

ATTACHMENT 4: FIELD LOGS

This attachment contains the groundwater sample collection field logs for the relatively shallow standpipe monitoring wells (MW-1, MW-5 through MW-9, MW-10, MW-13, MW-15, and MW-16), as well as the field data sheets for the Westbay™ multiport wells (MW-3, MW-4, MW-11, MW-12, MW-14, and MW-17 through MW-26). Groundwater sample collection for the 2nd Quarter 2011 sampling event was conducted by Battelle and Insight Environmental, Inc.

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID# MW-1

Battelle
The Business of Innovation

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 6005862
 Navy Contract No: _____
 Sampled By: David Loera
 Date: 5-2-11
 Weather: sunny/warm

505 King Avenue
Columbus, Ohio 43201

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{120'}{TD \text{ (feet)}} - \frac{24.97}{WL \text{ (feet)}} \right) \times \frac{45.03}{D^2 \text{ (inches)}} \times 3 \text{ # Vols} \times 0.0408 = \frac{186.11}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer - Type: _____ Pump - Type: 2" Grundfos

Depth in feet (BTOC): 90'

FIELD PARAMETER MEASUREMENT

| Time | Depth to Water (feet) | Total Discharge (Gallons) | pH | Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temp (°C) | ORP (mV) | Comments |
|------|-----------------------|---------------------------|------|----------------------|-----------------|-------------------------|-----------|----------|-------------------|
| 0926 | - | - | - | water to | surface | - | - | - | |
| 0935 | 26.47 | 27.9 | 7.30 | 0.559 | 1.33 | 0.28 | 16.32 | 84 | Flow Rate 3.1 GPM |
| 0947 | 26.53 | 65.1 | 7.41 | 0.560 | 1.09 | 0.12 | 16.36 | -16 | |
| 0955 | 26.59 | 89.9 | 7.41 | 0.560 | 1.01 | 0.11 | 16.40 | -19 | |
| 1008 | 26.61 | 130.2 | 7.42 | 0.560 | 0.45 | 0.11 | 16.52 | -30 | |
| 1020 | 26.63 | 167.4 | 7.42 | 0.560 | 1.12 | 0.10 | 16.59 | -34 | |
| 1038 | | | | | | | | | stop |

Total Purge Volume: 205 (Gallons) / 62.03

Total Discharge: 3.3 (Casing Volumes)

Approx. Purge Rate: 3.1 (GMP)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 0926 Purge time start: 0926 stop

Motors: QED MP20, Oaktan T-100

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge Water disposal: OU1 System-Battelle-JPL

WELL SAMPLING

Sample Depth in feet (BTOC): 90

| | | | |
|-----------------------------------|-----------------------------------|--------------------------|----------------------------------|
| <u>Original</u> | <u>Duplicate</u> | <u>Blank</u> | <u>Other (Trip/Source/_____)</u> |
| Sample ID: <u>MW-1</u> | Sample ID: <u>DUPE-5-2Q11</u> | Type: _____ | Type: _____ |
| Sample Time: <u>1027</u> | Sample Time: <u>1035</u> | Sample ID: _____ | Sample ID: _____ |
| No. of Containers: <u>Alpha-6</u> | No. of Containers: <u>Alpha-6</u> | Sample Time: _____ | Sample Time: _____ |
| No. of Containers: <u>CAS-1</u> | No. of Containers: <u>CAS-1</u> | No. of Containers: _____ | No. of Containers: _____ |

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID# MW-5

Battelle
The Business of Innovation
505 King Avenue
Columbus, Ohio 43201

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 6005862
 Navy Contract No: _____
 Sampled By: David Loch
 Date: 4-28-11
 Weather: Hot/sunny

PURGE VOLUME CALCULATION (casing volume):

$(140' - 22.43') \times \frac{17.57^2}{4} \times 3 \times 0.0408 = 230.25$ Gallons
 TD (feet) WL (feet) D (inches) # Vols Calculated Purge Volume

PURGE METHOD

PUMP INTAKE SETTING

Bailer - Type: _____ Pump - Type: 2" Grundfos

Depth in feet (BTOC): 125'

FIELD PARAMETER MEASUREMENT

| Time | Depth to Water (feet) | Total Discharge (Gallons) | pH | Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temp (°C) | ORP (mV) | Comments |
|------|-----------------------|---------------------------|------|----------------------|-----------------|-------------------------|-----------|----------|-------------------|
| 1113 | - | - | - | Water to | Surface | - | - | - | |
| 1121 | 22.69 | 23.2 | 6.88 | 0.299 | 0.74 | 0.32 | 15.63 | 67 | Flow Rate 2.9 GPM |
| 1137 | 22.71 | 46.4 | 6.95 | 0.300 | 0.61 | 0.03 | 15.72 | -111 | 69.6 |
| 1150 | 22.73 | 84.1 | 6.95 | 0.299 | 0.40 | 0.02 | 15.75 | -100 | 107.3 |
| 1202 | 22.76 | 118.4 | 6.93 | 0.299 | 0.65 | 0.02 | 15.77 | -113 | 142.1 |
| 1215 | 22.78 | 156.6 | 6.95 | 0.300 | 0.02 | 0.00 | 15.77 | -120 | 179.8 |
| 1230 | 22.80 | 223.3 | 6.94 | 0.300 | 0.00 | 0.00 | 15.78 | -107 | 223.3 |
| 1330 | | | | | | | | | Stop |

Total Purge Volume: 280 (Gallons) / 76.75

Total Discharge: 3.65 (Casing Volumes)

Approx. Purge Rate: 2.9 (GMP)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 1113 Purge time start: 1113
Meters: QEO MD 20 OAKTON F-100

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge Water disposal: OU1 System-Battelle-JPL

WELL SAMPLING

Sample Depth in feet (BTOC): 125

| Original | Duplicate | Blank | Other (Trip/Source/) |
|--|--|--------------------|----------------------|
| Sample ID: <u>MW-5</u> | Sample ID: <u>DUPE-6-2Q11</u> | Type: _____ | Type: _____ |
| Sample Time: <u>1233</u> | Sample Time: <u>1300</u> | Sample ID: _____ | Sample ID: _____ |
| No. of Containers: <u>Alpha-6</u> | No. of Containers: <u>Alpha-6</u> | Sample Time: _____ | Sample Time: _____ |
| No. of Containers: <u>CAS-1</u> <u>MWH-30</u> | No. of Containers: <u>CAS-1</u> <u>MWH-30</u> | Sample ID: _____ | Sample ID: _____ |

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID# MW-6

Battelle
The Business of Innovation

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: G005862
 Navy Contract No: _____
 Sampled By: David Loera
 Date: 4-27-11
 Weather: cool/sunny

505 King Avenue
Columbus, Ohio 43201

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{245}{\text{TD (feet)}} - \frac{142.52}{\text{WL (feet)}} \right) \times 102.48 \times \frac{4^2}{\text{D (inches)}} \times 3 \times 0.0408 = \frac{200.70}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer - Type: _____ Pump - Type: 2" Grundfos

Depth in feet (BTOC): 230'

FIELD PARAMETER MEASUREMENT

| Time | Depth to Water (feet) | Total Discharge (Gallons) | pH | Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temp (°C) | ORP (mV) | Comments |
|------|-----------------------|---------------------------|------|----------------------|-----------------|-------------------------|-----------|----------|-------------------|
| 0825 | - | - | - | Water to Surface | | - | - | - | |
| 0835 | 143.52 | 3.3 | 6.73 | 1.224 | 6.68 | 4.96 | 20.42 | 134 | Flow Rate 3.3 GPM |
| 0848 | 143.56 | 75.9 | 6.77 | 1.225 | 2.44 | 5.14 | 20.43 | 156 | |
| 0900 | 143.58 | 115.5 | 6.78 | 1.224 | 1.49 | 5.46 | 20.44 | 161 | |
| 0909 | 143.60 | 145.2 | 6.77 | 1.227 | 0.52 | 5.47 | 20.45 | 165 | |
| 0918 | 143.61 | 174.9 | 6.78 | 1.224 | 0.75 | 5.56 | 20.45 | 164 | |
| 0925 | 143.62 | 198 | 6.78 | 1.222 | 0.68 | 5.66 | 20.43 | 181 | |
| 0935 | | | | | | | | | Stop |

Total Purge Volume: 215 (Gallons) 66.90

Total Discharge: 3.21 (Casing Volumes)

Approx. Purge Rate: 3.3 (GMP)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 0825 Purge time start: 0825 Stop: 0935
 Motors: RED MP20 Dakota T-100

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge Water disposal: OU1 System-Battelle-JPL

WELL SAMPLING

Sample Depth in feet (BTOC): 230'

| | | | |
|-----------------------------------|-----------------------------------|--------------------------|-----------------------------|
| <u>Original</u> | <u>Duplicate</u> | <u>Blank</u> | <u>Other (Trip/Source/)</u> |
| Sample ID: <u>MW-6</u> | Sample ID: <u>DUPE-7-2011</u> | Type: _____ | Type: _____ |
| Sample Time: <u>0926</u> | Sample Time: <u>0930</u> | Sample ID: _____ | Sample ID: _____ |
| No. of Containers: <u>Alpha-6</u> | No. of Containers: <u>Alpha-6</u> | Sample Time: _____ | Sample Time: _____ |
| No. of Containers: <u>CAS-1</u> | No. of Containers: <u>CAS-1</u> | No. of Containers: _____ | No. of Containers: _____ |

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID# MW-7

Battelle
The Business of Innovation
505 King Avenue
Columbus, Ohio 43201

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: G005862-2
 Navy Contract No: _____
 Sampled By: David Loera
 Date: 4-26-11
 Weather: cool / sunny

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{275'}{\text{TD (feet)}} - \frac{163.41}{\text{WL (feet)}} \right) \times \frac{3.14}{4} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{218.54}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer - Type: _____ Pump - Type: 2" Grundfos

Depth in feet (BTOC): 265'

FIELD PARAMETER MEASUREMENT

| Time | Depth to Water (feet) | Total Discharge (Gallons) | pH | Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temp (°C) | ORP (mV) | Comments |
|------|-----------------------|---------------------------|------|----------------------|-----------------|-------------------------|-----------|----------|-------------------|
| 0744 | - | - | - | Water to | Surface | - | - | - | |
| 0810 | 163.65 | 41.6 | 7.07 | 0.658 | 8.53 | 2.00 | 23.53 | 108 | Flow Rate 1.6 GPM |
| 0835 | 163.72 | 94.1 | 7.08 | 0.658 | 10.99 | 1.99 | 23.70 | 115 | Flow Rate 2.1 GPM |
| 0858 | 164.08 | 142.4 | 7.10 | 0.659 | 14.85 | 1.98 | 23.70 | 136 | |
| 0924 | 163.98 | 197 | 7.10 | 0.659 | 4.23 | 2.01 | 23.69 | 140 | |
| 0934 | 163.87 | 218 | 7.11 | 0.659 | 4.07 | 2.00 | 23.70 | 148 | |
| 0945 | | | | | | | | | Stop |

Total Purge Volume: 230 (Gallons) 72.85

Total Discharge: 3.16 (Casing Volumes)

Approx. Purge Rate: 1.9 (GMP)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 743 Purge time start: 744 stop

Meters: RED MP20 Oyster T-100

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: _____ polytank

Purge Water disposal: OU1 System-Battelle-JPL

WELL SAMPLING

Sample Depth in feet (BTOC): 265

Original MW-7 Duplicate _____ Blank _____ Other (Trip/Source/) _____)

Sample ID: _____ Sample ID: _____ Type: _____ Type: _____

Sample Time: 0935 Sample Time: _____ Sample ID: _____ Sample ID: _____

No. of Containers: Alpha-12 No. of Containers: _____ Sample Time: _____ Sample Time: _____

No. of Containers: CAS-2 No. of Containers: _____ No. of Containers _____

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID# MW-8

Battelle
The Business of Innovation
505 King Avenue
Columbus, Ohio 43201

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 6005862
 Navy Contract No: _____
 Sampled By: David Lelva
 Date: 4-27-11
 Weather: warm/sunny

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{205'}{TD \text{ (feet)}} - \frac{89.36'}{WL \text{ (feet)}} \right) \times \frac{115.64}{D^2 \text{ (inches)}} \times 3 \text{ # Vols} \times 0.0408 = \frac{226.47}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer - Type: _____ X Pump - Type: 2" Grundfos

Depth in feet (BTOC): 195'

FIELD PARAMETER MEASUREMENT

| Time | Depth to Water (feet) | Total Discharge (Gallons) | pH | Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temp (°C) | ORP (mV) | Comments |
|------|-----------------------|---------------------------|------|----------------------|-----------------|-------------------------|-----------|----------|-------------------|
| 1054 | - | - | - | Water to | Surface | - | - | - | |
| 1104 | 89.74 | 40 | 7.13 | 0.382 | 0.79 | 2.34 | 16.82 | 84 | Flow Rate 4.0 GPM |
| 1114 | 89.76 | 80 | 7.14 | 0.384 | 0.51 | 2.24 | 16.88 | 95 | |
| 1124 | 89.78 | 120 | 7.15 | 0.384 | 0.19 | 2.22 | 16.90 | 99 | |
| 1134 | 89.79 | 160 | 7.15 | 0.384 | 0.09 | 2.22 | 16.92 | 102 | |
| 1144 | 89.81 | 200 | 7.15 | 0.384 | 0.02 | 2.20 | 16.90 | 102 | |
| 1150 | 89.82 | 224 | 7.15 | 0.384 | 0.02 | 2.20 | 16.92 | 101 | |
| 1200 | | | | | | | | | Stop |

Total Purge Volume: 245 (Gallons) / 75.49

Total Discharge: 3.25 (Casing Volumes)

Approx. Purge Rate: 4.0 (GMP)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 1054 Purge time start: 1054 Stop
Meters: RED MP 20 Oakton T-100

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge Water disposal: OU1 System-Battelle-JPL

WELL SAMPLING

Sample Depth in feet (BTOC): 195'

| | | | |
|-----------------------------------|-----------------------------------|--------------------------|-----------------------------|
| <u>Original</u> | <u>Duplicate</u> | <u>Blank</u> | <u>Other (Trip/Source/)</u> |
| Sample ID: <u>MW-8</u> | Sample ID: <u>DUPE-8-2Q11</u> | Type: _____ | Type: _____ |
| Sample Time: <u>1151</u> | Sample Time: <u>1155</u> | Sample ID: _____ | Sample ID: _____ |
| No. of Containers: <u>Alpha-6</u> | No. of Containers: <u>Alpha-6</u> | Sample Time: _____ | Sample Time: _____ |
| No. of Containers: <u>CAS-1</u> | No. of Containers: <u>CAS-1</u> | No. of Containers: _____ | No. of Containers: _____ |

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID# MW-9

Battelle
The Business of Innovation

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: G005862
 Navy Contract No: _____
 Sampled By: David Loera
 Date: 5-2-11
 Weather: sunny/hot

505 King Avenue
Columbus, Ohio 43201

PURGE VOLUME CALCULATION (casing volume):

68' - 17.23' ^{50.77}) X 4² X 3 X 0.0408 = 99.43 Gallons
 TD (feet) WL (feet) D (inches) # Vols Calculated Purge Volume

PURGE METHOD

PUMP INTAKE SETTING

Bailer - Type: _____ X Pump - Type: 2" Grundfos

Depth in feet (BTOC): 60'

FIELD PARAMETER MEASUREMENT

| Time | Depth to Water (feet) | Total Discharge (Gallons) | pH | Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temp (°C) | ORP (mV) | Comments |
|------|-----------------------|---------------------------|------|----------------------|-----------------|-------------------------|-----------|----------|-------------------|
| 1227 | --- | --- | --- | Water to | Surface | | | | |
| 1234 | 19.14 | 18.9 | 6.94 | 0.356 | 0.68 | 1.45 | 19.27 | 107 | Flow Rate 2.7 GPM |
| 1242 | 19.18 | 40.5 | 6.97 | 0.364 | 1.37 | 1.33 | 19.19 | 87 | |
| 1247 | 19.22 | 54 | 6.99 | 0.362 | 1.01 | 1.27 | 19.07 | 73 | |
| 1252 | 19.26 | 67.5 | 6.98 | 0.362 | 0.81 | 1.26 | 19.09 | 75 | |
| 1257 | 19.30 | 81 | 6.98 | 0.361 | 0.56 | 1.26 | 19.12 | 75 | |
| 1303 | 19.34 | 97.2 | 6.99 | 0.360 | 0.42 | 1.24 | 19.04 | 75 | |
| Stop | | | | | | | | | 1310 |

Total Purge Volume: 110 (Gallons) / 33.14

Total Discharge: 3.32 (Casing Volumes)

Approx. Purge Rate: 2.7 (GMP)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 1227 Purge time start: 1227

Motors: QED MP 20 Oakton T-100

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge Water disposal: OU1 System-Battelle-JPL

WELL SAMPLING

Sample Depth in feet (BTOC): 60'

Original Duplicate Blank Other (Trip/Source/)

Sample ID: MW-9 Sample ID: DUPE-6-2011 Type: _____ Type: _____

Sample Time: 1304 Sample Time: 1310 Sample ID: _____ Sample ID: _____

No. of Containers: Alpha-6 No. of Containers: Alpha- Sample Time: _____ Sample Time: _____

No. of Containers: CAS-1 No. of Containers: CAS- No. of Containers: _____

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID# MW-10

Battelle

The Business of Innovation

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: G005862
 Navy Contract No: _____
 Sampled By: David Loera
 Date: 5-3-11
 Weather: warm/sunny

505 King Avenue
Columbus, Ohio 43201

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{155'}{TD \text{ (feet)}} - \frac{40.77'}{WL \text{ (feet)}} \right) \times \frac{14.23}{4^2} \times \frac{3}{\# \text{ Vols}} \times 0.0408 = \frac{223.71}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer - Type: _____ Pump - Type: 2" Grundfos

Depth in feet (BTOC): 140'

FIELD PARAMETER MEASUREMENT

| Time | Depth to Water (feet) | Total Discharge (Gallons) | pH | Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temp (°C) | ORP (mV) | Comments |
|-----------------|-----------------------|---------------------------|------|----------------------|-----------------|-------------------------|-----------|----------|-------------------|
| 0850 | — | — | — | Water to Surface | — | — | — | — | — |
| 0902 | 40.95 | 20.4 | 6.78 | 0.424 | 0.13 | 2.52 | 19.40 | 156 | Flow Rate 1.7 GPM |
| 0917 | 41.03 | 57.9 | 6.80 | 0.426 | 0.00 | 2.59 | 19.44 | 133 | Flow Rate 2.5 GPM |
| 0928 | 41.08 | 85.4 | 6.81 | 0.424 | 0.00 | 2.63 | 19.47 | 137 | |
| 0942 | 41.13 | 120.4 | 6.82 | 0.424 | 0.00 | 2.82 | 19.52 | 131 | |
| 0958 | 41.21 | 160.4 | 6.82 | 0.427 | 0.00 | 2.69 | 19.55 | 125 | |
| 1017 | 41.27 | 207.9 | 6.83 | 0.423 | 0.00 | 2.64 | 19.57 | 122 | |
| 1023 | 41.30 | 222.9 | 6.83 | 0.424 | 0.00 | 2.64 | 19.60 | 121 | stop |
| 1050 | | | | | | | | | stop |

