

## **APPENDIX D GROUNDWATER FIELD SHEETS**

## **APPENDIX D-1 INITIAL INVESTIGATION**



Tetra Tech EM Inc.

Sheet 1 of 2

## WELL DEVELOPMENT DATA SHEET

BORING NO. 016-E019WELL NO. 016-MW01

Project PPG Site 016  
 Project No. \_\_\_\_\_  
 Date(s) of Installation 8/22/11  
 Date(s) of Development 8/23/11, 8/25/11  
 Personnel/Company Jim M., Francis R. Tetra Tech

Casing Diameter/Type 2" PVC  
 Borehole Diameter 2"  
 Screened Interval(s) 4.5-9.5' bgs  
 Total Length of Well Casing 5'  
 Measured Total Depth (TOC) Initial 8.25' bgs  
 Final \_\_\_\_\_

Type of Rig Used \_\_\_\_\_

Initial Depth to Water  
 (TOC) 3.61' TIC, 4.10 bgs Date 8/23/11 Time 1655  
 Stabilized Depth to Water  
 (TOC) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

TECHNIQUE(S) DEVELOPMENT  
EQUIPMENT TYPE/CAPACITY

Jetting (Airlift) \_\_\_\_\_  
☒ Surge Block \_\_\_\_\_  
 Bailing \_\_\_\_\_  
☒ Pumping Whale pump  
 Other \_\_\_\_\_

## FLUIDS ADDED

Lost Drilling Fluid: \_\_\_\_\_ Gallons  
 Lost Purge Water: \_\_\_\_\_ Gallons  
 Water During Installation: \_\_\_\_\_ Gallons  
 Total Fluids Added: \_\_\_\_\_ Gallons  
 Source of Added Water: \_\_\_\_\_  
 Ground Water Quality Parameters of  
 Added Water Measured: Y N  
 Sample Collected of Added Water: Y N  
 Sample Designation of Added Water: \_\_\_\_\_

## PURGE VOLUME CALCULATION

Casing Volume: \_\_\_\_\_ Ft. of water  
 x \_\_\_\_\_ Gallons/Foot  
 = \_\_\_\_\_ Gallons per Single Casing Volume  
 Sand Pack Volume: \_\_\_\_\_ Ft. of Saturated Sand Pack  
 x \_\_\_\_\_ Gallons/Foot (borehole diameter)  
 = \_\_\_\_\_ Gallons (in borehole)  
 - \_\_\_\_\_ Gallons of Casing Volume  
 = \_\_\_\_\_ x 0.3 (Assuming porosity = 30%)  
 = \_\_\_\_\_ Gallons Within Sand Pack  
 Single Purge Volume: \_\_\_\_\_ Gallons (Casing Vol. +  
 Sand Pack Vol. + Fluids Added)  
 Minimum Purge Volume: \_\_\_\_\_ Gallons  
 Actual Purge Volume: \_\_\_\_\_ Gallons  
 Volume Measured by: \_\_\_\_\_  
 Rate of Development \_\_\_\_\_ Gallons/Minute (Hour, Day)  
 Pumping Rate/Depth \_\_\_\_\_ @ \_\_\_\_\_ Ft. (Below Grd.)  
 Immiscible Phases Present: Y N Thickness \_\_\_\_\_

## INSTRUMENT CALIBRATION

pH Meter: \_\_\_\_\_ Spec. Conductance Meter: \_\_\_\_\_  
 pH 4.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Standard \_\_\_\_\_  $\mu\text{mhos/cm}$  @ 25°C  
 pH 7.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Reading \_\_\_\_\_  $\mu\text{mhos/cm}$  @ \_\_\_\_\_ °C  
 pH 10.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Turbidity Meter: \_\_\_\_\_  
 Dissolved Oxygen Meter: \_\_\_\_\_ Other: Horiba U-52

