

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

Project Name and Number: Hoff VC
 Well Number and Location: MV-8D
 Sampler: Dimitri P
 Packer Interval (BTOC): open Top 90 Bottom
 Pump Depth (BTOC): 60' 6.95 Well Total Depth (BTOC): 250
 Purging Method: low flow
 Gauging Date/Time: 4/25/12 12:50 Initial Depth to Water (BTOC): 20.7
 Sample Date/Time: _____ 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 |
|------|---------------|--------------------------|---------------------|-------------------------------|-----------------|-------------------------|------------------|-----------------------|------------------------|-----------------------|
| 1250 | 1/2 gpm | 20.7 | 7.42 | 0.999 | 96.9 | 1.94 | 16.2 | | | |
| 1255 | | 21.9 | 7.41 | 0.990 | 80.2 | 0.94 | 15.3 | | | |
| 1300 | | 28.7 | 7.40 | 0.985 | 76.2 | 0.0 | 14.5 | | | |
| 1305 | | 25.8 | 7.41 | 0.984 | 90.0 | 0.0 | 14.4 | | | |
| 1310 | | 26.30 | 7.40 | 0.984 | 98.7 | 0.0 | 14.5 | | | |
| 1315 | 1/4 gpm | 27.47 | 7.40 | 0.984 | 112.0 | 0.0 | 14.3 | | | |
| 1320 | | 29.30 | 7.41 | 0.977 | 128.0 | 0.0 | 14.3 | | | |
| 1325 | | 31.50 | 7.42 | 0.971 | 152.0 | 0.0 | 14.3 | | | |
| 1330 | | 32.74 | 7.43 | 0.967 | 173.0 | 0.0 | 14.3 | | | |
| 1335 | | 35.2 | 7.43 | 0.969 | 203.0 | 0.0 | 14.3 | | | |
| 1340 | 1/4 gpm | 36.5 | 7.46 | 0.965 | 203.0 | 0.0 | 14.3 | | | |
| 1345 | | 36.0 | 7.46 | 0.967 | 201.0 | 0.0 | 15.5 | | | |
| 1350 | | 36.0 | 7.42 | 0.977 | 274.0 | 0.0 | 14.9 | | | |
| 1355 | | 35.94 | 7.46 | 0.90 | 276.0 | 0.0 | 14.8 | | | |
| 1400 | | 35.24 | 7.39 | 0.999 | 277.0 | 0.0 | 14.9 | | | |
| 1405 | | 36.02 | 7.46 | 0.999 | 273.0 | 0.0 | 14.8 | | | |
| 1410 | | 36.02 | 7.47 | 0.999 | 273.0 | 0.0 | 14.9 | | | |

BTOC = Below Top of Casing

Comments: Volume to pump
20 - 90 = 70 x 1.47 = 102.9 gal.
@ 1315 increase rate to 1 gpm.
@ 1340 reduce rate to 1/4 gpm.

