	7.73	0.730	12.7	0.58	13.7			
1:55			7.72	0.731	4.9	0.62	13.7			
2:00		28.42	7.73	0.732	0.4	0.66	13.7			
2:05		28.46	7.73	0.733	0.0	0.67	13.7			
2:10	-	-	-	-	-	-	-			
2:13			7.74	0.735	0.0	0.70	13.8			

BTOC = Below Top of Casing

Comments: 34.10 Depth - ft (FC) water column Initial.

Initial 1031712.5 1031765.5

Water level stable @ ~ 1.5 gpm

Form Completed By: Colin Wade - PADEP

Colin Wade

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VC
 Well Number and Location: MW40
 Sampler: Colin R. Weide - PADEP
 Packer Interval (BTOC): 221.5 Top 250 Bottom
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): 250
 Purging Method: 2" Groundros low flow
 Gauging Date/Time: 6/18/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/18/12 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1145			6.66	0.747	17.5	2.59	14.9			
1146			7.07	0.792	37.6	0.71	13.8			
1147			7.28	0.800	36.1	0.30	13.7			
1148			7.40	0.731	36.2	0.17	13.7			
1149			7.47	0.702	32.8	0.08	13.7			
1150	1 gal/min		7.51	0.698	44.3	0.06	13.8			
1155	0.5 gal/min		7.55	0.696	0.0	0.00	13.9			
1200	0.5 gal/min		7.57	0.696	10.7	0.00	13.8			
1205	0.5 gal/min		7.59	0.694	0.6	0.00	14.2			
1210	0.5 gal/min		7.60	0.694	23.0	0.00	14.2			
1215	0.5 gal/min		7.60	0.693	0.6	0.00	14.5			
1220	0.5 gal/min		7.60	0.692	0.4	0.00	15.2			
1225	0.5 gal/min		7.60	0.693	0.0	0.00	16.1			
1230	0.5 gal/min		7.61	0.721	45.4	0.00	15.4			
1235	250 mL/min		7.63	0.720	48.4	0.00	16.0			
1240	200 mL/min		7.61	0.723	51.6	0.00	16.3			
1245	200 mL/min		7.63	0.721	53.4	0.00	16.3			

BTOC = Below Top of Casing

Comments: _____
Interval: 221.5 - 250; physical construction of packer prevents 220-250 as an interval.
Initial: 231755; 131765.75
Water level stable @ ~ 200 mL/min; low yield
 Form Completed By: Colin R. Weide - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VC
 Well Number and Location: MW40
 Sampler: Colin R. Wade - PADEP
 Packer Interval (BTOC): ~~220~~ 221.5 Top 250 Bottom
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): 250
 Purging Method: 2" Grundfos low flow
 Gauging Date/Time: 6/18/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/18/12 1252 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1245	200ml/min		7.62	0.720	52.9	0.00	16.8			
1250	200ml/min		7.61	0.723	56.8	0.00	17.3			

BTOC = Below Top of Casing

Comments: _____

Form Completed By: Colin R. Wade - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADCP Hoff VC
 Well Number and Location: MW4D
 Sampler: Colin R Wade - PADCP
 Packer Interval (BTOC): _____ Top _____ Bottom _____
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): 250
 Purging Method: 2" Gravelos Low Flow
 Gauging Date/Time: 6/18/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/18/12 1420 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1323			7.68	0.660	40.1	6.17	14.5			
1324			7.65	0.708	8.7	0.53	13.4			
1325			7.62	0.708	16.3	0.04	13.4			
1326			7.60	0.705	16.7	0.00	13.4			
1327	1.5 gal/min		7.59	0.701	16.9	0.00	13.5			
1332	1 gal/min		7.60	0.696	25.8	0.00	13.8			
1335	1.0 gal/min		7.63	0.590	29.7	0.03	14.1			
1340	1.0 gal/min		7.63	0.688	25.7	0.03	14.3			
1345	100 ml/min		7.64	0.687	0.0	0.05	15.1			
1350	100 ml/min		7.61	0.695	42.4	0.07	16.4			
1355	100 ml/min		7.62	0.701	53.3	0.17	17.1			
1400	100 ml/min		7.61	0.706	49.2	0.18	17.8			
1405	100 ml/min		7.62	0.690	68.9	0.05	15.8			
1410	100 ml/min		7.64	0.687	72.2	0.10	16.1			
1415	100 ml/min		7.64	0.681	75.4	0.07	16.2			
1420	100 ml/min		7.63	0.688	79.8	0.19	15.5			