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific Conductance	Turbidity or D.O.	Clarity, Odor, PID Readings, Other:
	<u>1 GPM</u>	<u>1700</u>	<u>Purged</u>	<u>dry after 3 min, let recharge</u>			<u>Very turbid, dark gray-brown, poor recovery, slight sulfur odor</u>
		<u>*1715</u>					
		<u>*1725</u>	<u>25.30</u>	<u>7.76</u>	<u>1.67</u>	<u>&gt;1000</u>	
		<u>*1735</u>	<u>23.74</u>	<u>7.19</u>	<u>1.74</u>	<u>&gt;1000</u>	
		<u>1327</u>	<u>22.54</u>	<u>6.55</u>	<u>2.01</u>	<u>&gt;1000</u>	<u>Purged dry after 3 min, let recharge</u>
		<u>1348</u>	<u>22.54</u>	<u>6.55</u>	<u>2.02</u>	<u>625</u>	
		<u>1358</u>	<u>21.41</u>	<u>6.36</u>	<u>2.11</u>	<u>&gt;1000</u>	
		<u>1434</u>	<u>21.78</u>	<u>6.47</u>	<u>2.12</u>	<u>611</u>	
		<u>1542</u>	<u>22.40</u>	<u>6.56</u>	<u>2.11</u>	<u>468</u>	
		<u>1602</u>	<u>21.72</u>	<u>6.55</u>	<u>2.13</u>	<u>414</u>	

Development Completed at \_\_\_\_\_ Gallons Discharged. Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Criteria: \_\_\_\_\_ Personnel: \_\_\_\_\_

\* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

\* Purged dry after ~2 min, let recharge

ORP

289

159

129

129

81

73

8/23/11

8/25/11



Tetra Tech EM Inc.

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## WELL DEVELOPMENT DATA SHEET

BORING NO. 016-E019WELL NO. 016-MW01

Project PPG Site 016  
 Project No. \_\_\_\_\_  
 Date(s) of Installation \_\_\_\_\_  
 Date(s) of Development 8/23/11 & 8/25/11  
 Personnel/Company Jim M., Francis R. - TetraTech  
 Type of Rig Used \_\_\_\_\_

Casing Diameter/Type 2" PVC  
 Borehole Diameter 8"  
 Screened Interval(s) 4.5'-9.5' 6gs  
 Total Length of Well Casing 5'  
 Measured Total Depth (TOC) Initial 8.5' 6gs  
 Final \_\_\_\_\_  
 Initial Depth to Water (TOC) 3.4' TIC, 4.10' 6gs Date 8/23/11 Time 1655  
 Stabilized Depth to Water (TOC) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

DEVELOPMENT  
 TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

\_\_\_\_ Jetting (Airlift)  
☒ Surge Block \_\_\_\_\_  
 \_\_\_\_ Bailing \_\_\_\_\_  
☒ Pumping Whale pump  
 \_\_\_\_ Other \_\_\_\_\_

## FLUIDS ADDED

Lost Drilling Fluid: \_\_\_\_\_ Gallons  
 Lost Purge Water: \_\_\_\_\_ Gallons  
 Water During Installation: \_\_\_\_\_ Gallons  
 Total Fluids Added: \_\_\_\_\_ Gallons  
 Source of Added Water: \_\_\_\_\_  
 Ground Water Quality Parameters of  
 Added Water Measured: Y N  
 Sample Collected of Added Water: Y N  
 Sample Designation of Added Water: \_\_\_\_\_