Total Purge Volume: 240 (Gallons) / 74.57
 Total Discharge: 3.22 (Casing Volumes)
 Approx. Purge Rate: 2.5 (GMP)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor); Purge start at: 0850 Purge time start: 0850

Meters: QED MP20, Oyster T100

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank
 Purge Water disposal: OU1 System-Battelle-JPL

WELL SAMPLING

Sample Depth in feet (BTOC): 140

| | | | |
|-----------------------------------|--------------------------|--------------------------|-----------------------------|
| <u>Original</u> | <u>Duplicate</u> | <u>Blank</u> | <u>Other (Trip/Source/)</u> |
| Sample ID: <u>MW-10</u> | Sample ID: _____ | Type: _____ | Type: _____ |
| Sample Time: <u>1024</u> | Sample Time: _____ | Sample ID: _____ | Sample ID: _____ |
| No. of Containers: <u>Alpha-6</u> | No. of Containers: _____ | Sample Time: _____ | Sample Time: _____ |
| No. of Containers: <u>CAS-1</u> | No. of Containers: _____ | No. of Containers: _____ | No. of Containers: _____ |

MWH-29

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID# MW-13

Battelle
The Business of Innovation

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 6005862
 Navy Contract No: _____
 Sampled By: David Joera
 Date: 4-28-11
 Weather: Warm/Sunny

505 King Avenue
Columbus, Ohio 43201

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{235' - 135.91'}{1} \right) \times \frac{.9909}{4^2} \times 3 \times 0.0408 = \frac{194.06}{1} \text{ Gallons}$$

TD (feet) WL (feet) D (inches) # Vols Calculated Purge Volume

PURGE METHOD

PUMP INTAKE SETTING

Bailer – Type: _____ Pump – Type: 2" Grundfos

Depth in feet (BTOC): 220'

FIELD PARAMETER MEASUREMENT

| Time | Depth to Water (feet) | Total Discharge (Gallons) | pH | Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temp (°C) | ORP (mV) | Comments |
|------|-----------------------|---------------------------|------|----------------------|-----------------|-------------------------|-----------|----------|-------------------|
| 0747 | - | - | - | Water to | Surface | - | - | - | |
| 0757 | 136.03 | 35 | 6.87 | 0.518 | 1.74 | 6.70 | 21.47 | 161 | Flow Rate 3.5 GPM |
| 0806 | 136.03 | 66.5 | 6.92 | 0.520 | 0.30 | 6.81 | 21.51 | 127 | |
| 0816 | 136.03 | 101.5 | 6.94 | 0.523 | 0.06 | 6.86 | 21.50 | 146 | |
| 0824 | 136.03 | 129.5 | 6.94 | 0.523 | 0.04 | 6.91 | 21.50 | 172 | |
| 0832 | 136.03 | 157.5 | 6.95 | 0.521 | 0.03 | 6.90 | 21.51 | 134 | |
| 0842 | 136.03 | 192.5 | 6.95 | 0.524 | 0.01 | 6.93 | 21.53 | 168 | |
| 0900 | | | | | | | | | stop |

Total Purge Volume: 200 (Gallons) / 64.69

Total Discharge: 3.09 (Casing Volumes)

Approx. Purge Rate: 3.5 (GMP)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 0746 Purge time start: 0747

Meters: QED MP20 Oakton T-100

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge Water disposal: OU1 System-Battelle-JPL

WELL SAMPLING

Sample Depth in feet (BTOC): 220'

| | | | |
|-------------------------|------------------|--------------|-----------------------------|
| <u>Original</u> | <u>Duplicate</u> | <u>Blank</u> | <u>Other (Trip/Source/)</u> |
| Sample ID: <u>MW-13</u> | Sample ID: _____ | Type: _____ | Type: _____ |

| | | | |
|--------------------------|--------------------|------------------|------------------|
| Sample Time: <u>0843</u> | Sample Time: _____ | Sample ID: _____ | Sample ID: _____ |
|--------------------------|--------------------|------------------|------------------|

| | | | |
|-----------------------------------|--------------------------|--------------------|--------------------|
| No. of Containers: <u>Alpha-6</u> | No. of Containers: _____ | Sample Time: _____ | Sample Time: _____ |
|-----------------------------------|--------------------------|--------------------|--------------------|

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| No. of Containers: <u>CAS-4</u> | No. of Containers: _____ | No. of Containers: _____ | No. of Containers: _____ |
|---------------------------------|--------------------------|--------------------------|--------------------------|

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID# MW-15

Battelle
The Business of Innovation
505 King Avenue
Columbus, Ohio 43201

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: G005862
 Navy Contract No: _____
 Sampled By: David Lopez
 Date: 4-27-11
 Weather: hot/sunny

PURGE VOLUME CALCULATION (casing volume):

$(74' - 30.44') \times 4^2 \times 3 \times 0.0408 = 85.31$ Gallons
 TD (feet) WL (feet) D (inches) # Vols Calculated Purge Volume

PURGE METHOD

PUMP INTAKE SETTING

Bailer - Type: _____ Pump - Type: 2" Grundfos

Depth in feet (BTOC): 54'

FIELD PARAMETER MEASUREMENT

| Time | Depth to Water (feet) | Total Discharge (Gallons) | pH | Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temp (°C) | ORP (mV) | Comments |
|------|-----------------------|---------------------------|------|----------------------|-----------------|-------------------------|-----------|----------|-------------------|
| 1351 | - | - | - | Water to surface | - | - | - | - | - |
| 1358 | 31.43 | 23.1 | 7.28 | 0.369 | 0.00 | 0.87 | 16.43 | -6 | Flow Rate 3.3 GPM |
| 1404 | 31.46 | 42.9 | 7.32 | 0.365 | 0.00 | 0.73 | 16.43 | 8 | |
| 1409 | 31.47 | 59.4 | 7.33 | 0.362 | 0.00 | 0.73 | 16.48 | -2 | |
| 1413 | 31.48 | 72.6 | 7.33 | 0.361 | 0.00 | 0.75 | 16.46 | -2 | |
| 1416 | 31.44 | 82.5 | 7.33 | 0.362 | 0.00 | 0.75 | 16.45 | -1 | |
| 1420 | | | | | | | | | Stop |

Total Purge Volume: 90 (Gallons) / 28.44

Total Discharge: 3.16 (Casing Volumes)

Approx. Purge Rate: 3.3 (GMP)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 1351 Purge time start: 1351
Motors: QED MP 20 Oaken T-100

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge Water disposal: OU1 System-Battelle-JPL

WELL SAMPLING

Sample Depth in feet (BTOC): 54'

| | | | |
|-----------------------------------|--------------------------|--------------------------|-----------------------------|
| <u>Original</u> | <u>Duplicate</u> | <u>Blank</u> | <u>Other (Trip/Source/)</u> |
| Sample ID: <u>MW-15</u> | Sample ID: _____ | Type: _____ | Type: _____ |
| Sample Time: <u>1417</u> | Sample Time: _____ | Sample ID: _____ | Sample ID: _____ |
| No. of Containers: <u>Alpha-6</u> | No. of Containers: _____ | Sample Time: _____ | Sample Time: _____ |
| No. of Containers: <u>CAS-1</u> | No. of Containers: _____ | No. of Containers: _____ | No. of Containers: _____ |

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID# MW-16

Battelle

The Business of Innovation

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 6005862
 Navy Contract No: _____
 Sampled By: David Loera
 Date: 5-5-11
 Weather: sunny/warm

505 King Avenue
 Columbus, Ohio 43201

PURGE VOLUME CALCULATION (casing volume):

(~~187.2~~ 285' 187.02)^{2.98} X 4² X 3 X 0.0408 = 191.88 Gallons
TD (feet) WL (feet) D (inches) # Vols Calculated Purge Volume

PURGE METHOD

Bailer - Type: _____ X Pump - Type: 2" Grundfos

PUMP INTAKE SETTING

Depth in feet (BTOC): 265' (2)

FIELD PARAMETER MEASUREMENT

| Time | Depth to Water (feet) | Total Discharge (Gallons) | pH | Conductivity (mS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temp (°C) | ORP (mV) | Comments |
|------|-----------------------|---------------------------|------|----------------------|-----------------|-------------------------|-----------|----------|-------------------------------|
| 0835 | — | — | — | Water to surface | — | — | — | — | 2.6 |
| 0850 | 39 | 143 | 7.11 | 0.648 | 0.78 | 1.59 | 23.36 | 89 | Flow Rate 3.44 GPM |
| 0902 | 72 | 143 | 7.14 | 0.648 | 0.10 | 1.54 | 23.15 | 94 | |
| 0910 | 91 | 143 | 7.15 | 0.648 | 0.04 | 1.54 | 23.11 | 97 | |
| 0918 | 111.8 | 143 | 7.16 | 0.648 | 0.00 | 1.54 | 23.10 | 98 | |
| 0930 | | 143 | 7.16 | 0.648 | 0.00 | 1.54 | 23.12 | 99 | |
| 0947 | | 187.2 | 7.16 | 0.648 | 0.00 | 1.55 | 23.45 | 99 | |
| 1004 | | | | | | | | | Stop |

Total Purge Volume: 220 (Gallons) / 63.96

Total Discharge: 3.44 (Casing Volumes)

Approx. Purge Rate: 2.6 (GMP)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 0835 Purge time start: 0835

Meters: RED MP 20 Dutton T-100

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge Water disposal: OU1 System-Battelle-JPL

WELL SAMPLING

Sample Depth in feet (BTOC): 265'

| | | | |
|------------------------------------|--------------------------|--------------------|---------------------------|
| Original | Duplicate | Blank | Other (Trip/Source/_____) |
| Sample ID: <u>MW-16</u> | Sample ID: _____ | Type: _____ | Type: _____ |
| Sample Time: <u>0950</u> | Sample Time: _____ | Sample ID: _____ | Sample ID: _____ |
| No. of Containers: <u>Alpha-12</u> | No. of Containers: _____ | Sample Time: _____ | Sample Time: _____ |
| No. of Containers: <u>CAS-8</u> | No. of Containers: _____ | | No. of Containers: _____ |



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-3
Sampling Zone No.: 5 + 1
Depth (ft): 653, 558, 346, 252, 172
Beginning of Session: 14.09 psia
End of Session: 14.08 psia

Start Time: 710
Finish Time: 1320

Date: 5/10/11
Page: 1 of 1

Water Pressure Inside Casing: _____

| Port # | Run # | Surface Function Checks | | | | | | | Position Sampler | Arm out | Sample Collection Checks | | | | | | | | Water Quality Parameters | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|------------------|---------|--------------------------------|----------------|----------|---------------|------------|---------------|-------------|---------|--------------------------|------|------|-------------|--------------|------------------|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | | | Deactivate Set Arm Locate Port | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Cond (mmhos) | Dissolved Oxygen |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 240.54 | ✓ | 267.09 | ✓ | 267.06 | ✓ | ✓ | 240.37 | 744 | 5.44 | 2.57 | 47.2 | 3.73 | 15.5 | 224 |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 199.16 | ✓ | 226.12 | ✓ | 226.06 | ✓ | ✓ | 199.17 | 825 | 5.73 | 3.44 | 45.9 | 3.63 | 17.2 | 241 |
| 4 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 199.13 | ✓ | 225.11 | ✓ | 224.74 | ✓ | ✓ | 199.13 | - | - | - | - | - | - | - |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 106.73 | ✓ | 133.45 | ✓ | 133.29 | ✓ | ✓ | 106.76 | 929 | 5.96 | 2.19 | 50.1 | 3.92 | 17.1 | 217 |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 66.77 | ✓ | 92.53 | ✓ | 92.41 | ✓ | ✓ | 66.83 | 1009 | 6.16 | 2.83 | 60.6 | 3.97 | 18.4 | 230 |
| 2 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 66.77 | ✓ | 92.08 | ✓ | 91.96 | ✓ | ✓ | 66.84 | - | - | - | - | - | - | - |
| 2 | 3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 66.71 | ✓ | 91.66 | ✓ | 91.60 | ✓ | ✓ | 66.76 | - | - | - | - | - | - | - |
| 2 | 4 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 66.71 | ✓ | 91.39 | ✓ | 91.32 | ✓ | ✓ | 66.71 | - | - | - | - | - | - | - |
| 2 | 5 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 66.65 | ✓ | 91.07 | ✓ | 91.05 | ✓ | ✓ | 66.68 | - | - | - | - | - | - | - |
| 2 | 6 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 66.61 | ✓ | 90.89 | ✓ | 90.87 | ✓ | ✓ | 66.63 | - | - | - | - | - | - | - |
| 2 | 7 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 66.30 | ✓ | 90.68 | ✓ | 90.65 | ✓ | ✓ | 66.30 | - | - | - | - | - | - | - |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 31.45 | ✓ | 62.84 | ✓ | 62.88 | ✓ | ✓ | 31.50 | 1315 | 6.30 | 44.0 | 54.4 | 5.12 | 20.3 | 262 |

4
2

Notes:

port 5: CLEAR, NO ODOR port 4: CLEAR, NO ODOR port 3: CLEAR, FAINT ODOR
port 2: CLEAR, NO ODOR port 1: BROWN TINGE, NO ODOR

Total Volume: _____



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-4
Sampling Zone No.: 5 to 1
Depth (ft): 513, 392, 322, 240, 150
Beginning of Session: 14.14 psia
End of Session: 14.12 psia

Start Time: 7:15
Finish Time: 13:08

Date: 4/28/11
Page: 1 of 1

Water Pressure Inside Casing:

| Port # | Run # | Surface Function Checks | | | | | | | Position Sampler | | Sample Collection Checks | | | | | | | Water Quality Parameters | | | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|--------------------------------|---------|--------------------------|----------|---------------|------------|---------------|-------------|---------|--------------------------|------|------|-------------|--------------|------------------|------------|-----|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Cond (mmhos) | Dissolved Oxygen | Temp. (oC) | ORP |
| | 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 152.08 | ✓ | 217.60 | ✓ | 217.63 | ✓ | ✓ | 152.07 | 738 | 5.16 | 13.2 | 50.7 | 3.93 | 18.3 | 188 |
| | 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 99.31 | ✓ | 165.27 | ✓ | 165.29 | ✓ | ✓ | 99.31 | 815 | 5.55 | 29.8 | 42.4 | 3.97 | 20.1 | 161 |
| | 4 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 99.28 | ✓ | 164.64 | ✓ | 164.49 | ✓ | ✓ | 99.28 | - | - | - | - | - | - | - |
| | 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 68.75 | ✓ | 132.48 | ✓ | 133.25 | ✓ | ✓ | 68.77 | 915 | 5.71 | 0 | 44.6 | 4.77 | 21.4 | 143 |
| | 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 33.93 | ✓ | 97.21 | ✓ | 97.13 | ✓ | ✓ | 33.96 | 951 | 5.72 | 4.31 | 0.1 | 4.96 | 22.2 | 154 |
| | 2 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 33.91 | ✓ | 97.89 | ✓ | 97.84 | ✓ | ✓ | 33.94 | - | - | - | - | - | - | - |
| | 2 | 3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 33.90 | ✓ | 97.69 | ✓ | 97.64 | ✓ | ✓ | 33.92 | - | - | - | - | - | - | - |
| | 2 | 4 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 33.84 | ✓ | 97.52 | ✓ | 97.48 | ✓ | ✓ | 33.83 | - | - | - | - | - | - | - |
| | 2 | 5 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 33.78 | ✓ | 97.31 | ✓ | 97.29 | ✓ | ✓ | 33.81 | - | - | - | - | - | - | - |
| | 2 | 6 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 33.78 | ✓ | 97.17 | ✓ | 97.19 | ✓ | ✓ | 33.80 | - | - | - | - | - | - | - |
| | 2 | 7 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 30.76 | ✓ | 97.08 | ✓ | 97.07 | ✓ | ✓ | 30.77 | - | - | - | - | - | - | - |
| | 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 14.23 | ✓ | 64.73 | ✓ | 64.69 | ✓ | ✓ | 14.23 | 1241 | 6.66 | 1.02 | 49.2 | 4.99 | 24.6 | 189 |
| | 1 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 14.20 | ✓ | 64.69 | ✓ | 64.64 | ✓ | ✓ | 14.20 | - | - | - | - | - | - | - |

1st MSD <

> 4

HTS <

> 2

> 1

Notes:

Total Volume:

port 5: CLEAR, SLIGHT ODOR port 4: BROWNISH TINGE, NO ODOR port 3: CLEAR, NO ODOR
 port 2: CLEAR, NO ODOR port 1: CLEAR, NO ODOR



Groundwater Sampling Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-11
Sampling Zone No.: 5 + 1
Depth (ft): 639, 524, 429, 259, 149
Beginning of Session: 14.06 psia
End of Session: 14.10 psia

Start Time: 725
Finish Time: 1050

Date: 5/14/11
Page: 1 of 1

Water Pressure Inside Casing:

| Port # | Run # | Surface Function Checks | | | | | | | Position Sampler | Arm out | Sample Collection Checks | | | | | | | Water Quality Parameters | | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|------------------|---------|--------------------------------|----------------|----------|---------------|------------|---------------|-------------|--------------------------|----------------|------|------|-------------|--------------|------------------|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | | | Deactivate Set Arm Locate Port | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Cond (mmhos) | Dissolved Oxygen |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 237.46 | ✓ | 242.35 | ✓ | 242.30 | ✓ | ✓ | 237.42 | 810 | 5.45 | 12.1 | 38.6 | 4.01 | 19.6 | 224 |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 188.19 | ✓ | 197.31 | ✓ | 197.22 | ✓ | ✓ | 188.21 | 845 | 6.06 | 0.91 | 22.3 | 4.10 | 20.5 | 136 |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 147.22 | ✓ | 156.72 | ✓ | 156.67 | ✓ | ✓ | 147.23 | 925 | 5.82 | 2.22 | 36.3 | 4.58 | 20.9 | 172 |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 73.34 | ✓ | 85.61 | ✓ | 85.53 | ✓ | ✓ | 73.37 | 958 | 5.85 | 1.83 | 50.1 | 4.74 | 20.6 | 180 |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 26.00 | ✓ | 43.97 | ✓ | 44.01 | ✓ | ✓ | 26.03 | 1044 | 5.94 | 0.48 | 62.8 | 4.95 | 21.8 | 197 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

Notes: port 5: SLIGHTLY CLOUDY, NO ODOR port 4: CLEAR, NO ODOR port 3: CLEAR, SLIGHT ODOR
port 2: CLEAR, SLIGHT ODOR port 1: CLEAR, NO ODOR

Total Volume:



Groundwater Sampling Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-12
Sampling Zone No.: 5721
Depth (ft): 548, 436, 323, 243, 140
Beginning of Session: 14.22 psia
End of Session: 14.17 psia