BTOC = Below Top of Casing

Comments: _____
Initial Totalizer: 131275.2
Well level stable @ ~100 ml/min

Form Completed By: Colin R Wade - PADCP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: DADEP 160 VC
 Well Number and Location: MW40
 Sampler: Colin R. Wadsworth
 Packer Interval (BTOC): 90 Top _____ Bottom _____
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): 120
 Purging Method: 2" Groutbox
 Gauging Date/Time: 6/18/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/18/12 1448 Sample Parameters: 60A

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1458			7.67	0.710	14.5	0.92	13.4			
1459			7.64	0.699	15.5	0.39	13.4			
1500			7.62	0.696	12.7	0.00	13.3			
1501			7.61	0.691	10.4	0.00	13.3			
1502	1.5 gal/min		7.60	0.690	7.0	0.00	13.3			
1507	1.5 gal/min		7.57	0.687	1.4	0.00	13.3			
1512	1.4 gal/min		7.56	0.687	0.0	0.00	13.3			
1517	1.4 gal/min		7.56	0.689	0.0	0.00	13.3			
1522	1.4 gal/min		7.55	0.689	0.0	0.00	13.3			
1527	1.4 gal/min		7.55	0.689	0.0	0.00	13.3			
1532	1.4 gal/min		7.54	0.688	0.0	0.00	13.3			
1537	1.4 gal/min		7.54	0.687	0.0	0.00	13.3			
1542	1.4 gal/min		7.54	0.687	0.0	0.00	13.2			
1547	1.4 gal/min		7.54	0.690	0.0	0.00	13.3			

BTOC = Below Top of Casing

Comments: _____
Total Totalizer: 131809.4
Water level stable @ ~1.4 gal/min

Form Completed By: Colin R. Wadsworth

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP HARR VC
 Well Number and Location: MW 7D
 Sampler: Colin R. Woods
 Packer Interval (BTOC): 210 Top 240 Bottom
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): Artesian
 Purging Method: 2" Grundfos
 Gauging Date/Time: 6/19/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/19/12 1105 Sample Parameters: WA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
0920			6.46	0.900	9.4	3.53	13.4			
0921			7.37	0.980	8.0	0.23	13.3			
0922			7.59	0.960	11.1	0.02	13.4			
0923			7.67	0.950	11.5	0.00	13.5			
0924			7.69	0.940	10.1	0.00	13.6			
0925			7.70	0.940	7.2	0.00	13.6			
0930	1.0 gal/min		7.73	0.910	24.0	0.00	13.8			
0935			7.73	0.863	26.1	0.00	14.0			
0942	1 gal/min		7.74	0.813	26.2	0.00	14.2			
0947			7.75	0.818	24.8	0.00	14.4			
0954	0.75 gal/min		7.76	0.831	24.0	0.00	14.5			
0959	0.75 gal/min		7.77	0.838	20.9	0.00	14.6			
1004	0.75 gal/min		7.77	0.840	17.9	0.00	14.7			
1009	0.75 gal/min		7.77	0.839	17.6	0.00	14.7			
1013	0.75 gal/min		7.79	0.826	17.1	0.00	14.7			
1019	0.5 gal/min		7.85	0.789	17.8	0.00	14.8			
1027			7.88	0.748	12.8	0.00	14.8			

BTOC = Below Top of Casing

Comments: _____
Initial Totalizer: 131574.6
Totalizer stopped @ 0940 despite flow rate of ~1 gal/min
Flow rate: ~ ~~0.75~~ gal/min 0.5 gal/min

Form Completed By: Colin R. Woods - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEF Hoff VC
 Well Number and Location: MW7D
 Sampler: Colin R. Wade
 Packer Interval (BTOC): 210 Top 240 Bottom
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): 250
 Purging Method: 2" Grindlog
 Gauging Date/Time: 6/19/12 Initial Depth to Water (BTOC): Atmos
 Sample Date/Time: 6/19/12 1105 Sample Parameters: VOA

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1032			7.90	0.735	11.4	0.00	14.9			
1037			7.91	0.705	9.7	0.00	14.9			
1042	0.5 gal/min		7.92	0.715	6.2	0.00	15.0			
1047			7.95	0.704	5.1	0.00	15.1			
1052			7.95	0.703	4.1	0.00	15.0			
1057			7.95	0.703	4.3	0.00	15.0			
1102	0.5 gal/min		7.95	0.704	3.0	0.00	15.0			

BTOC = Below Top of Casing

Comments: _____
Yield: ~ 0.5 gpm

Form Completed By: Colin R. Wade - PADEF

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP 168 VC
 Well Number and Location: MW7D
 Sampler: Colin R. Wade - PADEP
 Packer Interval (BTOC): 180 Top 210 Bottom
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): _____
 Purging Method: 2" Ground Rod
 Gauging Date/Time: 6/19/14 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/19/14 1233 Sample Parameters: VOA

WC (FH)