## PURGE VOLUME CALCULATION

Casing Volume: \_\_\_\_\_ Ft. of water  
 x \_\_\_\_\_ Gallons/foot  
 = \_\_\_\_\_ Gallons per Single Casing Volume  
 Sand Pack Volume: \_\_\_\_\_ Ft. of Saturated Sand Pack  
 x \_\_\_\_\_ Gallons/foot (borehole diameter)  
 = \_\_\_\_\_ Gallons (in borehole)  
 - \_\_\_\_\_ Gallons of Casing Volume  
 = \_\_\_\_\_ x 0.3 (Assuming porosity = 30%)  
 = \_\_\_\_\_ Gallons Within Sand Pack  
 Single Purge Volume: \_\_\_\_\_ Gallons (Casing Vol. +  
 Sand Pack Vol. + Fluids Added)  
 Minimum Purge Volume: \_\_\_\_\_ Gallons  
 Actual Purge Volume: \_\_\_\_\_ Gallons  
 Volume Measured by: \_\_\_\_\_  
 Rate of Development \_\_\_\_\_ Gallons/Minute (Hour, Day)  
 Pumping Rate/Depth \_\_\_\_\_ @ \_\_\_\_\_ Ft. (Below Grd.)  
 Immiscible Phases Present: Y N Thickness \_\_\_\_\_

## INSTRUMENT CALIBRATION

pH Meter: \_\_\_\_\_ Spec. Conductance Meter: \_\_\_\_\_  
 pH 4.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Standard \_\_\_\_\_ µmhos/cm @ 25°C  
 pH 7.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Reading \_\_\_\_\_ µmhos/cm @ \_\_\_\_\_ °C  
 pH 10.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Turbidity Meter: \_\_\_\_\_  
 Dissolved Oxygen Meter: \_\_\_\_\_ Other: Horiba U-52

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific Conductance	Turbidity or D.O.	Clarity, Odor, PID Readings, Other:
	1 GPM	1625	21.45	6.55	2.11	481	83
		1645	21.33	6.51	2.10	309	71
		1727	21.41	6.61	2.08	362	70
		1820	21.43	6.57	2.10	303	77
		1910	21.01	6.67	2.09	251	84
		1945	20.93	6.60	2.10	137	82
	✓	2040	20.92	6.63	2.11	75	80
	✓	2100	21.59	6.57	2.12	100	83

Development Completed at ~35 Gallons Discharged. Date: 8/25/11 Time: 2040 2100  
 Criteria: Parameter stabilization, lowered turbidity Personnel: Jim M., Francis R.

\* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

\* Purged dry after ~2 min, let recharge





Tetra Tech EM Inc.

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## WELL DEVELOPMENT DATA SHEET

BORING NO. 016-G015WELL NO. 016-MW02

Project PPG Site 016  
 Project No. \_\_\_\_\_  
 Date(s) of Installation 8-18-11  
 Date(s) of Development 8-19-11  
 Personnel/Company Jim M / Francis R - Tetra Tech  
 Type of Rig Used None

Casing Diameter/Type 2"  
 Borehole Diameter 3"  
 Screened Interval(s) 4.5-9.5  
 Total Length of Well Casing 5'  
 Measured Total Depth (TOC) Initial 9.15' 6gs  
 Final \_\_\_\_\_  
 Initial Depth to Water (TOC) 3.90 Date 8-19-11 Time 10:30  
 Stabilized Depth to Water (TOC) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

TECHNIQUE(S) DEVELOPMENT  
 EQUIPMENT TYPE/CAPACITY

Jetting (Airlift) \_\_\_\_\_  
☒ Surge Block \_\_\_\_\_  
 Bailing \_\_\_\_\_  
☒ Pumping Whale pump  
 Other \_\_\_\_\_

## FLUIDS ADDED

Lost Drilling Fluid: \_\_\_\_\_ Gallons  
 Lost Purge Water: \_\_\_\_\_ Gallons  
 Water During Installation: \_\_\_\_\_ Gallons  
 Total Fluids Added: \_\_\_\_\_ Gallons  
 Source of Added Water: \_\_\_\_\_  
 Ground Water Quality Parameters of  
 Added Water Measured: Y N  
 Sample Collected of Added Water: Y N  
 Sample Designation of Added Water: \_\_\_\_\_