Start Time: 1004
Finish Time: 1335

Date: 5/2/11
Page: 1 of 1

Water Pressure Inside Casing: _____

| Port # | Run # | Surface Function Checks | | | | | | | Position Sampler | Sample Collection Checks | | | | | | | | Water Quality Parameters | | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|------------------|--------------------------------|---------|----------------|----------|---------------|------------|---------------|-------------|--------------------------|----------------|------|------|-------------|--------------|------------------|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm in | | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe in | Pressure in MP | Time | PH | Turb. (NTU) | Cond (mmhos) | Dissolved Oxygen |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 221.28 | ✓ | 222.11 | ✓ | 221.79 | ✓ | ✓ | 221.30 | 1035 | 5.25 | 1.45 | 61.6 | 5.38 | 21.7 | 212 |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 172.38 | ✓ | 175.76 | ✓ | 175.46 | ✓ | ✓ | 172.41 | 1115 | 5.54 | 0.07 | 57.4 | 5.15 | 22.1 | 168 |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 122.98 | ✓ | 124.68 | ✓ | 124.09 | ✓ | ✓ | 123.07 | 1151 | 5.84 | 0.16 | 53.2 | 5.11 | 22.3 | 151 |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 88.03 | ✓ | 90.48 | ✓ | 90.48 | ✓ | ✓ | 88.08 | 1224 | 6.79 | 3.97 | 62.0 | 4.93 | 22.3 | 173 |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 43.59 | ✓ | 53.75 | ✓ | 53.79 | ✓ | ✓ | 43.63 | 1305 | 6.25 | 34.7 | 57.9 | 5.11 | 23.6 | 196 |
| 1 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 43.05 | ✓ | 53.73 | ✓ | 52.76 | ✓ | ✓ | 43.05 | - | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | | | | | | | | | | |

> 1

Notes:

port 5: CLEAR, STRONG ODOR port 4: CLEAR, NO ODOR port 3: CLEAR, SLIGHT ODOR
 port 2: CLEAR, SLIGHT ODOR port 1: BROWNISH TINGE, NO ODOR

Total Volume: _____



Groundwater Sampling Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-14
 Sampling Zone No.: 5-1
 Depth (ft): 540, 456, 382, 277, 207
 Beginning of Session: 14.14 psia
 End of Session: 14.11 psia

Start Time: 807
 Finish Time: 1146

Date: 4/25/11
 Page: 1 of 1

Water Pressure Inside Casing:

| Port # | Run # | Surface Function Checks | | | | | | | | Position Sampler | Sample Collection Checks | | | | | | | | Water Quality Parameters | | | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|--------------------------------|------------------|--------------------------|----------------|----------|---------------|------------|---------------|-------------|---------|--------------------------|------|------|-------------|------------------|------------------|------------|-----|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | Deactivate Set Arm Locate Port | | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Cond (micromhos) | Dissolved Oxygen | Temp. (oC) | ORP |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 188.81 | ✓ | 193.07 | ✓ | 193.07 | ✓ | ✓ | 188.79 | 835 | 5.61 | 0.96 | 42.9 | 3.94 | 15.3 | 199 | |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 152.85 | ✓ | 156.74 | ✓ | 156.73 | ✓ | ✓ | 152.14 | 917 | 5.62 | 0.33 | 75.6 | 4.09 | 19.3 | 173 | |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 119.87 | ✓ | 124.65 | ✓ | 124.67 | ✓ | ✓ | 119.84 | 956 | 5.84 | 0.66 | 0.1 | 4.18 | 20.3 | 171 | |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 74.00 | ✓ | 79.15 | ✓ | 79.17 | ✓ | ✓ | 74.02 | 1036 | 6.29 | 0.42 | 0.095 | 4.53 | 22.1 | 289 | |
| 2 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 73.99 | ✓ | 79.15 | ✓ | 79.15 | ✓ | ✓ | 73.99 | - | - | - | - | - | - | - | |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 43.36 | ✓ | 48.80 | ✓ | 48.85 | ✓ | ✓ | 43.39 | 1144 | 7.51 | 4.58 | 0.1 | 4.94 | 23.3 | 269 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

> 2

Notes:
 port 5: CLEAR, NO ODR port 4: CLEAR, NO ODR port 3: CLEAR, NO ODR
 port 2: CLEAR, NO ODR port 1: CLEAR, NO ODR

Total Volume:



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-17
Sampling Zone No.: 5+01
Depth (ft): 726, 582, 468, 370, 250
Beginning of Session: 14.10 psia
End of Session: 14.12 psia

Start Time: 805
Finish Time: 1410

Date: 5/12/11
Page: 1 of 1

Water Pressure Inside Casing: _____

| Port # | Run # | Surface Function Checks | | | | | | | Position Sampler | Sample Collection Checks | | | | | | | | Water Quality Parameters | | | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|------------------|--------------------------------|---------|----------------|----------|---------------|------------|---------------|-------------|--------------------------|----------------|------|------|-------------|--------------|------------------|------------|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Cond (mmhos) | Dissolved Oxygen | Temp. (oC) |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 243.34 | ✓ | 255.87 | ✓ | 255.63 | ✓ | ✓ | 243.32 | 835 | 5.51 | 16.5 | 46.7 | 4.14 | 17.1 | 269 |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 181.31 | ✓ | 195.78 | ✓ | 195.75 | ✓ | ✓ | 181.30 | 912 | 5.85 | 0.48 | 44.8 | 4.47 | 17.7 | 224 |
| 4 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 181.30 | ✓ | 195.86 | ✓ | 195.82 | ✓ | ✓ | 181.31 | - | - | - | - | - | - | - |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 131.77 | ✓ | 146.76 | ✓ | 146.55 | ✓ | ✓ | 131.77 | 1021 | 5.81 | 8.79 | 72.0 | 5.04 | 20.1 | 228 |
| 3 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 131.77 | ✓ | 145.95 | ✓ | 145.81 | ✓ | ✓ | 131.79 | - | - | - | - | - | - | - |
| 3 | 3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 131.77 | ✓ | 145.30 | ✓ | 145.15 | ✓ | ✓ | 131.76 | - | - | - | - | - | - | - |
| 3 | 4 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 131.71 | ✓ | 144.65 | ✓ | 144.57 | ✓ | ✓ | 131.73 | - | - | - | - | - | - | - |
| 3 | 5 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 131.69 | ✓ | 144.29 | ✓ | 144.22 | ✓ | ✓ | 131.73 | - | - | - | - | - | - | - |
| 3 | 6 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 131.68 | ✓ | 143.93 | ✓ | 143.86 | ✓ | ✓ | 131.69 | - | - | - | - | - | - | - |
| 3 | 7 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 130.33 | ✓ | 143.66 | ✓ | 143.63 | ✓ | ✓ | 130.37 | - | - | - | - | - | - | - |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 88.65 | ✓ | 102.23 | ✓ | 102.22 | ✓ | ✓ | 88.64 | 1329 | 6.02 | 0.41 | 84.6 | 5.53 | 22.3 | 275 |
| 2 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 88.57 | ✓ | 102.06 | ✓ | 102.06 | ✓ | ✓ | 88.62 | - | - | - | - | - | - | - |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 36.42 | ✓ | 58.49 | ✓ | 58.52 | ✓ | ✓ | 36.43 | 1415 | 6.45 | 6.60 | 73.6 | 5.43 | 20.8 | 257 |

4
3
2

Notes:

Total Volume: _____

port 5: CLOUDY, FAINT ODR port 4: CLEAN, NO ODR port 3: SLIGHTLY CLOUDY, NO ODR
port 2: CLEAN, NO ODR port 1: CLEAN, NO ODR



Groundwater Sampling Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-18
 Sampling Zone No.: 5 + 1
 Depth (ft): 684, 564, 424, 330, 270
 Beginning of Session: 14.09 psia
 End of Session: 14.07 psia

Start Time: 745
 Finish Time: 1410

Date: 5/16/11
 Page: 1 of 1

Water Pressure Inside Casing: _____

| Port # | Run # | Surface Function Checks | | | | | | | Position Sampler | Sample Collection Checks | | | | | | | | Water Quality Parameters | | | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|------------------|--------------------------------|---------|----------------|----------|---------------|------------|---------------|-------------|--------------------------|----------------|------|------|-------------|--------------|------------------|------------|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Cond (mmhos) | Dissolved Oxygen | Temp. (°C) |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 166.70 | ✓ | 223.57 | ✓ | 223.52 | ✓ | ✓ | 166.69 | 815 | 5.44 | 0.82 | 43.0 | 3.76 | 14.7 | 279 |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 115.37 | ✓ | 174.23 | ✓ | 174.24 | ✓ | ✓ | 115.34 | 920 | 5.63 | 2.61 | 46.2 | 4.56 | 16.5 | 250 |
| 4 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 115.31 | ✓ | 174.16 | ✓ | 174.14 | ✓ | ✓ | 115.31 | — | — | — | — | — | — | — |
| 4 | 3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 115.24 | ✓ | 173.96 | ✓ | 173.92 | ✓ | ✓ | 115.24 | — | — | — | — | — | — | — |
| 4 | 4 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 115.20 | ✓ | 173.68 | ✓ | 173.61 | ✓ | ✓ | 115.18 | — | — | — | — | — | — | — |
| 4 | 5 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 115.22 | ✓ | 173.28 | ✓ | 173.21 | ✓ | ✓ | 115.15 | — | — | — | — | — | — | — |
| 4 | 6 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 115.10 | ✓ | 172.86 | ✓ | 172.79 | ✓ | ✓ | 115.11 | — | — | — | — | — | — | — |
| 4 | 7 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 112.07 | ✓ | 172.51 | ✓ | 172.48 | ✓ | ✓ | 112.10 | — | — | — | — | — | — | — |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 53.08 | ✓ | 110.95 | ✓ | 110.93 | ✓ | ✓ | 53.10 | 1256 | 5.72 | 1.28 | 57.3 | 4.37 | 19.5 | 270 |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 14.24 | ✓ | 74.34 | ✓ | 74.30 | ✓ | ✓ | 14.25 | 1333 | 6.10 | 2.62 | 54.4 | 4.11 | 18.2 | 268 |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 14.22 | ✓ | 49.87 | ✓ | 49.86 | ✓ | ✓ | 14.23 | 1406 | 6.33 | 1.94 | 50.9 | 4.21 | 18.4 | 285 |

}

Notes:

Total Volume: _____

port 5: CLEAR, SLIGHT ODOR port 4: CLEAR, NO ODOR port 3: CLEAR, NO ODOR
 port 2: CLEAR, NO ODOR port 1: CLEAR, SLIGHT ODOR



Groundwater Sampling Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-19
Sampling Zone No.: 5 + 0 / 1
Depth (ft): 498, 444, 392, 314, 242
Beginning of Session: 14.07 psia
End of Session: 14.13 psia

Start Time: 725
Finish Time: 1320

Date: 5/11/11
Page: 1 of 1

Water Pressure Inside Casing:

| Port # | Run # | Surface Function Checks | | | | | | | | Position Sampler | Sample Collection Checks | | | | | | | | Water Quality Parameters | | | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|--------------------------------|------------------|--------------------------|----------------|----------|---------------|------------|---------------|-------------|---------|--------------------------|------|------|-------------|--------------|------------------|------------|-----|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | Deactivate Set Arm Locate Port | | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Cond (mmhos) | Dissolved Oxygen | Temp. (oC) | ORP |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 173.24 | ✓ | 180.55 | ✓ | 180.57 | ✓ | ✓ | 173.22 | 750 | 5.15 | 0.52 | 62.7 | 3.88 | 14.8 | 289 |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 149.80 | ✓ | 157.28 | ✓ | 157.29 | ✓ | ✓ | 149.76 | 821 | 5.40 | 0.15 | 61.7 | 3.78 | 16.2 | 241 |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 127.20 | ✓ | 134.13 | ✓ | 133.93 | ✓ | ✓ | 127.20 | 858 | 5.67 | 0.24 | 72.6 | 4.34 | 17.5 | 247 |
| 3 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 126.97 | ✓ | 133.23 | ✓ | 133.08 | ✓ | ✓ | 126.96 | 921 | 5.96 | 0.28 | 73.1 | 5.18 | 16.6 | 245 |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 93.90 | ✓ | 98.04 | ✓ | 97.91 | ✓ | ✓ | 93.89 | 1004 | 6.10 | 10.58 | 0.1 | 3.96 | 17.5 | 242 |
| 2 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 93.89 | ✓ | 97.52 | ✓ | 97.39 | ✓ | ✓ | 93.89 | - | - | - | - | - | - | - |
| 2 | 3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 93.84 | ✓ | 97.03 | ✓ | 96.95 | ✓ | ✓ | 93.85 | - | - | - | - | - | - | - |
| 2 | 4 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 93.84 | ✓ | 96.67 | ✓ | 96.60 | ✓ | ✓ | 93.83 | - | - | - | - | - | - | - |
| 2 | 5 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 93.78 | ✓ | 96.33 | ✓ | 96.22 | ✓ | ✓ | 93.82 | - | - | - | - | - | - | - |
| 2 | 6 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 93.75 | ✓ | 96.01 | ✓ | 95.96 | ✓ | ✓ | 93.76 | - | - | - | - | - | - | - |
| 2 | 7 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 92.45 | ✓ | 95.74 | ✓ | 95.75 | ✓ | ✓ | 92.46 | - | - | - | - | - | - | - |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 61.97 | ✓ | 68.90 | ✓ | 68.99 | ✓ | ✓ | 61.99 | 1315 | 6.44 | 6.55 | 62.8 | 5.60 | 22.5 | 240 |

} 3
} 2

Notes:

port 5: CLEAR, NO ODOR port 4: CLEAR, NO ODOR port 3: CLEAR, NO ODOR
port 2: VERY SLIGHT CLOUDINESS, NO ODOR port 1: CLEAR, NO ODOR

Total Volume:

15-11



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-20
Sampling Zone No.: 5 + 1
Depth (ft): 900, 700, 562, 392, 230
Beginning of Session: 14.09 psia
End of Session: 14.10 psia

Start Time: 734
Finish Time: 1105

Date: 5/5/11
Page: 1 of 1

Water Pressure Inside Casing: _____

| Port # | Run # | Surface Function Checks | | | | | | | Position Sampler | Sample Collection Checks | | | | | | | | Water Quality Parameters | | | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|------------------|--------------------------------|---------|----------------|----------|---------------|------------|---------------|-------------|--------------------------|----------------|------|------|-------------|--------------|------------------|------------|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | pH | Turb. (NTU) | Cond (mmhos) | Dissolved Oxygen | Temp. (°C) |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 322.72 | ✓ | 337.77 | ✓ | 337.77 | ✓ | ✓ | 322.76 | 804 | 5.70 | 1.08 | 38.5 | 3.99 | 18.1 | 103 |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 235.96 | ✓ | 251.54 | ✓ | 251.48 | ✓ | ✓ | 235.96 | 844 | 6.10 | 0.78 | 35.4 | 4.14 | 19.0 | 92 |
| 4 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 235.93 | ✓ | 251.49 | ✓ | 251.44 | ✓ | ✓ | 235.90 | 914 | 6.44 | 0.93 | 35.7 | 4.30 | 19.2 | 92 |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 176.02 | ✓ | 185.58 | ✓ | 185.58 | ✓ | ✓ | 176.03 | 950 | 6.41 | 1.56 | 53.6 | 4.43 | 21.9 | 153 |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 102.26 | ✓ | 117.50 | ✓ | 117.53 | ✓ | ✓ | 102.26 | 1025 | 6.12 | 0.29 | 61.4 | 4.80 | 20.7 | 179 |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 31.87 | ✓ | 46.94 | ✓ | 46.94 | ✓ | ✓ | 31.89 | 1101 | 6.34 | 11.3 | 46.8 | 4.90 | 22.3 | 180 |

DUP <

> 4

Notes:

Total Volume: _____

port 5: CLEAR, STRONG ODR port 4: CLEAR, STRONG ODR port 3: CLEAR, STRONG ODR
port 2: CLEAR, NO ODR port 1: CLEAR, SLIGHT ODR



Groundwater Sampling Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-21
 Sampling Zone No.: 5 to 1
 Depth (ft): 372, 310, 240, 161, 90
 Beginning of Session: 14.07 psia
 End of Session: 14.09 psia

Start Time: 720
 Finish Time: 1010

Date: 5/19/11
 Page: 1 of 1

Water Pressure Inside Casing:

| Port # | Run # | Surface Function Checks | | | | | | | | Position Sampler | Sample Collection Checks | | | | | | | | Water Quality Parameters | | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|--------------------------------|------------------|--------------------------|----------------|----------|---------------|------------|---------------|-------------|---------|--------------------------|------|-------|-------------|--------------|------------------|------------|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | Deactivate Set Arm Locate Port | | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Cond (mmhos) | Dissolved Oxygen | Temp. (°C) |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 127.41 | ✓ | 167.47 | ✓ | 167.47 | ✓ | ✓ | 127.41 | 748 | 5.02 | 10.35 | 0.1 | 3.54 | 17.3 | 271 |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 101.80 | ✓ | 140.61 | ✓ | 140.62 | ✓ | ✓ | 101.82 | 829 | 5.54 | 0.75 | 90.4 | 4.13 | 17.9 | 238 |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 71.76 | ✓ | 110.79 | ✓ | 110.79 | ✓ | ✓ | 71.75 | 857 | 5.98 | 1.92 | 0.1 | 4.09 | 18.6 | 356 |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 37.87 | ✓ | 76.65 | ✓ | 76.64 | ✓ | ✓ | 37.90 | 929 | 6.22 | 8.20 | 0.1 | 4.35 | 20.4 | 340 |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 14.19 | ✓ | 45.56 | ✓ | 45.53 | ✓ | ✓ | 14.19 | 1005 | 6.54 | 8.61 | 0.055 | 4.28 | 21.8 | 356 |

Notes:

port 5: CLOUDY, NO O₂ OR port 4: CLEAR, NO O₂ OR port 3: CLEAR, NO O₂ OR
 port 2: CLEAR, NO O₂ OR port 1: CLEAR, NO O₂ OR

Total Volume:



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-22
Sampling Zone No.: 521
Depth (ft): 588, 467, 389, 329, 245
Beginning of Session: 14.06 psia
End of Session: 14.06 psia

Start Time: 735
Finish Time: 1031

Date: 4/26/11
Page: 1 of 1

Water Pressure Inside Casing: _____

| Port # | Run # | Surface Function Checks | | | | | | | Position Sampler | Sample Collection Checks | | | | | | | Water Quality Parameters | | | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|------------------|--------------------------------|---------|----------------|----------|---------------|------------|---------------|--------------------------|---------|----------------|-------|------|-------------|--------------|------------------|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Cond (mmhos) | Dissolved Oxygen |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 202.10 | ✓ | 209.21 | ✓ | 209.21 | ✓ | ✓ | 202.11 | 810 | 5.67 | 1.04 | 39.9 | 4.01 | 17.1 | 9 |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 149.66 | ✓ | 157.86 | ✓ | 157.83 | ✓ | ✓ | 149.64 | 845 | 5.24 | 0.0 | 45.2 | 4.08 | 16.6 | 97 |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 115.79 | ✓ | 125.33 | ✓ | 125.26 | ✓ | ✓ | 115.79 | 921 | 5.32 | -0.13 | 61.6 | 3.96 | 17.2 | 122 |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 89.76 | ✓ | 99.10 | ✓ | 99.06 | ✓ | ✓ | 89.76 | 954 | 5.94 | 0.30 | 68.4 | 5.40 | 20.9 | 112 |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 52.84 | ✓ | 63.70 | ✓ | 63.69 | ✓ | ✓ | 52.84 | 1028 | 6.46 | 12.66 | 85.1 | 6.26 | 24.1 | 105 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

Notes: port 5: CLEAR, STRONG ODOIR port 4: CLEAR, SLIGHT ODOIR port 3: CLEAR, SLIGHT ODOIR
port 2: CLEAR, NO ODOIR port 1: CLEAR, NO ODOIR

Total Volume: _____



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-23
 Sampling Zone No.: 5 to 1
 Depth (ft): 542, 445, 319, 254, 174
 Beginning of Session: 14.16 psia
 End of Session: 14.15 psia