Form Completed By: _____

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

Project Name and Number: Hoff VC
 Well Number and Location: MW-8D
 Sampler: Dimitri Qu
 Packer Interval (BTOC): 90 Top 120 Bottom
 Pump Depth (BTOC): 88' Well Total Depth (BTOC): 250
 Purging Method: low flow
 Gauging Date/Time: 4/25/13 1038 Initial Depth to Water (BTOC): 20.4
 Sample Date/Time: _____ 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 |
|------|---------------|--------------------------|---------------------|-------------------------------|-----------------|-------------------------|------------------|-----------------------|------------------------|-----------------------|
| 1045 | 1/2 gpm | 23.8 | 7.58 | 0.956 | 533.0 | 2.23 | 15.0 | | | |
| 1050 | | 27 | 7.48 | 0.944 | 244.0 | 0.63 | 14.6 | | | |
| 1055 | | 30.5 | 7.46 | 0.953 | 266.0 | 0.39 | 14.7 | | | |
| 1100 | 1/4 gpm | 31.8 | 7.48 | 0.953 | 278.0 | 0.46 | 15.3 | | | |
| 1105 | 300 ml/min | 31.8 | 7.47 | 0.962 | 268.0 | 0.44 | 15.3 | | | |
| 1110 | | 31.8 | 7.47 | 0.978 | 267.0 | 0.38 | 15.5 | | | |
| 1115 | | 31.7 | 7.45 | 0.987 | 299.0 | 0.33 | 15.5 | | | |
| 1120 | 1/2 gpm | 40.3 | 7.44 | 0.951 | 300.2 | 0.70 | 14.9 | | | |
| 1125 | | 48.5 | 7.45 | 0.960 | 265.0 | 0.71 | 14.8 | | | |
| 1130 | | 58.0 | 7.46 | 0.940 | 370.0 | 0.45 | 15.0 | | | |
| 1135 | | 68.0 | 7.45 | 0.939 | 375.0 | 0.50 | 15.6 | | | |
| 1140 | | 74.0 | 7.44 | 0.939 | 397.0 | 0.59 | 15.8 | | | |
| 1145 | | 78.0 | 7.44 | 0.957 | 382.0 | 0.47 | 16.8 | | | |
| 1150 | 300 ml/min | 78.4 | 7.45 | 0.947 | 384.0 | 0.00 | 17.0 | | | |
| 1155 | | 78.7 | 7.41 | 0.959 | 378.0 | 0.00 | 17.0 | | | |
| 1200 | | 78.2 | 7.43 | 0.959 | 370.0 | 0.0 | 17.1 | | | |
| 1205 | _____ | _____ | _____ | Collect | Sample | _____ | _____ | _____ | _____ | _____ |

BTOC = Below Top of Casing

Comments: Volume to me 20 x 1.47 = 44
80 x 0.16 = 12
56
@ 11:00 slow rate to 1/4 gpm.
@ 11:05 reduce rate to 300 ml/min
@ 11:20 increase rate to full pack zone @ 1/2 gpm
 Form Completed By: _____
@ 11:50 low flow @ 200 ml/min sustained rate.

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

Project Name and Number: Hoff VC
 Well Number and Location: MW-80
 Sampler: Dimitri Quast
 Packer Interval (BTOC): 120 Top 150 Bottom
 Pump Depth (BTOC): 118 Well Total Depth (BTOC): 250
 Purging Method: low flow
 Gauging Date/Time: 4/25/10 Initial Depth to Water (BTOC): _____
 Sample Date/Time: _____ 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 |
|------|---------------|--------------------------|---------------------|-------------------------------|-----------------|-------------------------|------------------|-----------------------|------------------------|-----------------------|
| 845 | 1/2 gpm | 22.2 | 7.50 | 0.774 | 310 | 1.71 | 12.2 | | | |
| 850 | | 24.0 | 7.43 | 0.822 | 220 | 1.08 | 12.5 | | | |
| 855 | | 27.3 | 7.49 | 0.842 | 227 | 1.05 | 13.7 | | | |
| 900 | 1/4 gpm | 27.5 | 7.50 | 0.835 | 224.0 | 1.06 | 17.9 | | | |
| 905 | 1/2 gpm | 35.0 | 7.50 | 0.767 | 304.0 | 1.21 | 13.9 | | | |
| 910 | | 39.9 | 7.51 | 0.748 | 312.0 | 1.29 | 13.9 | | | |
| 915 | | 45.7 | 7.49 | 0.738 | 332.0 | 1.30 | 14.0 | | | |
| 920 | | 51.2 | 7.52 | 0.712 | 362.0 | 1.28 | 14.3 | | | |
| 925 | 1 gpm | 61.6 | 7.54 | 0.664 | 420.0 | 1.40 | 14.3 | | | |
| 930 | | 70.2 | 7.56 | 0.619 | 439.0 | 1.76 | 14.4 | | | |
| 935 | | 82.0 | 7.56 | 0.611 | 381.0 | 2.54 | 14.5 | | | |
| 940 | | 90.7 | 7.59 | 0.634 | 374.0 | 2.70 | 15.7 | | | |
| 945 | | 100 | 7.57 | 0.634 | 392.6 | 2.31 | 15.4 | | | |
| 950 | 1/4 gpm | 107.9 | 7.57 | 0.640 | 516.0 | 2.72 | 16.1 | | | |
| 955 | | 108.6 | 7.59 | 0.641 | 525.0 | 2.57 | 16.2 | | | |
| 1000 | | 108.2 | 7.56 | 0.661 | 480.0 | 2.15 | 16.3 | | | |
| 1005 | | | collect | | Sample | | | | | |