## PURGE VOLUME CALCULATION

Casing Volume: \_\_\_\_\_ Ft. of water  
 x \_\_\_\_\_ Gallons/Foot  
 = \_\_\_\_\_ Gallons per Single Casing Volume  
 Sand Pack Volume: \_\_\_\_\_ Ft. of Saturated Sand Pack  
 x \_\_\_\_\_ Gallons/Foot (borehole diameter)  
 = \_\_\_\_\_ Gallons (in borehole)  
 - \_\_\_\_\_ Gallons of Casing Volume  
 = \_\_\_\_\_ x 0.3 (Assuming porosity = 30%)  
 = \_\_\_\_\_ Gallons Within Sand Pack  
 Single Purge Volume: \_\_\_\_\_ Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)  
 Minimum Purge Volume: \_\_\_\_\_ Gallons  
 Actual Purge Volume: \_\_\_\_\_ Gallons  
 Volume Measured by: \_\_\_\_\_  
 Rate of Development \_\_\_\_\_ Gallons/Minute (Hour, Day)  
 Pumping Rate/Depth \_\_\_\_\_ @ \_\_\_\_\_ Ft. (Below Grd.)  
 Immiscible Phases Present: Y N Thickness \_\_\_\_\_

## INSTRUMENT CALIBRATION

pH Meter: \_\_\_\_\_ Spec. Conductance Meter: \_\_\_\_\_  
 pH 4.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Standard \_\_\_\_\_  $\mu$ mhos/cm @ 25°C  
 pH 7.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Reading \_\_\_\_\_  $\mu$ mhos/cm @ \_\_\_\_\_ °C  
 pH 10.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C  
 Dissolved Oxygen Meter: \_\_\_\_\_ Turbidity Meter: \_\_\_\_\_  
 Other: Hanna U-52

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific Conductance	Turbidity or D.O.	Clarity, Odor, PID Readings, Other:
	<u>1 GPH</u>	<u>1230</u>					
	<u>↓</u>	<u>1232</u>	<u>22.39</u>	<u>7.73</u>	<u>2.04</u>	<u>191</u>	<u>Gray with slightly turbid</u>
		<u>1236</u>	<u>21.54</u>	<u>7.23</u>	<u>2.05</u>	<u>28</u>	<u>Strong sulfurous odor</u>
		<u>1239</u>	<u>21.07</u>	<u>7.02</u>	<u>2.10</u>	<u>13.8</u>	
		<u>1244</u>	<u>20.90</u>	<u>6.91</u>	<u>2.27</u>	<u>1.3</u>	
		<u>1249</u>	<u>20.71</u>	<u>6.90</u>	<u>2.35</u>	<u>0.0</u>	

Development Completed at ~30 Gallons Discharged. Date: 8/19/11 Time: 1250  
 Criteria: Low turbidity Personnel: Jim M, Francis R.

\* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.



Tetra Tech EM Inc.

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## WELL DEVELOPMENT DATA SHEET

BORING NO. 016-HallWELL NO. 016-MW03

Project PPG Site 016  
 Project No. \_\_\_\_\_  
 Date(s) of Installation 8/17/11  
 Date(s) of Development 8/18/11  
 Personnel/Company Jim M., Francis R. - TetraTech

Casing Diameter/Type 2" PVC  
 Borehole Diameter 2"  
 Screened Interval(s) 4.5' - 9.5' 6gs  
 Total Length of Well Casing 5'  
 Measured Total Depth (TOC) Initial 9.3' 6gs  
 Final \_\_\_\_\_

Type of Rig Used \_\_\_\_\_

Initial Depth to Water  
 (TOC) 4.20' 6gs Date \_\_\_\_\_ Time \_\_\_\_\_  
 Stabilized Depth to Water  
 (TOC) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

TECHNIQUE(S) DEVELOPMENT  
 EQUIPMENT TYPE/CAPACITY

\_\_\_\_ Jetting (Airlift)  
☒ Surge Block \_\_\_\_\_  
 \_\_\_\_ Bailing \_\_\_\_\_  
☒ Pumping Whale pump  
 \_\_\_\_ Other \_\_\_\_\_