Start Time: 715
 Finish Time: 1007

Date: 5/3/11
 Page: 1 of 1

Water Pressure Inside Casing:

| Port # | Run # | Surface Function Checks | | | | | | | Position Sampler | Sample Collection Checks | | | | | | | | Water Quality Parameters | | | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|------------------|--------------------------------|---------|----------------|----------|---------------|------------|---------------|-------------|--------------------------|----------------|------|------|-------------|--------------|------------------|------------|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Cond (mmhos) | Dissolved Oxygen | Temp. (oC) |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 205.65 | ✓ | 218.01 | ✓ | 217.68 | ✓ | ✓ | 205.69 | 738 | 5.59 | 2.40 | 48.0 | 3.76 | 18.0 | 82 |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 163.56 | ✓ | 176.58 | ✓ | 176.57 | ✓ | ✓ | 163.57 | 811 | 5.76 | 0.54 | 38.5 | 3.86 | 19.3 | 154 |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 108.91 | ✓ | 123.74 | ✓ | 123.65 | ✓ | ✓ | 108.90 | 843 | 5.57 | 0.91 | 41.5 | 3.88 | 21.4 | 160 |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 80.70 | ✓ | 95.28 | ✓ | 95.19 | ✓ | ✓ | 80.68 | 911 | 5.74 | 0.88 | 0.1 | 4.08 | 22.7 | 278 |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 45.90 | ✓ | 62.73 | ✓ | 62.76 | ✓ | ✓ | 45.91 | 944 | 6.16 | 5.41 | 64.7 | 4.38 | 23.8 | 163 |
| 1 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 45.91 | ✓ | 62.71 | ✓ | 62.70 | ✓ | ✓ | 45.91 | - | - | - | - | - | - | - |

Notes:

port 5: CLEAR, SLIGHT ODR port 4: CLEAR, NO ODR port 3: CLEAR, NO ODR
 port 2: CLEAR, NO ODR port 1: CLEAR, NO ODR

Total Volume:



Groundwater Sampling Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-24
Sampling Zone No.: 5 to 1
Depth (ft): 678, 554, 435, 373, 279
Beginning of Session: 14.04 psia
End of Session: 14.10 psia

Start Time: 730
Finish Time: 1145

Date: 4/27/11
Page: 1 of 1

Water Pressure Inside Casing:

| Port # | Run # | Surface Function Checks | | | | | | | Position Sampler | Sample Collection Checks | | | | | | | Water Quality Parameters | | | | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|------------------|--------------------------------|---------|----------------|----------|---------------|------------|---------------|--------------------------|---------|----------------|------|------|-------------|--------------|------------------|------------|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Cond (mmhos) | Dissolved Oxygen | Temp. (oC) |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 233.25 | ✓ | 235.92 | ✓ | 235.53 | ✓ | ✓ | 233.25 | 756 | 5.43 | 0.90 | 51.2 | 3.86 | 19.0 | 196 |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 179.50 | ✓ | 183.11 | ✓ | 183.13 | ✓ | ✓ | 179.48 | 840 | 5.76 | 0.58 | 27.3 | 3.93 | 20.3 | 55 |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 127.86 | ✓ | 133.14 | ✓ | 133.09 | ✓ | ✓ | 127.87 | 925 | 5.83 | 0.28 | 42.6 | 4.08 | 21.3 | 130 |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 101.02 | ✓ | 106.65 | ✓ | 106.64 | ✓ | ✓ | 101.01 | 1010 | 5.88 | 0.73 | 57.8 | 4.31 | 22.3 | 141 |
| 2 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 101.04 | ✓ | 106.47 | ✓ | 106.44 | ✓ | ✓ | 101.06 | 1032 | 5.96 | 0.65 | 57.9 | 4.28 | 21.8 | 153 |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 60.53 | ✓ | 68.83 | ✓ | 68.84 | ✓ | ✓ | 60.57 | 1115 | 6.20 | 6.03 | 77.2 | 4.62 | 24.1 | 179 |
| 1 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 60.53 | ✓ | 68.77 | ✓ | 68.78 | ✓ | ✓ | 60.54 | - | - | - | - | - | - | - |

DUPE <

> 2

> 1

Notes:

port 5: CLEAR, NO ODOIR port 4: CLEAR, STRONG ODOIR port 3: CLEAR, NO ODOIR
 port 2: CLEAR, NO ODOIR port 1: CLEAR, NO ODOIR

Total Volume:



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-25
Sampling Zone No.: 5 r01
Depth (ft): 713, 633, 503, 423, 358
Beginning of Session: 14.17 psia
End of Session: 14.18 psia

Start Time: 740
Finish Time: 1605

Date: 5/17/11
Page: 1 of 1

Water Pressure Inside Casing:

| Port # | Run # | Surface Function Checks | | | | | | | | Position Sampler | | Sample Collection Checks | | | | | | | | Water Quality Parameters | | | | | |
|--------|-------|-------------------------|---------------------------|------------|--------------------|--------------|---------|--------|--------------------------------|------------------|--------|--------------------------|----------------|----------|---------------|------------|---------------|-------------|---------|--------------------------|-------|------|-------------|---------------|------------------|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | Deactivate Set Arm Locate Port | | | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | pH | Turb. (NTU) | Cond (microh) | Dissolved Oxygen |
| 5 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 215.31 | ✓ | 212.66 | ✓ | 212.64 | ✓ | ✓ | 215.30 | 815 | 5.13 | 0.66 | 58.0 | 3.59 | 14.2 | 175 |
| 4 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 180.75 | ✓ | 179.32 | ✓ | 179.32 | ✓ | ✓ | 180.74 | 856 | 5.55 | 1.67 | 78.5 | 3.60 | 15.4 | 214 |
| 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 124.35 | ✓ | 123.89 | ✓ | 123.89 | ✓ | ✓ | 124.38 | 928 | 5.82 | 0.14 | 77.1 | 3.68 | 14.5 | 214 |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 89.58 | ✓ | 89.28 | ✓ | 89.27 | ✓ | ✓ | 89.56 | 1003 | 6.10 | 10.0 | 76.7 | 3.86 | 14.4 | 207 |
| 2 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 89.57 | ✓ | 89.28 | ✓ | 89.28 | ✓ | ✓ | 89.52 | 1035 | 5.99 | 1.28 | 74.3 | 3.79 | 15.1 | 221 |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 61.27 | ✓ | 60.77 | ✓ | 60.77 | ✓ | ✓ | 61.21 | 1100 | 6.58 | 10.21 | 91.4 | 3.75 | 16.2 | 230 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

Notes:
 port 5: CLEAR, STRONG ODO2 port 4: CLEAR, NO ODO2 port 3: CLEAR, NO ODO2
 port 2: CLEAR, NO ODO2 port 1: CLEAR, NO ODO2

Total Volume:

> 2



Groundwater Sampling Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-26
Sampling Zone No.: 2401
Depth (ft): 215, 135
Beginning of Session: 14.08 psia
End of Session: 14.03 psia

Start Time: 7:45
Finish Time: 9:00

Date: 5/18/11
Page: 1 of 1

Water Pressure Inside Casing:

| Port # | Run # | Function Checks | | | | | | | | Position Sampler | Sample Collection Checks | | | | | | | | Water Quality Parameters | | | | | | |
|--------|-------|-----------------|---------------------------|------------|--------------------|--------------|---------|--------|--------------------------------|------------------|--------------------------|----------------|----------|---------------|------------|---------------|-------------|---------|--------------------------|------|------|-------------|-------------|------------------|------------|
| | | Shoe Out | Vacuum Check Valve Closed | Valve Open | Evacuate Container | Valve Closed | Shoe in | Arm In | Deactivate Set Arm Locate Port | | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Cond (mhos) | Dissolved Oxygen | Temp. (oC) |
| 2 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 74.97 | ✓ | 85.23 | ✓ | 85.22 | ✓ | ✓ | 74.97 | 810 | 5.13 | 0.62 | 60.0 | 3.75 | 15.1 | 283 |
| 1 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 40.17 | ✓ | 46.59 | ✓ | 46.59 | ✓ | ✓ | 40.15 | 853 | 5.27 | 0.54 | 0.1 | 3.80 | 15.3 | 368 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

Notes:

Total Volume:

port 2: CLEAR, NO ODOOR port 1: CLEAR, NO ODOOR

ATTACHMENT 5: WATER LEVEL MEASUREMENTS

This attachment contains water level measurements for the Westbay™ multiport JPL monitoring wells and the relatively shallow standpipe monitoring wells obtained during the 2nd Quarter 2011. Water level measurements were recorded before the sampling event on April 22, 2011 and after the sampling event on May 20, 2011. Water levels for the shallow wells were measured using a Solinst™ water level meter. In the deep multiport wells, the hydraulic head at each sampling port was measured with a Westbay™ MOSDAX sampling probe. Water level measurements were conducted by Insight Environmental, Inc.

INSIGHT, Inc.
Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-3
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. + MSL): 1,100.34
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1018 | 1028 |
| Pressure (psia) | 14.17 | 14.14 |
| Temperature (°C) | 18.61 | 18.77 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 653 | 236.55 | 265.07 | 236.55 | 20.64 | 1021 | 74.17 | 1026.17 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 558 | 195.32 | 223.99 | 195.37 | 21.61 | 1023 | 73.95 | 1026.39 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 346 | 103.22 | 134.55 | 103.25 | 21.63 | 1024 | 68.28 | 1032.06 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 252 | 62.31 | 95.00 | 62.36 | 21.03 | 1025 | 65.53 | 1034.81 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 172 | 27.59 | 63.82 | 27.61 | 19.71 | 1026 | 57.46 | 1042.88 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-4
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. +MSL): 1,082.84
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1341 | 1349 |
| Pressure (psia) | 14.17 | 14.13 |
| Temperature (°C) | 18.23 | 19.65 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 513 | 148.31 | 212.13 | 148.35 | 19.88 | 1344 | 56.31 | 1026.53 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 392 | 95.71 | 159.71 | 95.70 | 20.57 | 1345 | 56.24 | 1026.60 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 322 | 65.25 | 129.37 | 65.25 | 20.72 | 1346 | 56.23 | 1026.61 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 240 | 29.56 | 94.91 | 29.57 | 20.65 | 1347 | 53.73 | 1029.11 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 150 | 14.24 | 64.04 | 14.23 | 20.24 | 1348 | 34.95 | 1047.89 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-11
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,139.30
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 933 | 948 |
| Pressure (psia) | 14.12 | 14.11 |
| Temperature (°C) | 20.17 | 18.07 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 639 | 234.01 | 243.38 | 234.01 | 20.19 | 937 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 110.10 |
| 4 | 524 | 184.55 | 198.33 | 184.56 | 20.61 | 943 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 99.03 |
| 3 | 429 | 143.64 | 157.31 | 143.67 | 20.46 | 944 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 98.66 |
| 2 | 259 | 70.06 | 85.56 | 70.05 | 19.27 | 946 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 94.19 |
| 1 | 149 | 22.78 | 43.32 | 22.78 | 18.57 | 947 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 81.64 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-12
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,102.14
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1326 | 1334 |
| Pressure (psia) | 14.14 | 14.14 |
| Temperature (°C) | 20.52 | 18.47 |

| Screen No. | Depth (Ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 548 | 213.91 | 214.69 | 213.88 | 20.39 | 1329 | 85.33 | 1016.81 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 436 | 165.22 | 171.99 | 165.20 | 20.63 | 1331 | 71.84 | 1030.30 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 323 | 116.11 | 122.24 | 116.04 | 20.17 | 1332 | 73.61 | 1028.53 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 243 | 81.28 | 89.28 | 81.21 | 19.61 | 1333 | 69.65 | 1032.49 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 140 | 36.38 | 52.82 | 36.37 | 18.98 | 1334 | 50.77 | 1051.37 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-14
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,173.47
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 757 | 807 |
| Pressure (psia) | 14.11 | 14.16 |
| Temperature (°C) | 19.16 | 19.19 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 540 | 184.94 | 192.91 | 184.97 | 19.85 | 759 | 127.51 | 1045.96 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 456 | 148.47 | 156.58 | 148.43 | 20.32 | 801 | 127.32 | 1046.15 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 382 | 116.26 | 124.55 | 116.23 | 20.24 | 802 | 127.21 | 1046.26 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 277 | 70.56 | 79.05 | 70.55 | 19.90 | 803 | 127.18 | 1046.29 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 207 | 40.07 | 48.76 | 40.06 | 19.42 | 805 | 127.06 | 1046.41 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-17
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,191.21
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1109 | 1121 |
| Pressure (psia) | 14.13 | 14.08 |
| Temperature (°C) | 18.99 | 15.48 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 726 | 241.67 | 255.95 | 241.67 | 19.16 | 1113 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 168.12 |
| 4 | 582 | 179.27 | 192.84 | 179.34 | 19.65 | 1114 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 169.72 |
| 3 | 468 | 125.58 | 141.53 | 125.58 | 18.95 | 1116 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 174.09 |
| 2 | 370 | 87.37 | 104.00 | 87.38 | 18.23 | 1117 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 162.67 |
| 1 | 250 | 35.24 | 56.74 | 35.26 | 17.20 | 1118 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 151.70 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-18
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: _____
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,225.41
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1136 | 1149 |
| Pressure (psia) | 14.11 | 14.13 |
| Temperature (°C) | 16.35 | 16.79 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 684 | 162.92 | 223.30 | 162.92 | 18.89 | 1141 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 201.40 |
| 4 | 564 | 110.78 | 172.90 | 110.78 | 19.85 | 1143 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 197.67 |
| 3 | 424 | 49.90 | 112.94 | 49.92 | 18.90 | 1146 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 196.00 |
| 2 | 330 | 14.26 | 73.23 | 14.25 | 17.97 | 1147 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 193.61 |
| 1 | 270 | 14.22 | 40.41 | 14.16 | 17.39 | 1148 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 209.33 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-19
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. +MSL): 1,142.94
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1041 | 1050 |
| Pressure (psia) | 14.13 | 14.13 |
| Temperature (°C) | 19.16 | 17.37 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) | |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|---------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | | |
| 5 | 498 | 171.68 | 173.00 | 171.66 | 19.09 | 1043 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 131.49 | 1011.45 |
| 4 | 444 | 148.25 | 149.54 | 148.26 | 19.30 | 1045 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 131.61 | 1011.33 |
| 3 | 392 | 125.70 | 131.08 | 125.70 | 19.34 | 1046 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 122.20 | 1020.74 |
| 2 | 314 | 91.89 | 97.32 | 91.85 | 19.27 | 1047 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 122.08 | 1020.86 |
| 1 | 242 | 60.61 | 69.35 | 60.58 | 18.85 | 1048 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 114.61 | 1028.33 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-20
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,165.05
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1201 | 1219 |
| Pressure (psia) | 14.11 | 14.06 |
| Temperature (°C) | 17.62 | 16.94 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 900 | 320.97 | 337.89 | 320.99 | 20.19 | 1208 | 153.04 | 1012.01 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 700 | 234.37 | 252.80 | 234.37 | 21.41 | 1210 | 149.34 | 1015.71 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 562 | 174.56 | 192.70 | 174.49 | 20.77 | 1213 | 149.99 | 1015.06 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 392 | 100.69 | 118.86 | 100.77 | 18.70 | 1215 | 150.34 | 1014.71 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 230 | 31.27 | 40.35 | 31.31 | 17.23 | 1218 | 169.46 | 995.59 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-21
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,059.10
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 817 | 828 |
| Pressure (psia) | 14.19 | 14.18 |
| Temperature (°C) | 19.73 | 18.89 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 372 | 125.31 | 167.65 | 125.33 | 19.68 | 820 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 17.97 |
| 4 | 310 | 93.93 | 136.29 | 93.87 | 19.85 | 822 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 28.32 |
| 3 | 240 | 68.27 | 110.93 | 68.31 | 19.24 | 825 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 16.82 |
| 2 | 161 | 33.87 | 76.77 | 33.88 | 19.10 | 826 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 16.63 |
| 1 | 90 | 14.23 | 45.58 | 14.23 | 18.97 | 827 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 17.58 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-22
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,176.98
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 727 | 740 |
| Pressure (psia) | 14.12 | 14.08 |
| Temperature (°C) | 19.87 | 20.14 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 588 | 200.54 | 210.02 | 200.58 | 21.04 | 730 | 136.06 | 1040.92 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 467 | 148.02 | 158.37 | 148.11 | 21.45 | 732 | 134.22 | 1042.76 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 389 | 114.33 | 125.70 | 114.33 | 21.18 | 734 | 131.58 | 1045.40 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 329 | 88.32 | 99.71 | 88.28 | 20.82 | 736 | 131.54 | 1045.44 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 245 | 51.46 | 63.61 | 51.42 | 20.35 | 738 | 130.83 | 1046.15 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-23
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,108.84
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 706 | 717 |
| Pressure (psia) | 14.11 | 14.14 |
| Temperature (°C) | 19.87 | 20.00 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 542 | 203.96 | 219.00 | 203.96 | 20.78 | 709 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 69.32 |
| 4 | 445 | 161.95 | 177.24 | 161.98 | 21.17 | 710 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 68.66 |
| 3 | 319 | 107.40 | 123.91 | 107.38 | 20.86 | 713 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 65.69 |
| 2 | 254 | 79.25 | 95.93 | 79.23 | 20.47 | 714 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 65.24 |
| 1 | 174 | 44.54 | 62.49 | 44.10 | 20.25 | 715 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 62.39 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-24
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,200.94
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 856 | 912 |
| Pressure (psia) | 14.10 | 14.12 |
| Temperature (°C) | 18.54 | 21.33 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 678 | 231.71 | 236.86 | 231.65 | 20.27 | 904 | 164.09 | 1036.85 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 554 | 177.95 | 184.19 | 177.98 | 21.24 | 906 | 161.60 | 1039.34 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 435 | 126.55 | 133.45 | 126.42 | 21.36 | 908 | 159.66 | 1041.28 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 373 | 99.61 | 107.17 | 99.57 | 21.38 | 909 | 158.29 | 1042.65 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 279 | 58.93 | 68.67 | 58.83 | 21.39 | 910 | 153.11 | 1047.83 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-25
 Project No: 4-73805 Probe Type: Westbay
 Date: 4/22/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. + MSL): 934.52
 Weather: partly cloudy and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1237 | 1250 |
| Pressure (psia) | 14.21 | 14.26 |
| Temperature (°C) | 17.74 | 20.04 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 713 | 211.68 | 209.18 | 211.62 | 21.33 | 1243 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 263.20 |
| 4 | 633 | 177.13 | 173.39 | 177.18 | 21.56 | 1244 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 265.77 |
| 3 | 503 | 120.94 | 120.06 | 120.91 | 21.35 | 1245 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 258.80 |
| 2 | 423 | 86.21 | 87.88 | 86.21 | 21.00 | 1246 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 253.04 |
| 1 | 358 | 55.68 | 58.18 | 55.76 | 20.37 | 1248 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 256.56 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-3
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. + MSL): 1,100.34
 Weather: clear and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 929 | 939 |
| Pressure (psia) | 14.17 | 14.20 |
| Temperature (°C) | 18.55 | 18.85 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 653 | 237.14 | 267.33 | 237.18 | 20.68 | 933 | 68.96 | 1031.38 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 558 | 195.89 | 226.27 | 195.90 | 21.56 | 934 | 68.69 | 1031.65 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 346 | 103.72 | 137.82 | 103.78 | 21.57 | 936 | 60.74 | 1039.60 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 252 | 62.93 | 97.72 | 62.94 | 21.03 | 937 | 59.25 | 1041.09 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 172 | 28.15 | 65.59 | 28.18 | 20.02 | 938 | 53.37 | 1046.97 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-4
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. +MSL): 1,082.84
 Weather: clear and warm