BTOC = Below Top of Casing

Comments: Volume to purge
 $10 \times 1.47 = 44.1 \text{ gal}$
 $110 \times 0.16 = 17.6 \text{ gal}$
total = 61.7 gal
@ 900 reduce rate to 1/4 gpm.
@ 905 increase rate to 1/2 gpm to purge zone. 1/4 gpm is yield at zone.
 Form Completed By: _____

Water level within 10' of flow bear low flow.

@ 950 begin low flow @ 2 1/4 gpm.

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

Project Name and Number: Hoff VC
 Well Number and Location: MW-8D
 Sampler: Dimitri: Ann
 Packer Interval (BTOC): 180 Top 250 Bottom
 Pump Depth (BTOC): 178 Well Total Depth (BTOC): 250
 Purging Method: Low Flow
 Gauging Date/Time: 4/24/12 11:46 Initial Depth to Water (BTOC): 12.45
 Sample Date/Time: _____ Sample Parameters: _____

895 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 |
|------|---------------|--------------------------|---------------------|-------------------------------|-----------------|-------------------------|------------------|-----------------------|------------------------|-----------------------|
| 1155 | ≈ 0.59 | 12.45 | 7.7 | 0.667 | 137 | 4.57 | 14.4 | 16 | 69.15 | 68.8 |
| 1200 | | 15.32 | 8.05 | 0.480 | 117 | 6.62 | 14.4 | | | |
| 1205 | | 15.70 | 8.12 | 0.442 | 110.0 | 6.36 | 14.3 | | | |
| 1210 | | 16.8 | 8.17 | 0.428 | 127.0 | 6.47 | 14.5 | | | |
| 1215 | | 17.2 | 8.15 | 0.429 | 125.0 | 6.47 | 14.5 | | | |
| 1220 | | 20.2 | 8.12 | 0.429 | 130.0 | 6.39 | 14.2 | | | |
| 1225 | | 25.5 | 8.09 | 0.426 | 139.6 | 5.87 | 14.4 | | | |
| 1245 | | 28.5 | 8.11 | 0.434 | 141 | 6.26 | 14.3 | | | |
| 1250 | | 30.1 | 8.08 | 0.440 | 147.0 | 6.00 | 14.4 | | | |
| 1255 | | 33.1 | 8.05 | 0.444 | 99.5 | 6.09 | 14.3 | | | |
| 1300 | | 34.3 | 8.05 | 0.446 | 78.4 | 5.98 | 14.4 | | | |
| 1305 | | 36.3 | 8.04 | 0.447 | 133.0 | 5.98 | 14.3 | | | |
| 1310 | | 38.8 | 8.03 | 0.450 | 139.0 | 5.96 | 14.3 | | | |
| 1315 | | 40.0 | 8.01 | 0.452 | 151.0 | 5.73 | 14.4 | | | |
| 1320 | | 44.2 | 8.00 | 0.457 | 156.0 | 5.88 | 14.2 | | | |
| 1325 | | 46.0 | 8.00 | 0.455 | 161.0 | 5.87 | 14.2 | | | |
| 1330 | | 49.5 | 7.94 | 0.469 | 174.0 | 5.61 | 14.2 | | | |

BTOC = Below Top of Casing

Comments: Volume to be Purged
6" 180-250 = 70 x 1.47 = 103
2" 170' riser x 0.16 = 27.2
Total = 130.2