## FLUIDS ADDED

Lost Drilling Fluid: \_\_\_\_\_ Gallons  
 Lost Purge Water: \_\_\_\_\_ Gallons  
 Water During Installation: \_\_\_\_\_ Gallons  
 Total Fluids Added: \_\_\_\_\_ Gallons  
 Source of Added Water: \_\_\_\_\_  
 Ground Water Quality Parameters of  
 Added Water Measured: Y N  
 Sample Collected of Added Water: Y N  
 Sample Designation of Added Water: \_\_\_\_\_

## PURGE VOLUME CALCULATION

Casing Volume: \_\_\_\_\_ Ft. of water  
 x \_\_\_\_\_ Gallons/Foot  
 = \_\_\_\_\_ Gallons per Single Casing Volume  
 Sand Pack Volume: \_\_\_\_\_ Ft. of Saturated Sand Pack  
 x \_\_\_\_\_ Gallons/Foot (borehole diameter)  
 = \_\_\_\_\_ Gallons (in borehole)  
 - \_\_\_\_\_ Gallons of Casing Volume  
 = \_\_\_\_\_ x 0.3 (Assuming porosity = 30%)  
 = \_\_\_\_\_ Gallons Within Sand Pack  
 Single Purge Volume: \_\_\_\_\_ Gallons (Casing Vol. +  
 Sand Pack Vol. + Fluids Added)  
 Minimum Purge Volume: \_\_\_\_\_ Gallons  
 Actual Purge Volume: \_\_\_\_\_ Gallons  
 Volume Measured by: \_\_\_\_\_  
 Rate of Development \_\_\_\_\_ Gallons/Minute (Hour, Day)  
 Pumping Rate/Depth \_\_\_\_\_ @ \_\_\_\_\_ Ft. (Below Grd.)  
 Immiscible Phases Present: Y N Thickness \_\_\_\_\_

## INSTRUMENT CALIBRATION

pH Meter: \_\_\_\_\_ Spec. Conductance Meter: \_\_\_\_\_  
 pH 4.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Standard \_\_\_\_\_ µmhos/cm @ 25°C  
 pH 7.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Reading \_\_\_\_\_ µmhos/cm @ \_\_\_\_\_ °C  
 pH 10.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Turbidity Meter: \_\_\_\_\_  
 Dissolved Oxygen Meter: \_\_\_\_\_ Other: Horiba U-52

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific Conductance	Turbidity or D.O.	Clarity, Odor, PID Readings, Other:
	<u>~2 GPM</u>	<u>1915</u>					
		<u>1915</u>					
		<u>1920</u>	<u>23.60</u>	<u>8.15</u>	<u>2.37</u>	<u>213</u>	<u>gray, turbid, strong</u>
		<u>1925</u>	<u>21.44</u>	<u>7.94</u>	<u>2.74</u>	<u>40.5</u>	<u>sulfurous odor</u>
		<u>1930</u>	<u>20.18</u>	<u>7.72</u>	<u>2.81</u>	<u>36.0</u>	
		<u>1935</u>	<u>20.19</u>	<u>7.76</u>	<u>2.79</u>	<u>43.6</u>	
		<u>1937</u>	<u>20.24</u>	<u>7.56</u>	<u>2.79</u>	<u>45.0</u>	
		<u>1940</u>	<u>20.30</u>	<u>7.78</u>	<u>2.79</u>	<u>51.4</u>	

Development Completed at 45 Gallons Discharged. Date: 8/18/11 Time: 1940  
 Criteria: Parameter stabilization, low turbidity Personnel: Jim M., Francis R.

\* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.



Tetra Tech EM Inc.