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1248 | 1302 |
| Pressure (psia) | 14.18 | 14.19 |
| Temperature (°C) | 22.44 | 19.78 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 513 | 148.14 | 217.25 | 148.14 | 22.49 | 1254 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 44.52 |
| 4 | 392 | 95.52 | 164.81 | 95.51 | 22.26 | 1255 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 44.50 |
| 3 | 322 | 65.05 | 134.41 | 65.07 | 21.54 | 1258 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 44.63 |
| 2 | 240 | 29.41 | 99.68 | 29.39 | 21.17 | 1259 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 42.75 |
| 1 | 150 | 14.25 | 65.37 | 14.25 | 20.43 | 1300 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 31.90 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-11
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,139.30
 Weather: clear and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 854 | 910 |
| Pressure (psia) | 14.14 | 14.18 |
| Temperature (°C) | 22.17 | 18.30 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 639 | 234.71 | 243.09 | 234.10 | 21.43 | 859 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 110.81 |
| 4 | 524 | 185.23 | 197.90 | 185.27 | 21.57 | 903 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 100.07 |
| 3 | 429 | 144.34 | 156.93 | 144.35 | 20.33 | 905 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 99.58 |
| 2 | 259 | 70.64 | 86.23 | 70.71 | 19.73 | 907 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 92.69 |
| 1 | 149 | 23.47 | 44.49 | 23.46 | 18.79 | 908 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 78.98 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-12
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,102.14
 Weather: clear and warm

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1226 | 1236 |
| Pressure (psia) | 14.15 | 14.17 |
| Temperature (°C) | 21.72 | 19.12 |

| Screen No. | Depth (Ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|-------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 548 | 216.86 | 222.05 | 216.88 | 21.39 | 1229 | 68.37 | 1033.77 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 436 | 168.26 | 175.84 | 168.19 | 21.46 | 1231 | 62.98 | 1039.16 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 323 | 118.98 | 128.20 | 118.99 | 20.79 | 1232 | 59.89 | 1042.25 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 243 | 84.15 | 94.34 | 84.20 | 19.99 | 1233 | 58.00 | 1044.14 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 140 | 39.45 | 54.44 | 39.36 | 19.07 | 12.34 | 47.05 | 1055.09 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-14
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,173.47
 Weather: clear and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 749 | 757 |
| Pressure (psia) | 14.12 | 14.14 |
| Temperature (°C) | 19.44 | 19.27 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 540 | 184.69 | 192.22 | 184.71 | 19.73 | 752 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 129.12 |
| 4 | 456 | 148.25 | 156.02 | 148.21 | 20.20 | 753 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 128.64 |
| 3 | 382 | 116.01 | 123.98 | 116.01 | 20.17 | 754 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 128.55 |
| 2 | 277 | 70.31 | 78.71 | 70.29 | 19.79 | 755 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 127.99 |
| 1 | 207 | 39.85 | 48.74 | 39.84 | 19.49 | 756 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 127.13 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-17
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,191.21
 Weather: clear and warm

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1035 | 1044 |
| Pressure (psia) | 14.12 | 14.19 |
| Temperature (°C) | 19.58 | 16.52 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 726 | 241.48 | 257.01 | 241.47 | 19.34 | 1038 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 165.65 |
| 4 | 582 | 179.16 | 196.44 | 179.05 | 19.76 | 1040 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 161.39 |
| 3 | 468 | 129.58 | 147.74 | 129.61 | 19.27 | 1041 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 159.74 |
| 2 | 370 | 87.09 | 107.30 | 87.08 | 18.67 | 1042 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 155.03 |
| 1 | 250 | 34.97 | 58.63 | 34.94 | 17.81 | 1043 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 147.32 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-18
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: _____
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,225.41

Note: clear and warm

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1053 | 1102 |
| Pressure (psia) | 14.10 | 14.10 |
| Temperature (°C) | 17.85 | 17.57 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 684 | 162.50 | 222.52 | 162.52 | 19.31 | 1056 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 203.18 |
| 4 | 564 | 110.43 | 173.23 | 110.41 | 19.98 | 1057 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 196.89 |
| 3 | 424 | 49.59 | 115.92 | 49.59 | 19.63 | 1058 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 189.10 |
| 2 | 330 | 14.29 | 75.74 | 14.28 | 18.85 | 1059 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 187.80 |
| 1 | 270 | 14.21 | 42.18 | 14.21 | 18.17 | 1100 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 205.22 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-19
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. +MSL): 1,142.94
 Weather: clear and warm

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1015 | 1025 |
| Pressure (psia) | 14.15 | 14.19 |
| Temperature (°C) | 22.52 | 17.82 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) | |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|---------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | | |
| 5 | 498 | 171.58 | 181.01 | 171.58 | 21.04 | 1019 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 113.05 | 1029.89 |
| 4 | 444 | 148.17 | 157.63 | 148.20 | 20.68 | 1020 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 112.99 | 1029.95 |
| 3 | 392 | 125.65 | 135.08 | 125.63 | 20.25 | 1021 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 113.01 | 1029.93 |
| 2 | 314 | 91.84 | 101.14 | 91.82 | 20.05 | 1022 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 113.31 | 1029.63 |
| 1 | 242 | 60.53 | 70.57 | 60.53 | 18.86 | 1024 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 111.84 | 1031.10 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-20
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,165.05
 Weather: clear and warm

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1111 | 1126 |
| Pressure (psia) | 14.11 | 14.16 |
| Temperature (°C) | 20.94 | 17.40 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 900 | 320.94 | 338.00 | 320.95 | 21.69 | 1116 | 152.79 | 1012.26 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 700 | 234.25 | 252.37 | 234.26 | 22.19 | 1118 | 150.33 | 1014.72 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 562 | 174.43 | 193.01 | 174.44 | 20.71 | 1121 | 149.28 | 1015.77 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 392 | 100.73 | 119.85 | 100.70 | 19.08 | 1123 | 148.06 | 1016.99 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 230 | 31.24 | 40.35 | 31.25 | 17.88 | 1125 | 169.46 | 995.59 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-21
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,059.10
 Weather: clear and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 808 | 816 |
| Pressure (psia) | 14.15 | 14.11 |
| Temperature (°C) | 20.17 | 19.14 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 372 | 125.77 | 167.34 | 125.83 | 19.97 | 811 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 18.59 |
| 4 | 310 | 98.78 | 140.49 | 98.83 | 20.11 | 812 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 18.53 |
| 3 | 240 | 68.80 | 110.66 | 68.78 | 1.97 | 813 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 17.35 |
| 2 | 161 | 34.37 | 76.56 | 34.37 | 19.67 | 814 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 17.02 |
| 1 | 90 | 14.28 | 45.68 | 14.26 | 19.35 | 815 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 17.26 |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-22
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,176.98
 Weather: clear and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 729 | 742 |
| Pressure (psia) | 14.11 | 14.13 |
| Temperature (°C) | 18.19 | 20.28 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 588 | 200.65 | 209.05 | 200.68 | 19.52 | 734 | 138.27 | 1038.71 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 467 | 146.27 | 157.60 | 146.23 | 20.79 | 737 | 135.97 | 1041.01 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 389 | 114.61 | 125.52 | 114.42 | 20.89 | 738 | 131.98 | 1045.00 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 329 | 88.38 | 99.60 | 88.40 | 20.84 | 739 | 131.77 | 1045.21 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 245 | 51.56 | 64.09 | 51.53 | 20.63 | 740 | 129.70 | 1047.28 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-23
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,108.84
 Weather: clear and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 710 | 721 |
| Pressure (psia) | 14.11 | 14.16 |
| Temperature (°C) | 19.41 | 19.05 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 542 | 203.88 | 217.85 | 203.85 | 18.35 | 715 | 71.97 | 1036.87 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 445 | 161.86 | 176.37 | 161.85 | 19.46 | 716 | 70.67 | 1038.17 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 319 | 107.27 | 123.84 | 107.25 | 1.89 | 718 | 65.85 | 1042.99 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 254 | 79.10 | 95.90 | 79.10 | 19.91 | 719 | 65.31 | 1043.53 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 174 | 45.25 | 57.67 | 45.24 | 19.75 | 720 | 73.51 | 1035.33 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

INSIGHT, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-24
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,200.94
 Weather: clear and cool

| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 833 | 845 |
| Pressure (psia) | 14.11 | 14.15 |
| Temperature (°C) | 19.23 | 21.63 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 678 | 232.94 | 235.97 | 232.96 | 21.23 | 839 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 166.17 |
| 4 | 554 | 179.40 | 183.36 | 179.29 | 21.58 | 840 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 163.54 |
| 3 | 435 | 127.73 | 133.93 | 127.73 | 21.58 | 842 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 158.58 |
| 2 | 373 | 100.78 | 107.77 | 100.86 | 21.59 | 843 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 156.93 |
| 1 | 279 | 60.10 | 69.57 | 60.11 | 21.63 | 844 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 151.05 |

INSIGHT, Inc.

Piezometric Pressures/Levels

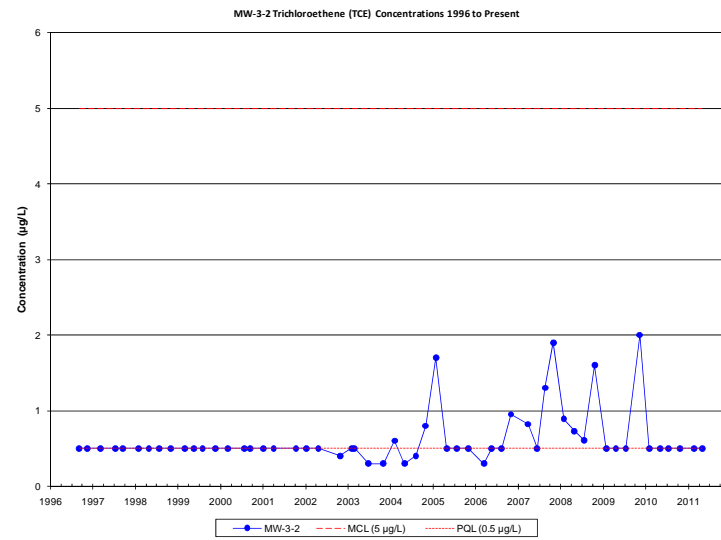
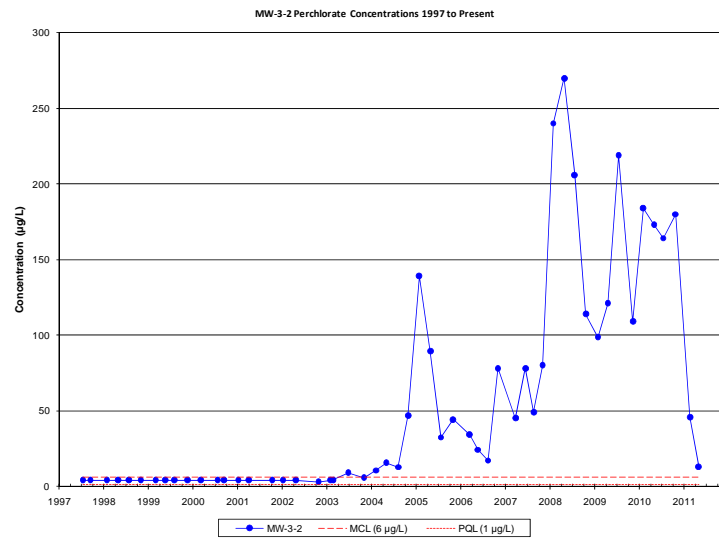
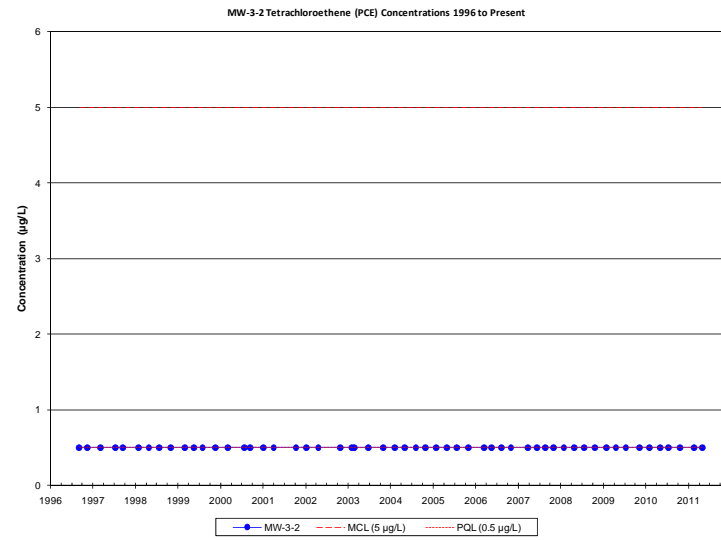
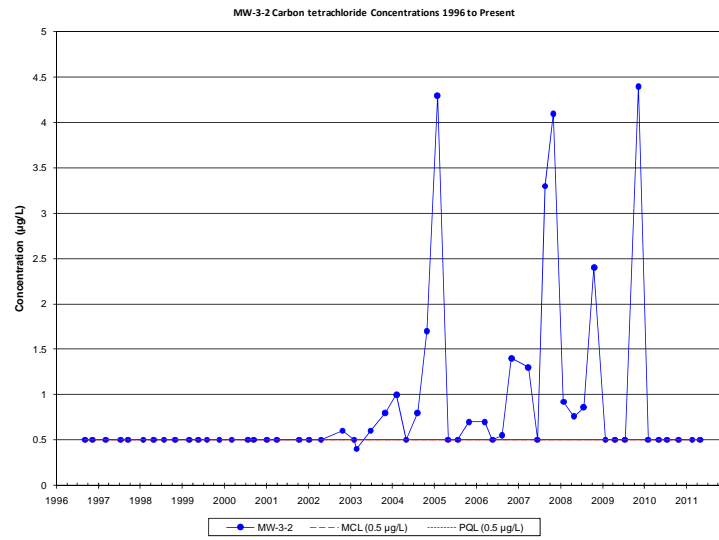
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-25
 Project No: 4-73805 Probe Type: Westbay
 Date: 5/20/11 Serial No.: 2508
 Personnel: Chase Brogdon, Andrew Wells
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. + MSL): 934.52
 Weather: clear and warm

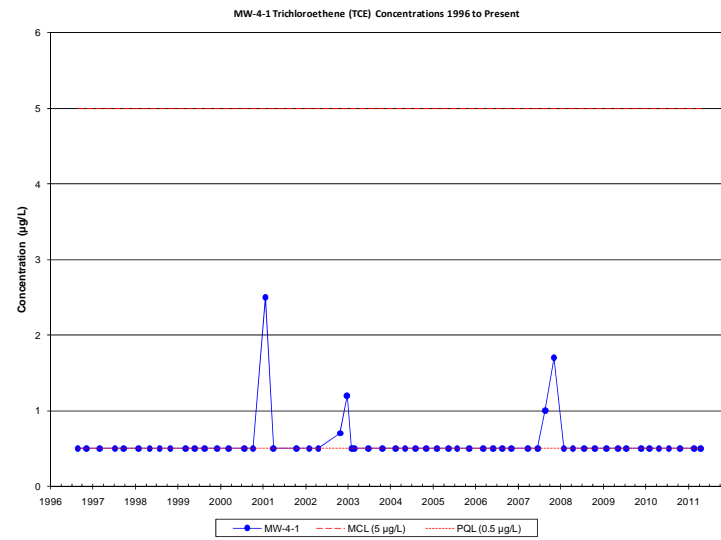
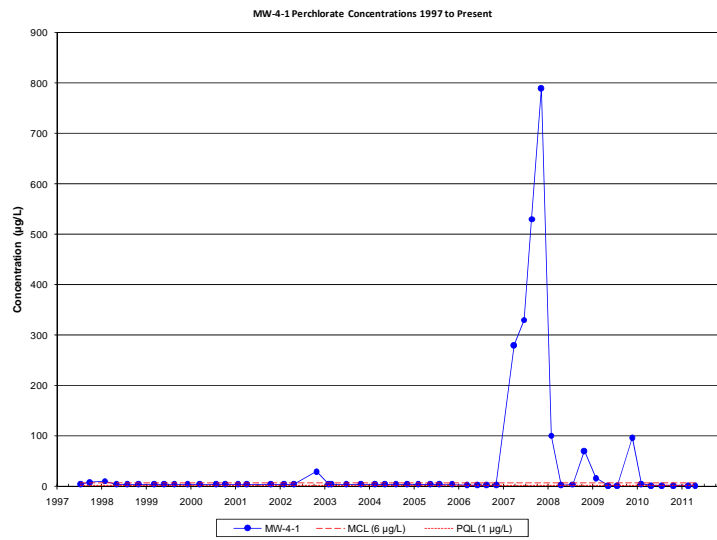
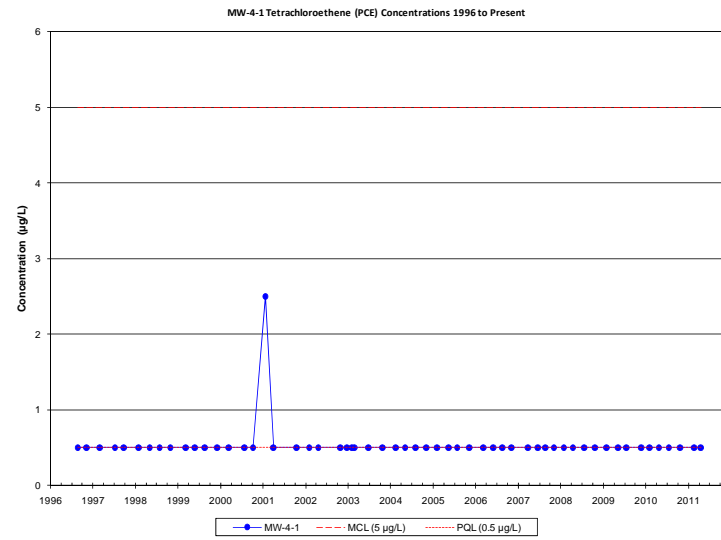
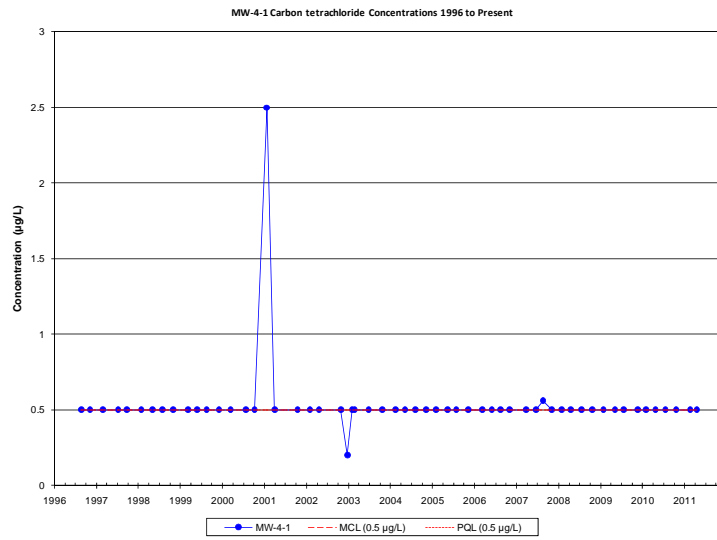
| Ambient Readings | Start | Finish |
|------------------|-------|--------|
| Time | 1141 | 1153 |
| Pressure (psia) | 14.24 | 14.26 |
| Temperature (°C) | 19.68 | 20.25 |

| Screen No. | Depth (ft. BTOC) | Fluid Pressure Readings | | | Temp. (°C) | Time | Piezometric Level Outside Port (ft.) | Water Level Elevation (ft.) |
|------------|------------------|-------------------------|-----------------------|----------------------|------------|------|--------------------------------------|-----------------------------|
| | | Inside Casing (psia) | Outside Casing (psia) | Inside Casing (psia) | | | | |
| 5 | 713 | 211.36 | 213.62 | 211.38 | 20.96 | 1144 | 253.03 | 681.49 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 633 | 176.92 | 179.91 | 176.96 | 21.37 | 1147 | 250.80 | 683.72 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | 503 | 120.68 | 124.31 | 120.65 | 21.25 | 1149 | 249.07 | 685.45 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2 | 423 | 85.94 | 89.53 | 85.93 | 20.96 | 1150 | 249.31 | 685.21 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | 358 | 57.71 | 60.92 | 57.70 | 20.73 | 1151 | 250.31 | 684.21 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