1240 Check Packers. If possible leak either ann packer or riser. will continue to pump.

Form Completed By: _____

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

Project Name and Number: _____
 Well Number and Location: MW-8D 180-250
 Sampler: _____
 Packer Interval (BTOC): 180 Top 250 Bottom
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): _____
 Purging Method: _____
 Gauging Date/Time: _____ Initial Depth to Water (BTOC): _____
 Sample Date/Time: _____ 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 |
|------|---------------|--------------------------|---------------------|-------------------------------|-----------------|-------------------------|------------------|-----------------------|------------------------|-----------------------|
| 1335 | 0.59 | 55.9 | 7.94 | 0.466 | 204.0 | 5.50 | 14.2 | | | |
| 1340 | 0.8 | 57.0 | 7.94 | 0.468 | 247.0 | 5.44 | 14.3 | | | |
| 1345 | | 58.6 | 7.94 | 0.468 | 242.0 | 5.43 | 14.2 | | | |
| 1350 | | 61.6 | 7.96 | 0.460 | 262.0 | 5.42 | 14.4 | | | |
| 1355 | | 66.1 | 7.92 | 0.478 | 290.0 | 5.32 | 14.4 | | | |
| 1400 | | 70.5 | 7.90 | 0.482 | 322.0 | 5.29 | 14.4 | | | |
| 1405 | | 74.0 | 7.91 | 0.499 | 382.0 | 5.09 | 14.5 | | | |
| 1415 | 1.9 | 82.4 | 7.92 | 0.490 | 437.0 | 5.39 | 14.4 | | | |
| 1420 | | 93.2 | 7.76 | 0.564 | 461.0 | 4.39 | 14.3 | | | |
| 1425 | | 104.3 | 7.76 | 0.569 | 328.0 | 4.28 | 14.3 | | | |
| 1430 | | 114.5 | 7.78 | 0.564 | 350.0 | 4.24 | 14.7 | | | |
| 1435 | | 121.3 | 7.77 | 0.564 | 350.0 | 4.26 | 14.8 | | | |
| 1440 | | 136.2 | 7.77 | 0.562 | 351.0 | 4.27 | 15.0 | | | |
| 1445 | | 145.8 | 7.81 | 0.562 | 361.0 | 4.32 | 15.1 | | | |
| 1450 | | 154.5 | 7.76 | 0.603 | 390.0 | 4.73 | 15.1 | | | |
| 1455 | | 168.2 | 7.72 | 0.630 | 377.0 | 3.47 | 15.2 | | | |

BTOC = Below Top of Casing

Comments: * 1415 increase flow to 1.9

Form Completed By: _____

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

Project Name and Number: _____
 Well Number and Location: mw-80
 Sampler: _____
 Packer Interval (BTOC): 180 Top 250 Bottom
 Pump Depth (BTOC): _____ Well Total Depth (BTOC): _____
 Purging Method: _____
 Gauging Date/Time: _____ Initial Depth to Water (BTOC): _____
 Sample Date/Time: _____ 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 |
|------|---------------|--------------------------|---------------------|-------------------------------|-----------------|-------------------------|------------------|-----------------------|------------------------|-----------------------|
| 1500 | 300 | 169.121 | 7.86 | 0.556 | 362.0 | 3.99 | 15.9 | | | |
| 1505 | ↓ | 169.219 | 7.90 | 0.551 | 359.0 | 5.04 | 16.2 | | | |
| 1510 | ↓ | 169.251 | 7.92 | 0.508 | 400.0 | 5.03 | 16.1 | | | |
| 1515 | ↓ | 169.054 | 7.92 | 0.503 | 400.0 | 5.02 | 16.2 | | | |
| 1520 | ↓ | 169.053 | 7.93 | 0.502 | 402.0 | 5.00 | 16.3 | | | |
| 1525 | ↓ | 169.052 | 7.92 | 0.500 | 402.0 | 5.00 | 16.5 | | | |
| 1530 | ↓ | Collect | | Sample | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

BTOC = Below Top of Casing

Comments: ★ 1500 began low flow @ 300 ml/min.

Form Completed By: _____