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## WELL DEVELOPMENT DATA SHEET

BORING NO. 016-E009WELL NO. 016-MW04

Project PPG Site 016  
 Project No. \_\_\_\_\_  
 Date(s) of Installation 8-3-11  
 Date(s) of Development 8-30-11  
 Personnel/Company Sam M / Francis R - Tetra Tech

Casing Diameter/Type 2"  
 Borehole Diameter 8"  
 Screened Interval(s) 5'-10' 6gs  
 Total Length of Well Casing 5'  
 Measured Total Depth (TOC) Initial 10.25' 6gs  
 Final \_\_\_\_\_

Type of Rig Used \_\_\_\_\_

Initial Depth to Water  
 (TOC) 3.71' TIC 4.10' 6gs Date \_\_\_\_\_ Time \_\_\_\_\_  
 Stabilized Depth to Water  
 (TOC) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

TECHNIQUE(S) DEVELOPMENT  
 EQUIPMENT TYPE/CAPACITY

Jetting (Airlift) \_\_\_\_\_  
 Surge Block \_\_\_\_\_  
 Bailing \_\_\_\_\_  
 Pumping Whale pump  
 Other \_\_\_\_\_

## FLUIDS ADDED

Lost Drilling Fluid: \_\_\_\_\_ Gallons  
 Lost Purge Water: \_\_\_\_\_ Gallons  
 Water During Installation: \_\_\_\_\_ Gallons  
 Total Fluids Added: \_\_\_\_\_ Gallons  
 Source of Added Water: \_\_\_\_\_  
 Ground Water Quality Parameters of  
 Added Water Measured: Y N  
 Sample Collected of Added Water: Y N  
 Sample Designation of Added Water: \_\_\_\_\_

## PURGE VOLUME CALCULATION

Casing Volume: \_\_\_\_\_ Ft. of water  
 x \_\_\_\_\_ Gallons/Foot  
 = \_\_\_\_\_ Gallons per Single Casing Volume  
 Sand Pack Volume: \_\_\_\_\_ Ft. of Saturated Sand Pack  
 x \_\_\_\_\_ Gallons/Foot (borehole diameter)  
 = \_\_\_\_\_ Gallons (in borehole)  
 - \_\_\_\_\_ Gallons of Casing Volume  
 = \_\_\_\_\_ x 0.3 (Assuming porosity = 30%)  
 = \_\_\_\_\_ Gallons Within Sand Pack  
 Single Purge Volume: \_\_\_\_\_ Gallons (Casing Vol. +  
 Sand Pack Vol. + Fluids Added)  
 Minimum Purge Volume: \_\_\_\_\_ Gallons  
 Actual Purge Volume: \_\_\_\_\_ Gallons  
 Volume Measured by: \_\_\_\_\_  
 Rate of Development \_\_\_\_\_ Gallons/Minute (Hour, Day)  
 Pumping Rate/Depth \_\_\_\_\_ @ \_\_\_\_\_ Ft. (Below Grd.)  
 Immiscible Phases Present: Y N Thickness \_\_\_\_\_

## INSTRUMENT CALIBRATION

pH Meter: \_\_\_\_\_ Spec. Conductance Meter: \_\_\_\_\_  
 pH 4.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Standard \_\_\_\_\_  $\mu$ mhos/cm @ 25°C  
 pH 7.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Reading \_\_\_\_\_  $\mu$ mhos/cm @ \_\_\_\_\_ °C  
 pH 10.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C  
 Dissolved Oxygen Meter: \_\_\_\_\_ Turbidity Meter: \_\_\_\_\_  
 Other: Hanna U-52

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific Conductance	Turbidity or D.O.	Clarity, Odor, PID Readings, Other:
	<u>2 GPM</u>	<u>1502</u>					
		<u>1506</u>	<u>21.85</u>	<u>7.94</u>	<u>2.47</u>	<u>21000</u>	<u>Very turbid gray brown,</u>
		<u>1511</u>	<u>20.75</u>	<u>6.99</u>	<u>2.45</u>	<u>436</u>	<u>strong sulfurous odor</u>
		<u>1516</u>	<u>20.12</u>	<u>6.86</u>	<u>2.48</u>	<u>76.3</u>	
		<u>1520</u>	<u>20.09</u>	<u>6.84</u>	<u>2.50</u>	<u>22.4</u>	
		<u>1522</u>	<u>20.01</u>	<u>6.81</u>	<u>2.51</u>	<u>18.3</u>	
		<u>1525</u>	<u>19.90</u>	<u>6.79</u>	<u>2.52</u>	<u>4.4</u>	
		<u>1528</u>	<u>19.66</u>	<u>6.78</u>	<u>2.55</u>	<u>4.2</u>	