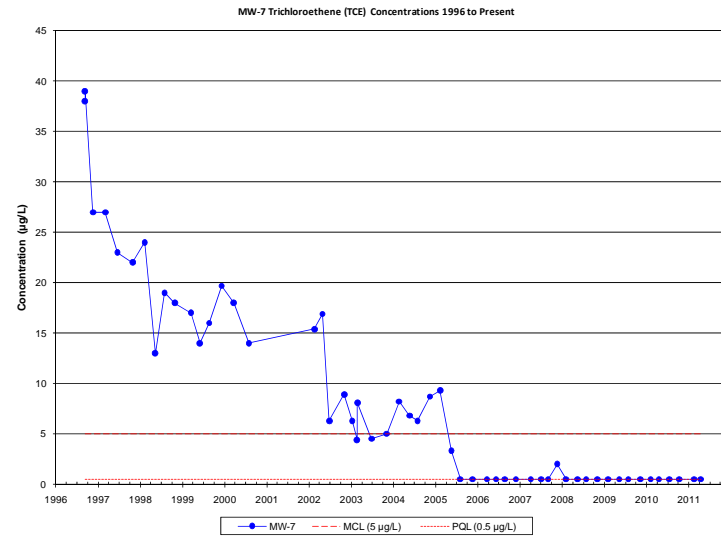
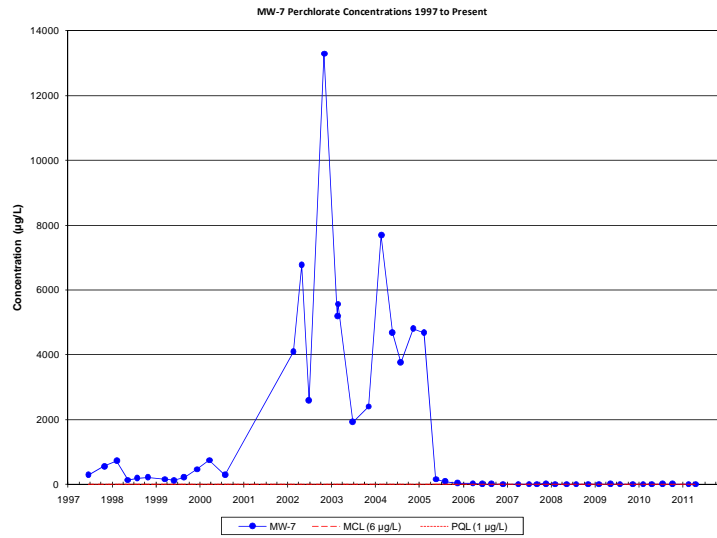
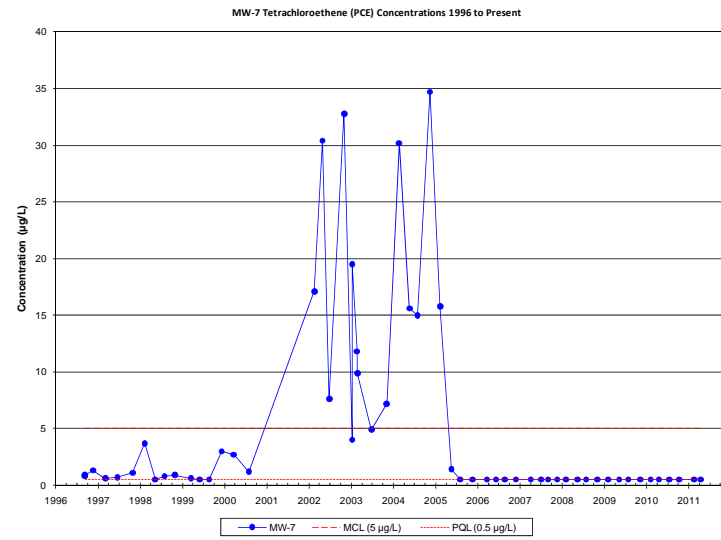
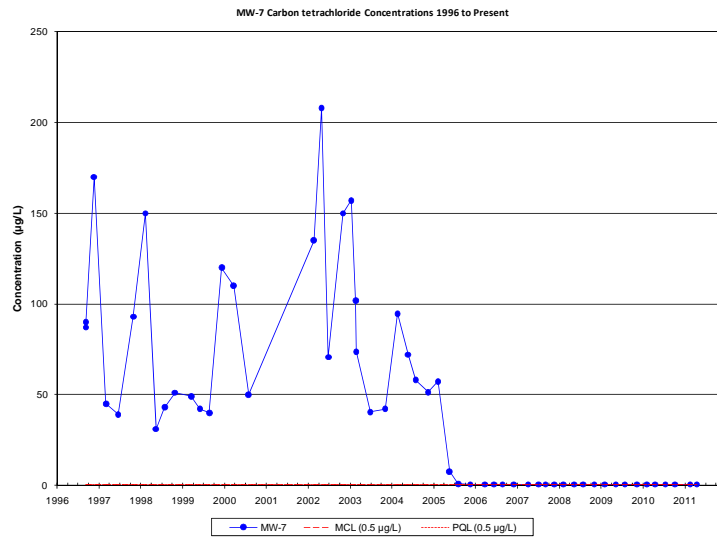
ATTACHMENT 6: TIME SERIES PLOTS



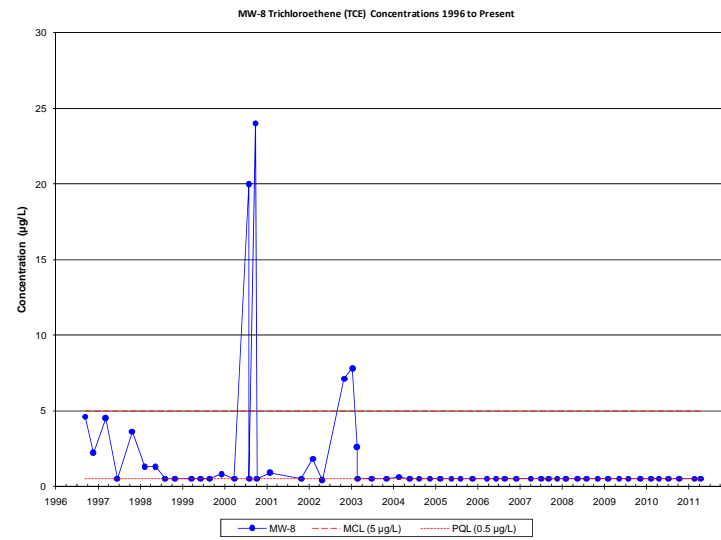
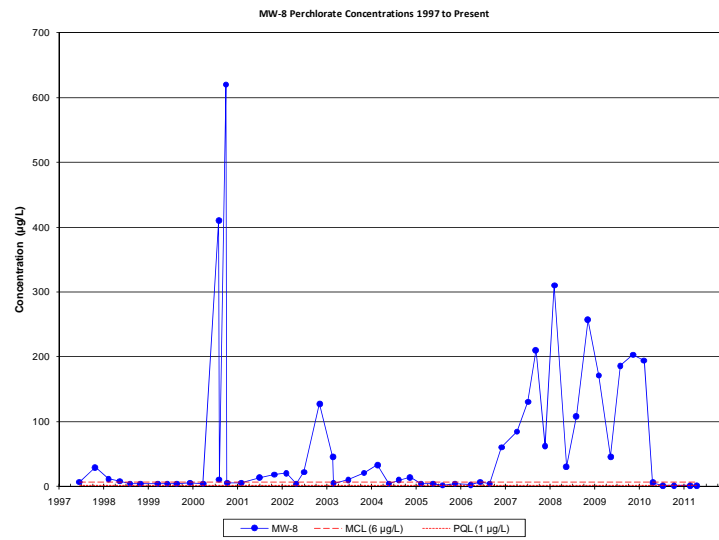
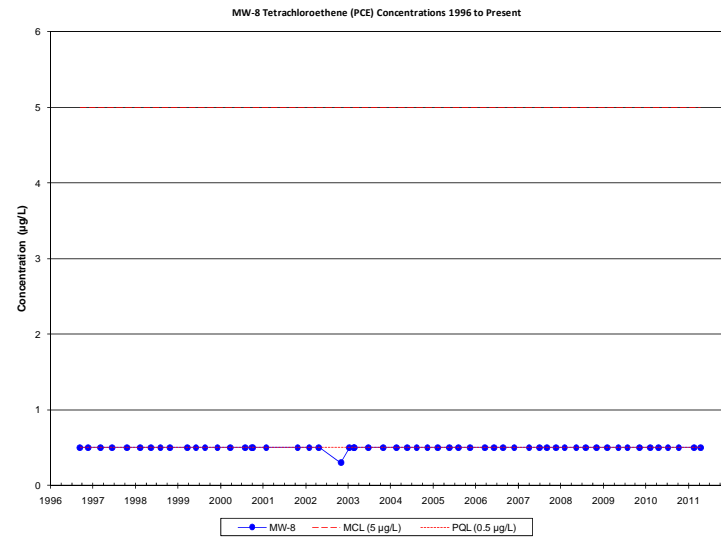
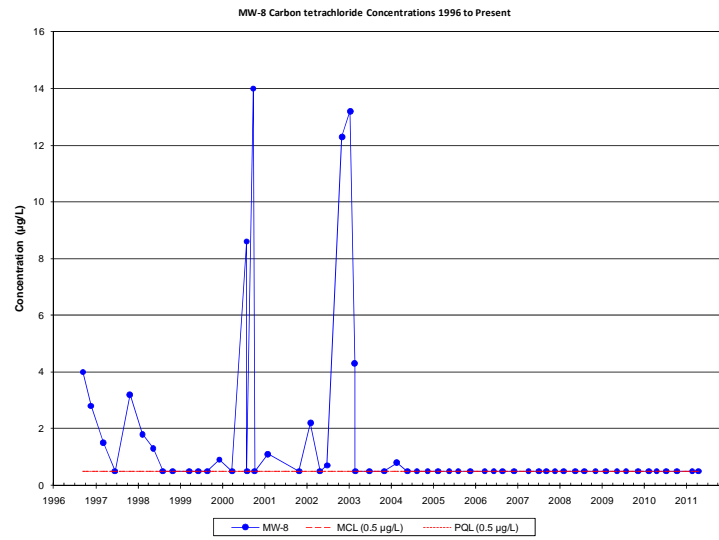
VOCs and Perchlorate Time Series Plots for MW-3-2



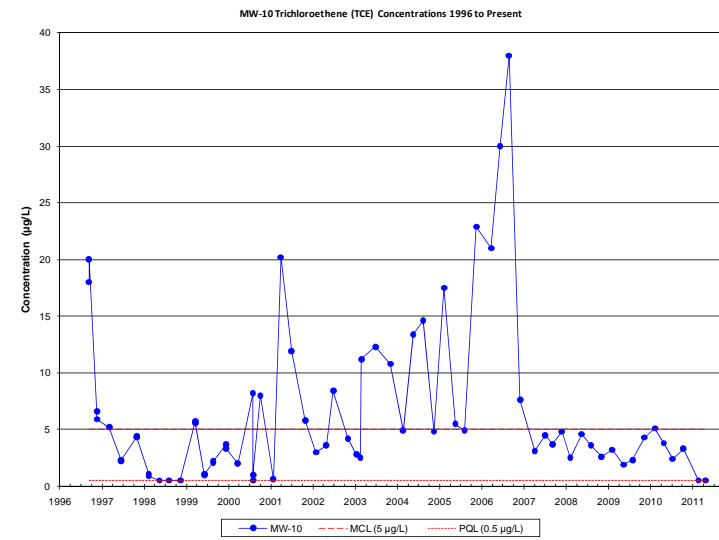
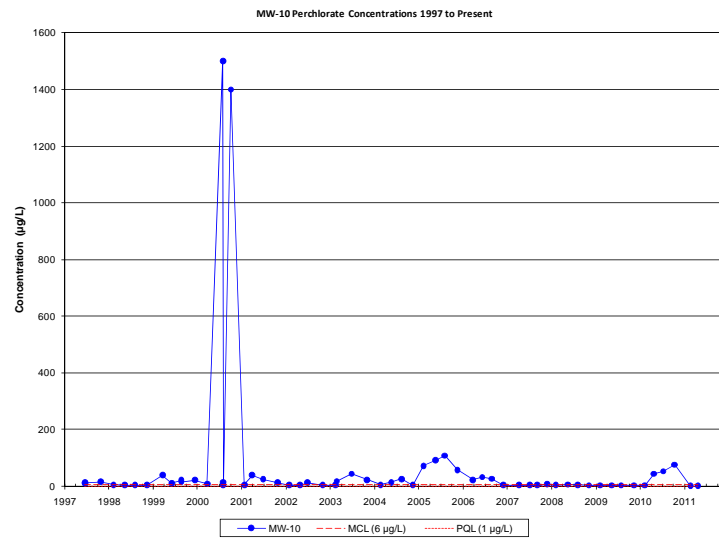
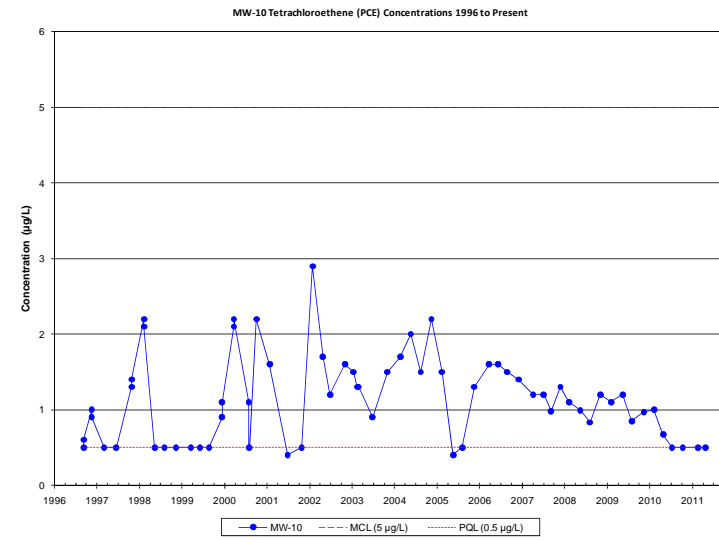
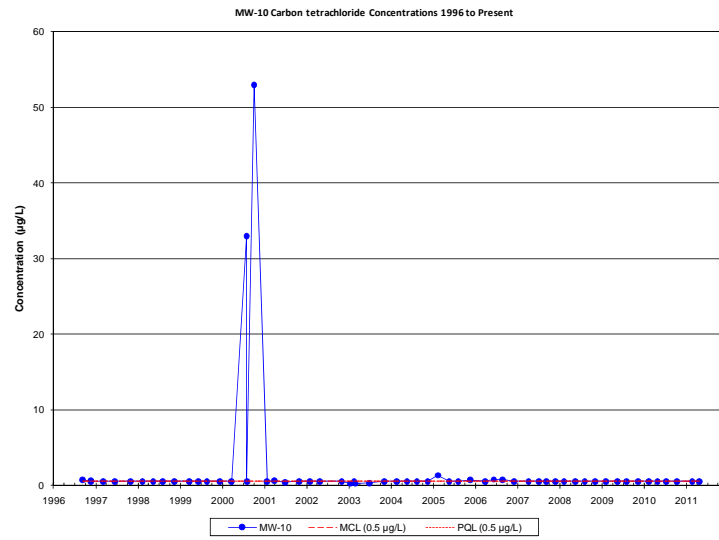
VOCs and Perchlorate Time Series Plots for MW-4-1



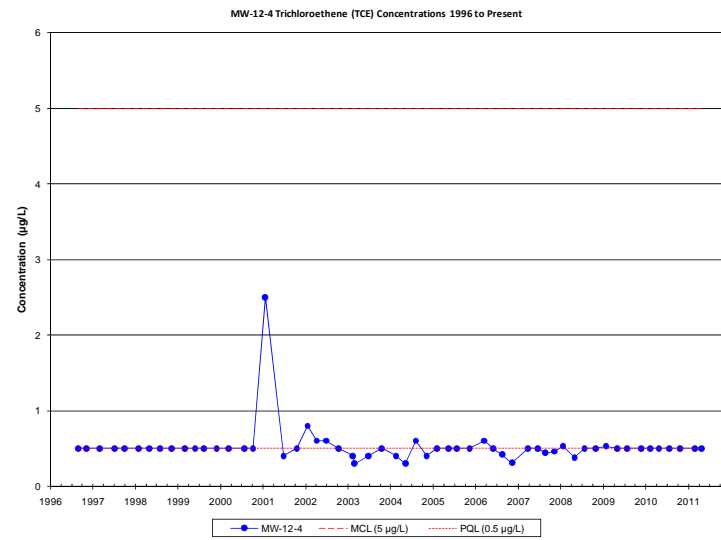
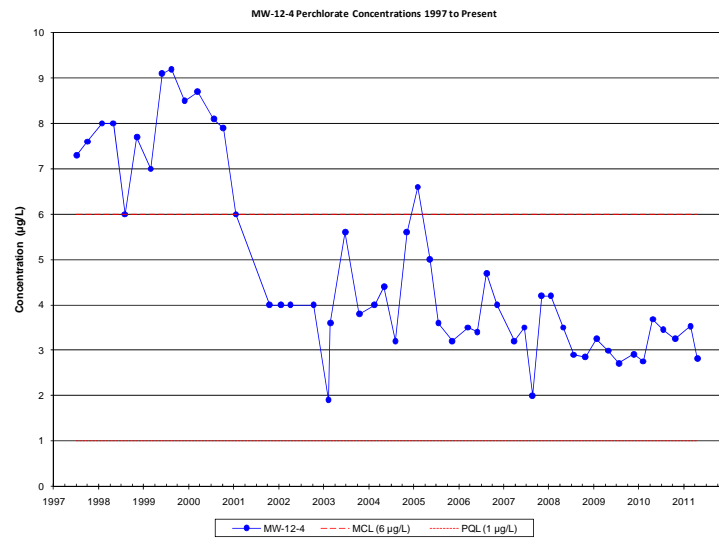
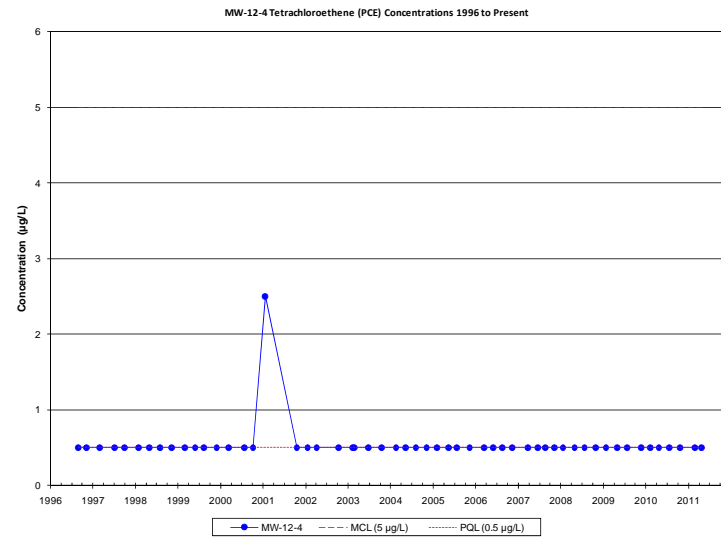
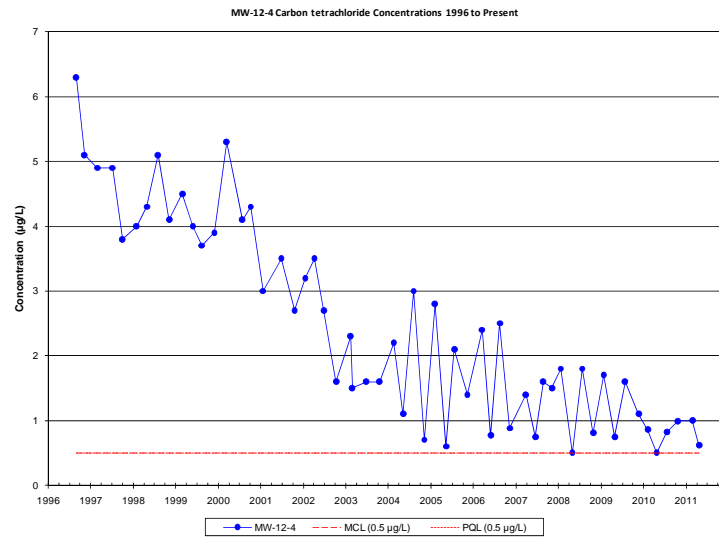
VOCs and Perchlorate Time Series Plots for MW-7