Field Measurements

Time	Rate (ml/min) gpm	Depth to Water (ft) BTOC	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
11:37		169.0	8.20	0.765	8.5	6.16	15.4			
11:38		160.0	7.95	0.999	3.6	0.38	13.7			
11:39			8.02	0.967	8.2	0.19	13.7			
11:40	1.5 gpm	153.5	7.96	0.724	8.6	0.04	13.7			
11:41		149.7	7.96	0.721	7.7	0.01	13.8			
11:46		140.6	7.82	0.842	10.3	0.00	13.9			
11:51		136.2	7.78	0.872	8.8	0.00	13.8			
11:56		133.7	7.77	0.890	6.0	0.00	13.8			
12:01		132.5	7.75	0.906	9.7	0.00	13.8			
12:06		131.7	7.74	0.927	8.3	0.00	13.8			
12:11		130.5	7.74	0.886	7.9	0.00	13.8			
12:31	1.5 gpm		7.73	0.886	7.8	0.00	13.8			

BTOC = Below Top of Casing

Comments: Water Column is 169'
Yield: ~1.5 gpm

Form Completed By: Colin R. Wade - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP Hoff VC
 Well Number and Location: MW7D
 Sampler: Colin R. Wade - PADEP
 Packer Interval (BTOC): 125 Top 155 Bottom
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): 280
 Purging Method: 2" Gambos
 Gauging Date/Time: 6/19/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/19/12 1405 Sample Parameters: 10A

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1307			7.87	0.798	3.2	0.92	13.8			
1308			7.89	0.885	19.8	0.35	13.7			
1309			7.87	0.889	19.8	0.07	13.7			
1310			7.80	0.764	8.0	0.00	13.7			
1311	2 gal/min		7.72	0.753	8.5	0.00	13.7			
1316	2 gal/min		7.76	0.730	11.5	0.00	13.7			
1321	1.9 gal/min		7.74	0.720	12.5	0.00	13.7			
1326	1.9 gal/min		7.74	0.714	13.7	0.00	13.7			
1331	1.9 gal/min		7.74	0.707	1.9	0.00	13.6			
1336	1.9 gal/min		7.74	0.704	0.1	0.00	13.7			
1341	1.9 gal/min		7.74	0.703	0.0	0.00	13.6			
1346	1.9 gal/min		7.73	0.701	0.3	0.00	13.6			
1351	1.9 gal/min		7.74	0.701	11.0	0.00	13.6			
1356	1.9 gal/min		7.74	0.701	1.1	0.00	13.6			
1401										

BTOC = Below Top of Casing

Comments: _____
Yield: ~ 1.9 gal/min

Form Completed By: Colin R. Wade - PADEP

Straddle Packer Low-Flow Groundwater Sampling Log (Field Sheet)

Project Name and Number: PADEP H&E VC
 Well Number and Location: MW70
 Sampler: Colin R. Weber - PADEP
 Packer Interval (BTOC): 85 Top 115 Bottom
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): _____
 Purging Method: 2" Groundbox
 Gauging Date/Time: 6/19/12 Initial Depth to Water (BTOC): _____
 Sample Date/Time: 6/19/12 Sample Parameters: _____

Field Measurements

Time	Rate (ml/min)	Depth to Water (ft BTOC)	pH (standard units)	Specific Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temperature (°C)	Upper Packer Pressure	Middle Packer Pressure	Lower Packer Pressure
1435			7.73	0.708	244.0	2.32	15.7			
1436			7.82	0.731	75.2	0.22	13.9			
1437			7.87	0.721	101.0	0.00	14.1			
1438			7.88	0.719	105.0	0.00	14.1			
1439			7.88	0.718	108.0	0.00	14.1			
1440	1.2 gal/min		7.89	0.715	105.0	0.00	14.2			
1445	1.0 gal/min		7.85	0.723	850.1	0.00	14.3			
1450	0.5 gal/min		7.81	0.740	44.4	0.00	14.6			
1455	0.5 gal/min		7.80	0.747	36.7	0.00	14.6			
1500			7.80	0.757	44.7	0.00	14.7			
1510	0.5 gal/min		7.80	0.764	111.0	0.00	14.6			
1515	0.5 gal/min		7.80	0.763	132.0	0.00	14.7			
1520	0.5 gal/min		7.79	0.743	147.0	0.00	14.7			
1525	0.5 gal/min		7.79	0.744	152.0	0.00	14.7			
1530	0.5 gal/min		7.79	0.745	153.0	0.00	14.7			
1535	0.5 gal/min		7.78	0.744	151.0	0.00	14.7			

BTOC = Below Top of Casing

Comments: _____
Initial totalizer: 131072.7
Yield: ~ 0.5 gpm

Form Completed By: Colin R. Weber - PADEP