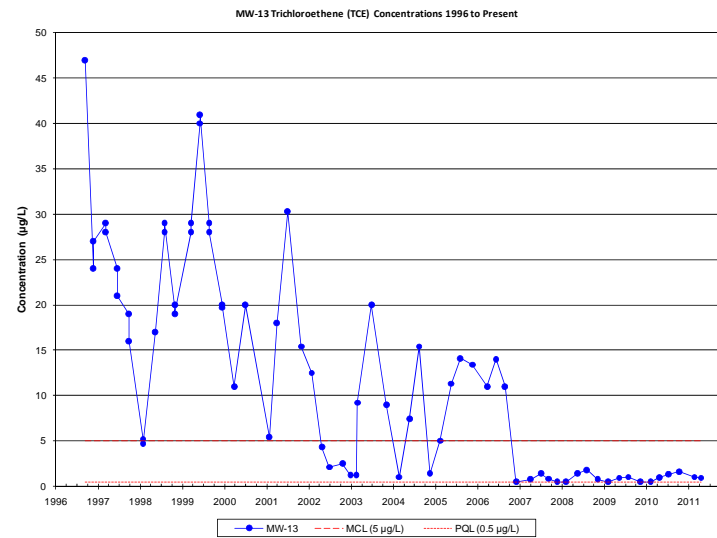
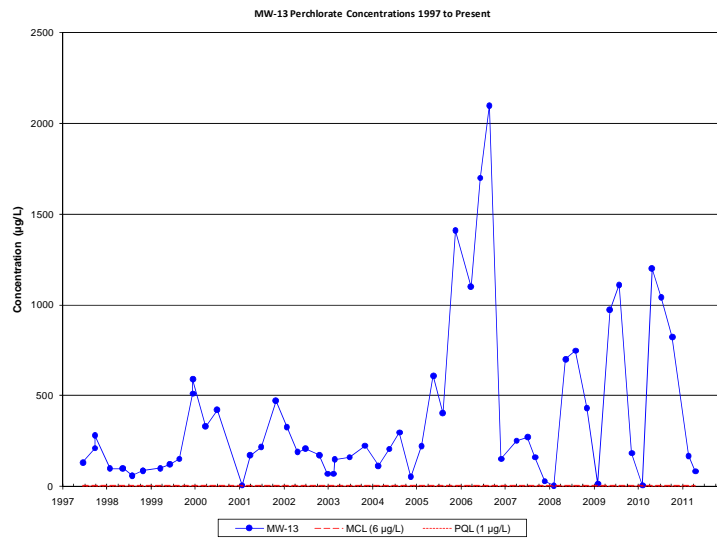
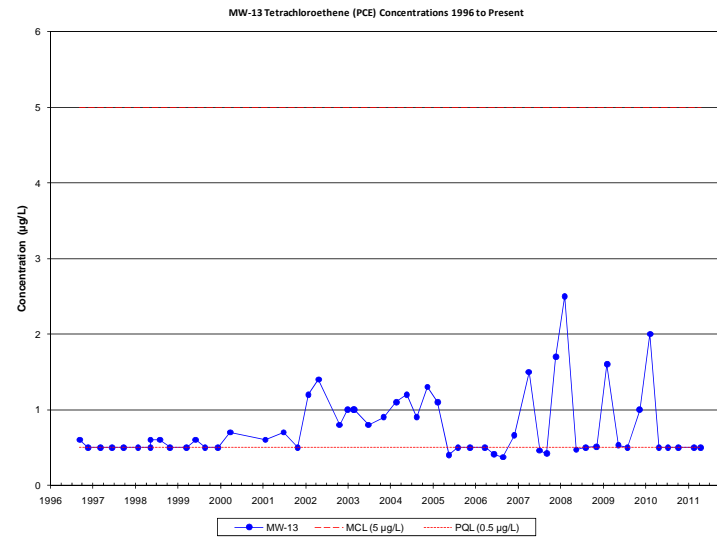
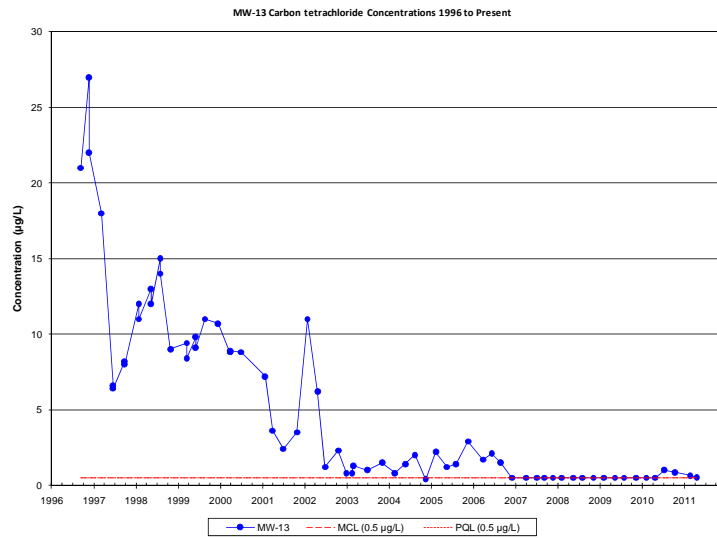
VOCs and Perchlorate Time Series Plots for MW-8



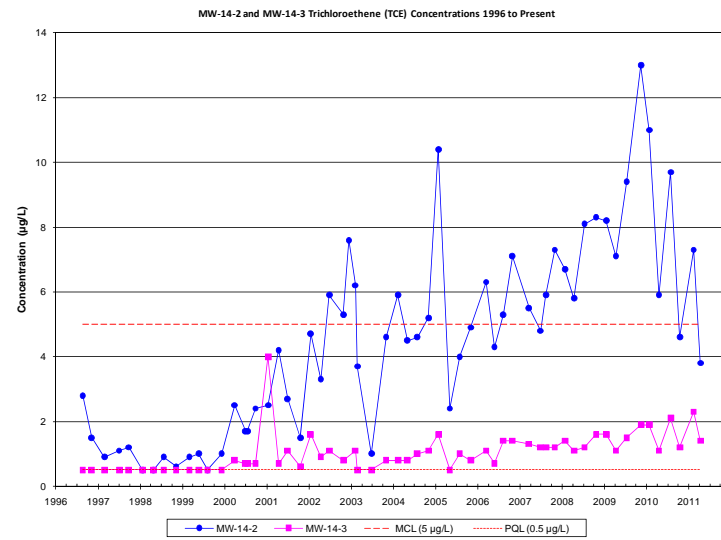
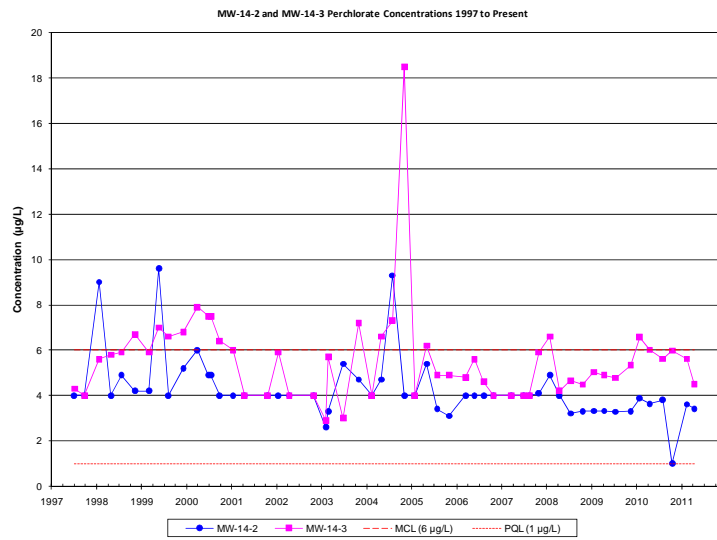
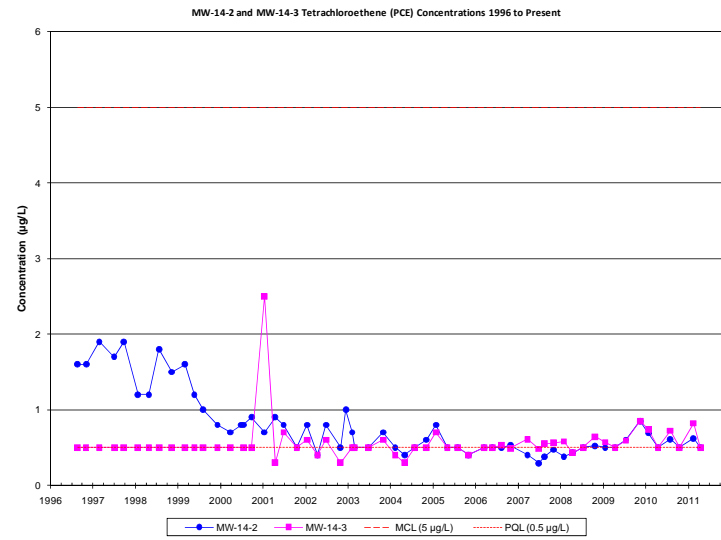
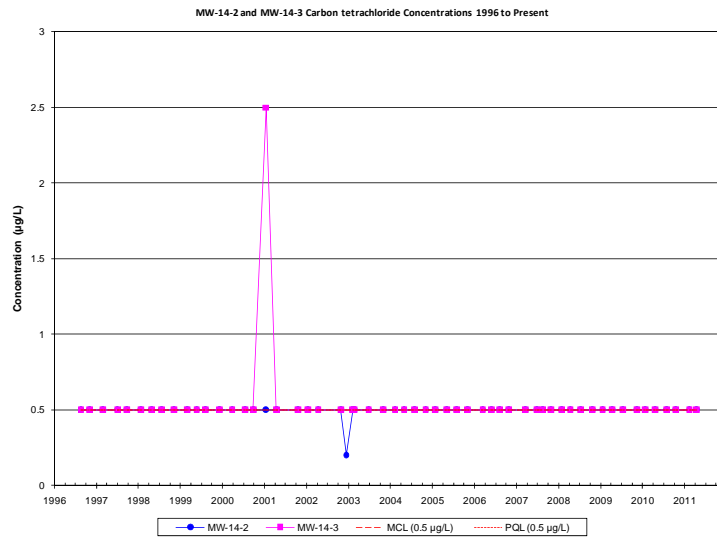
VOCs and Perchlorate Time Series Plots for MW-10



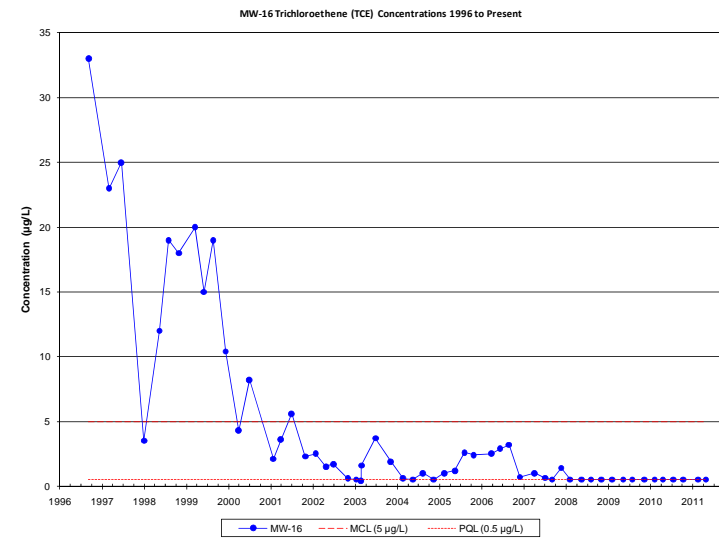
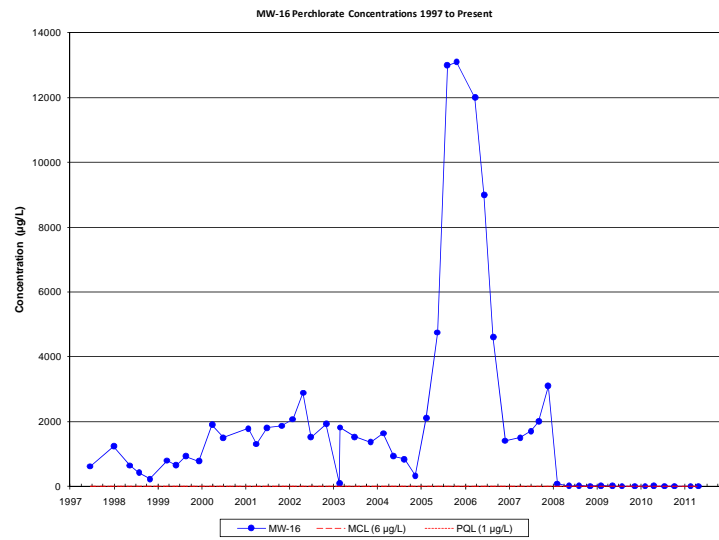
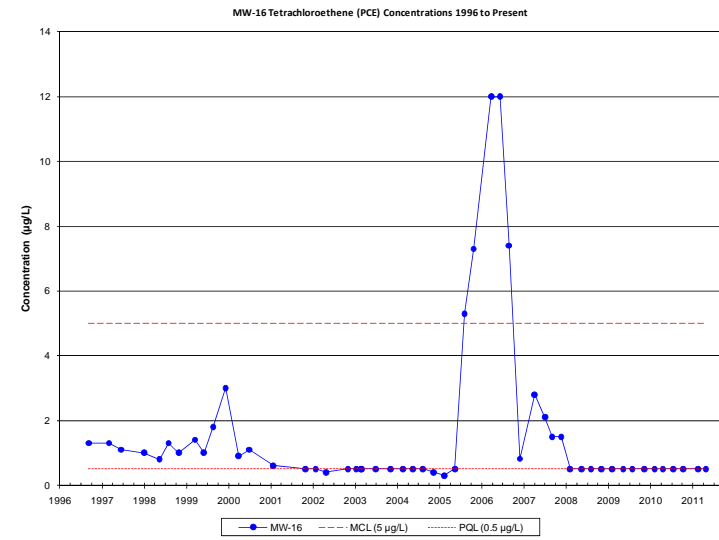
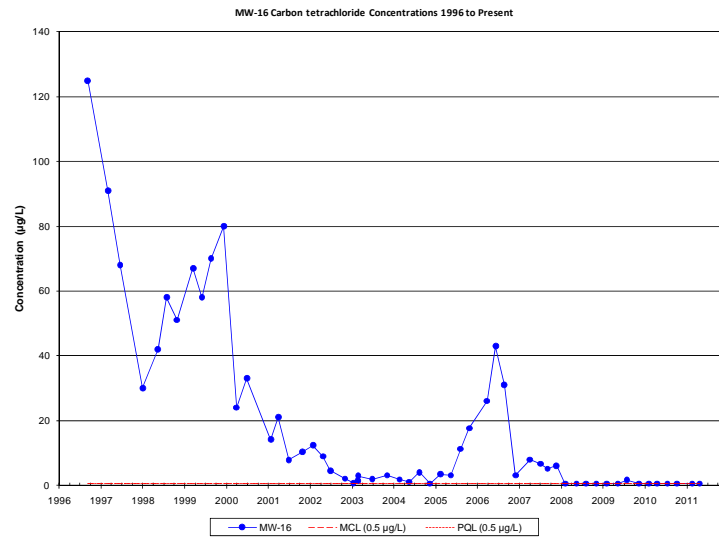
VOCs and Perchlorate Time Series Plots for MW-12-4



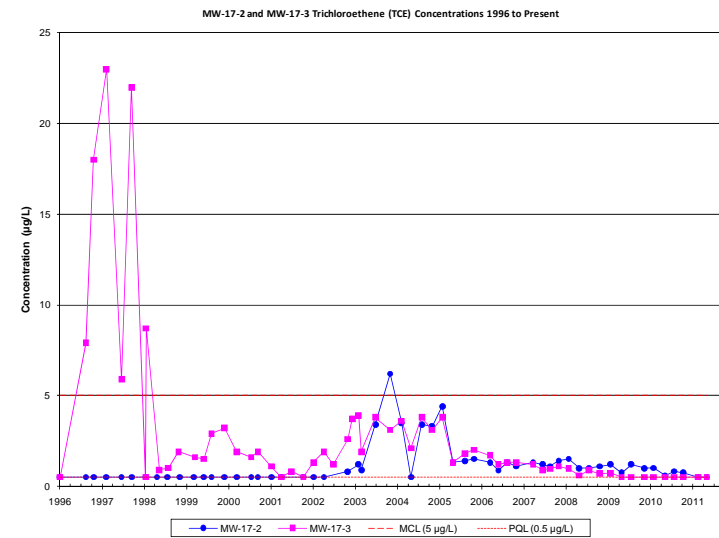
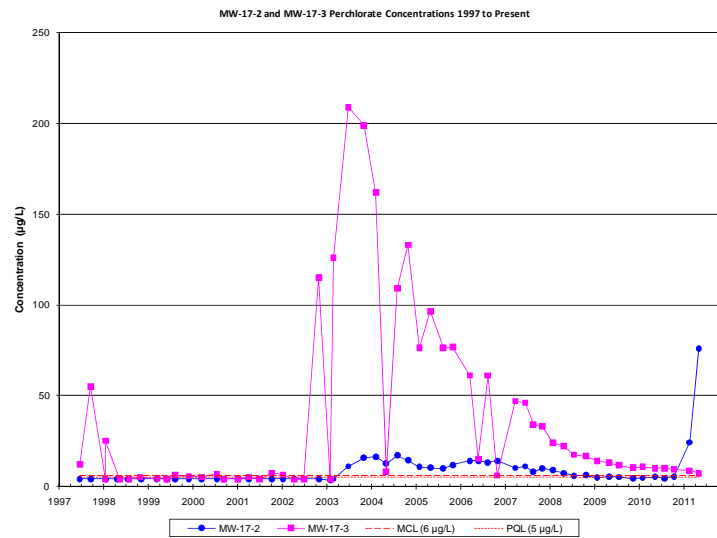
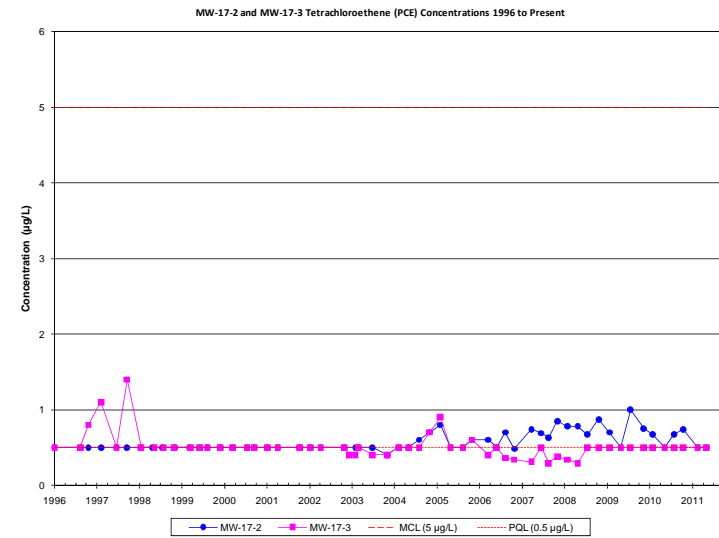
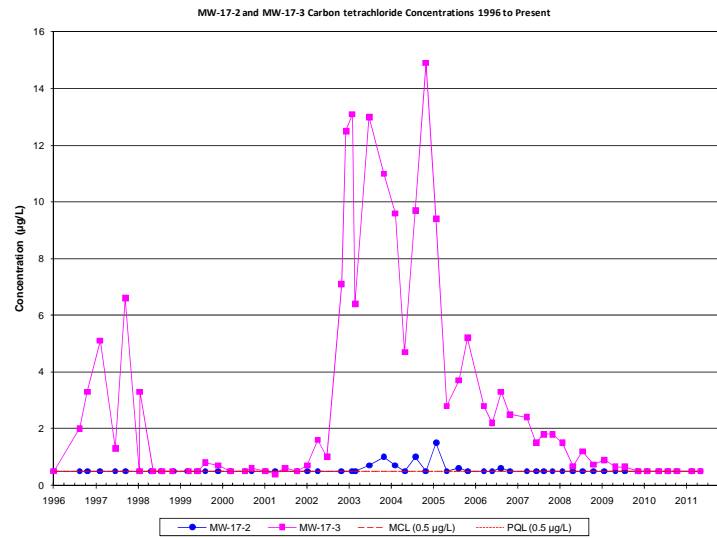
VOCs and Perchlorate Time Series Plots for MW-13



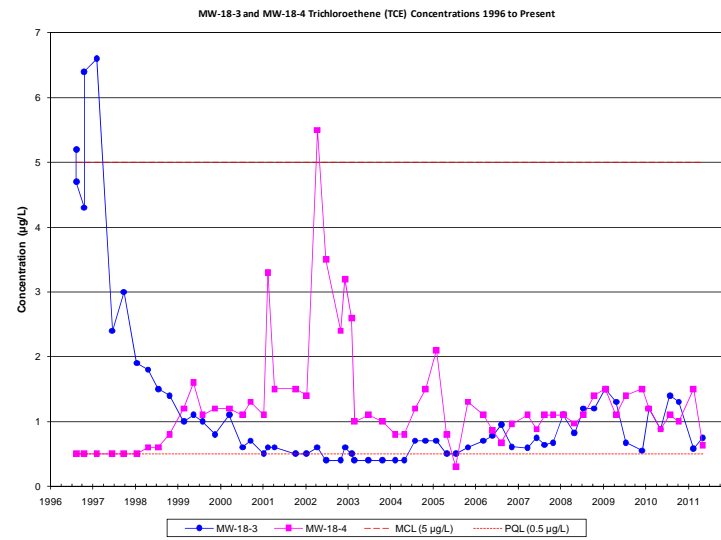
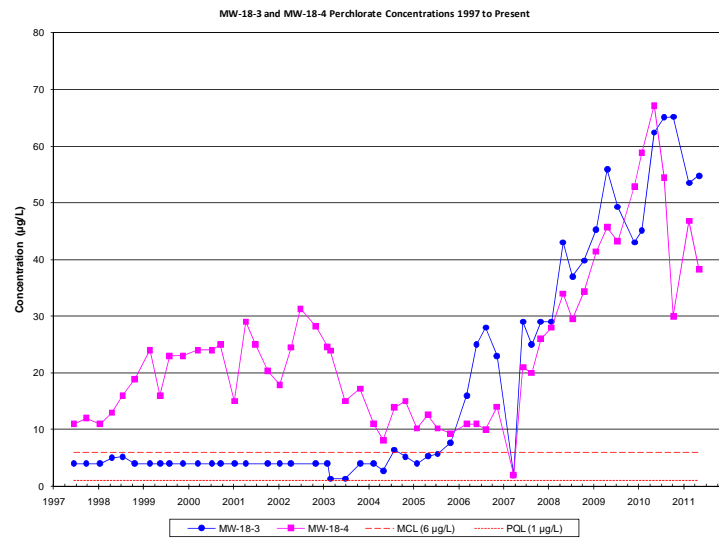
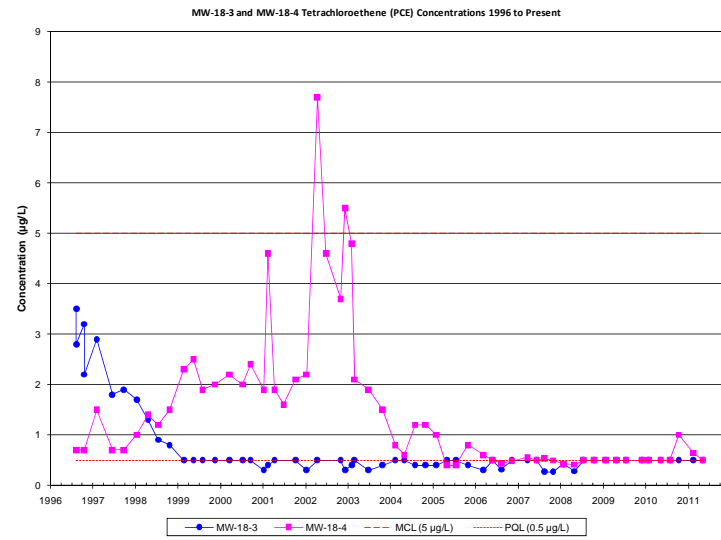
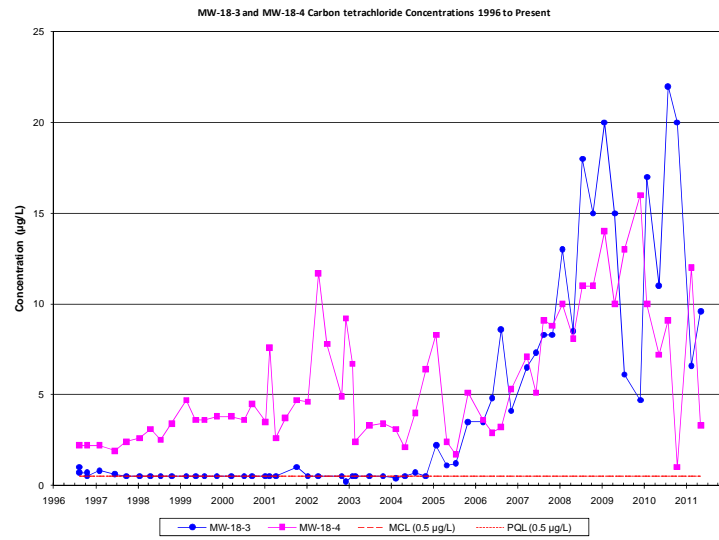
VOCs and Perchlorate Time Series Plots for MW-14-2 and MW-14-3



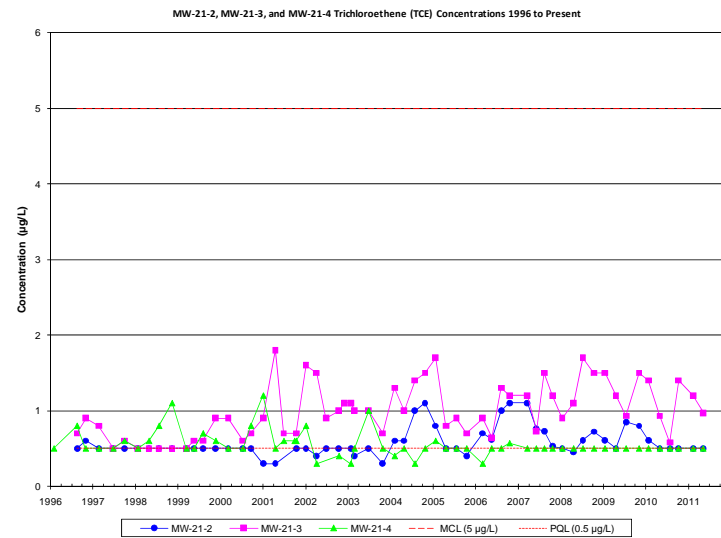
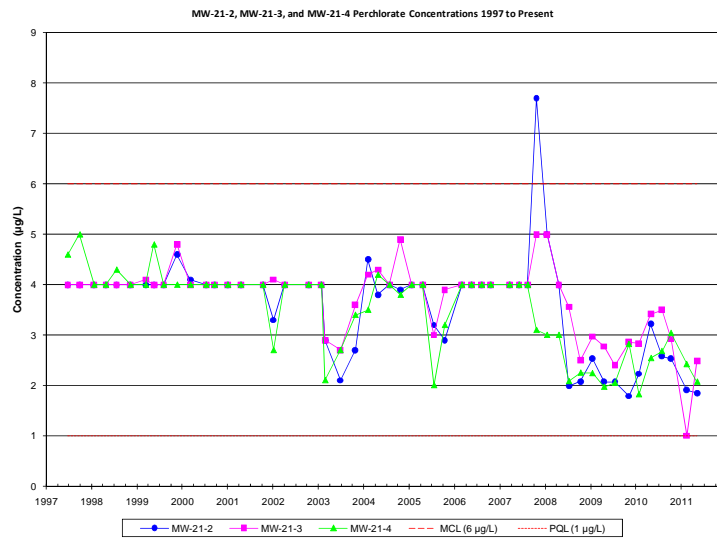
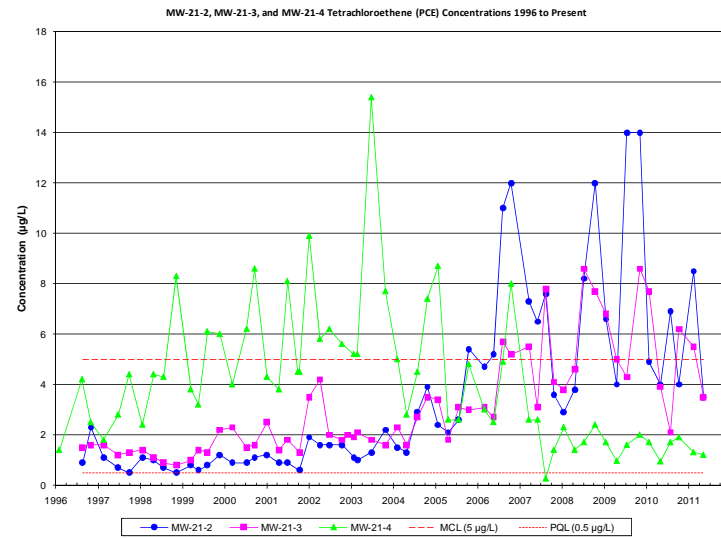
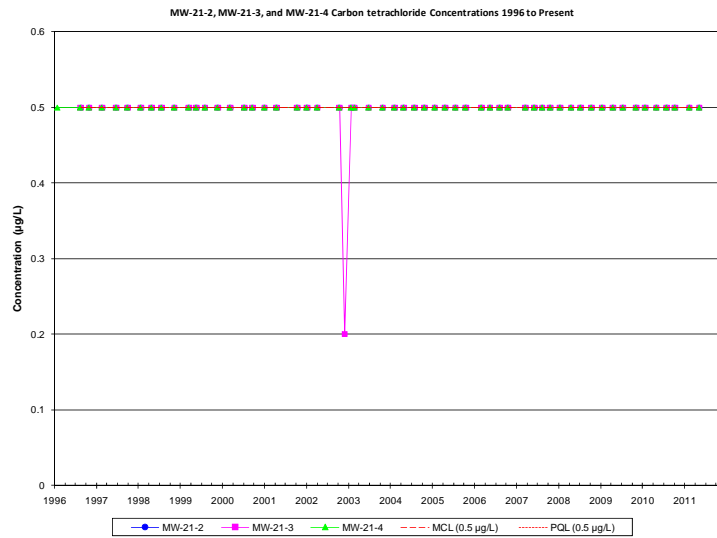
VOCs and Perchlorate Time Series Plots for MW-16



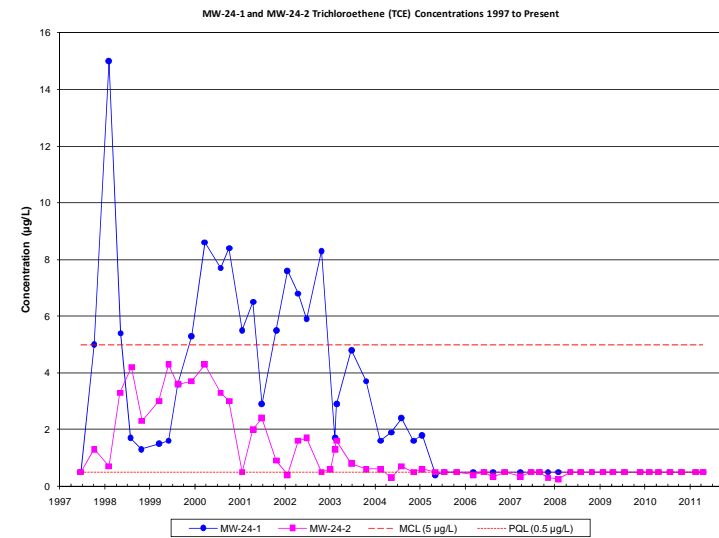
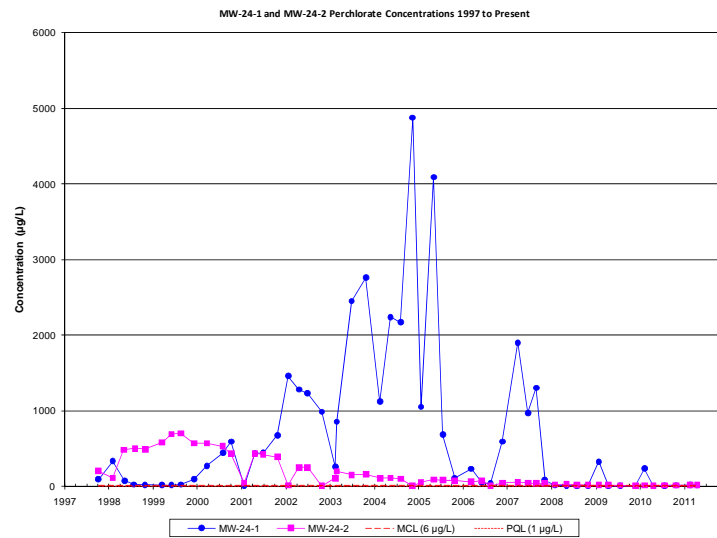
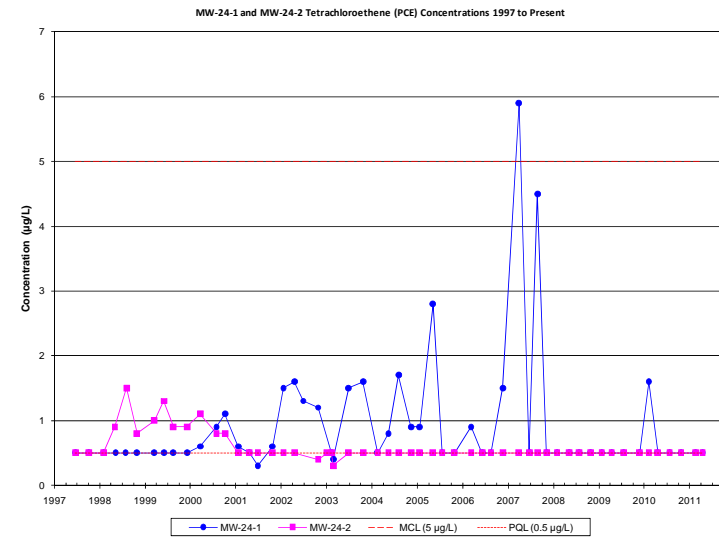
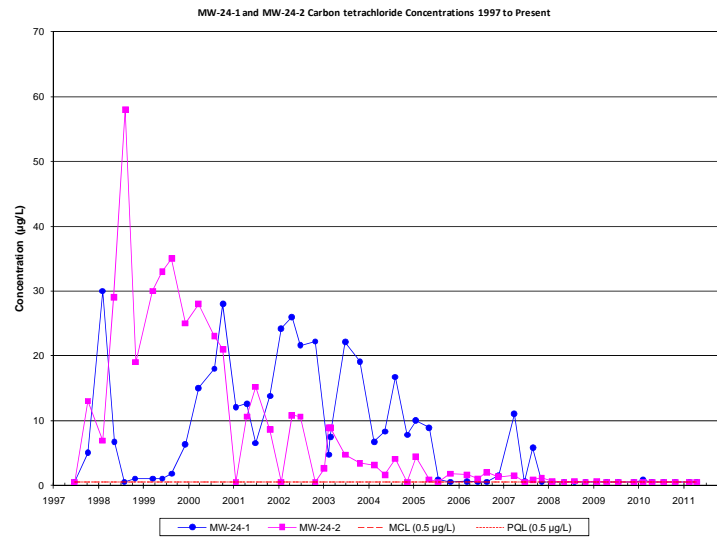
VOCs and Perchlorate Time Series Plots for MW-17-2 and MW-17-3



VOCs and Perchlorate Time Series Plots for MW-18-3 and MW-18-4



VOCs and Perchlorate Time Series Plots for MW-21-2 and MW-21-3 and MW-21-4



VOCs and Perchlorate Time Series Plots for MW-24-1 and MW-24-2