Development Completed at \_\_\_\_\_ Gallons Discharged. Date: 8-30-11 Time: \_\_\_\_\_  
 Criteria: \_\_\_\_\_ Personnel: \_\_\_\_\_

\* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.



Tetra Tech EM Inc.

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## WELL DEVELOPMENT DATA SHEET

BORING NO. Q16-100LWELL NO. Q16 MW05

Project PPG Site 016  
 Project No. \_\_\_\_\_  
 Date(s) of Installation 8/2/2011  
 Date(s) of Development 8/5/2011  
 Personnel/Company Jim M / Francis R - Tetra Tech  
 Type of Rig Used \_\_\_\_\_

Casing Diameter/Type 2" PVC  
 Borehole Diameter 2"  
 Screened Interval(s) 5' - 10' bgs  
 Total Length of Well Casing 5'  
 Measured Total Depth (TOC) Initial 10' bgs  
 Final \_\_\_\_\_  
 Initial Depth to Water  
 (TOC) 3.20' TIC Date \_\_\_\_\_ Time \_\_\_\_\_  
 Stabilized Depth to Water  
 (TOC) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

DEVELOPMENT  
 TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

Jetting (Airlift) \_\_\_\_\_  
☒ Surge Block \_\_\_\_\_  
 Bailing \_\_\_\_\_  
☒ Pumping Whale pump  
 Other \_\_\_\_\_

## FLUIDS ADDED

Lost Drilling Fluid: \_\_\_\_\_ Gallons  
 Lost Purge Water: \_\_\_\_\_ Gallons  
 Water During Installation: \_\_\_\_\_ Gallons  
 Total Fluids Added: \_\_\_\_\_ Gallons  
 Source of Added Water: \_\_\_\_\_  
 Ground Water Quality Parameters of  
 Added Water Measured: Y N  
 Sample Collected of Added Water: Y N  
 Sample Designation of Added Water: \_\_\_\_\_

## PURGE VOLUME CALCULATION

Casing Volume: \_\_\_\_\_ Ft. of water  
 x \_\_\_\_\_ Gallons/Foot  
 = \_\_\_\_\_ Gallons per Single Casing Volume  
 Sand Pack Volume: \_\_\_\_\_ Ft. of Saturated Sand Pack  
 x \_\_\_\_\_ Gallons/Foot (borehole diameter)  
 = \_\_\_\_\_ Gallons (in borehole)  
 - \_\_\_\_\_ Gallons of Casing Volume  
 = \_\_\_\_\_ x 0.3 (Assuming porosity = 30%)  
 = \_\_\_\_\_ Gallons Within Sand Pack  
 Single Purge Volume: \_\_\_\_\_ Gallons (Casing Vol. +  
 Sand Pack Vol. + Fluids Added)  
 Minimum Purge Volume: \_\_\_\_\_ Gallons  
 Actual Purge Volume: \_\_\_\_\_ Gallons  
 Volume Measured by: \_\_\_\_\_  
 Rate of Development \_\_\_\_\_ Gallons/Minute (Hour, Day)  
 Pumping Rate/Depth \_\_\_\_\_ @ \_\_\_\_\_ Ft. (Below Grd.)  
 Immiscible Phases Present: Y N Thickness \_\_\_\_\_

## INSTRUMENT CALIBRATION

pH Meter: \_\_\_\_\_ Spec. Conductance Meter: \_\_\_\_\_  
 pH 4.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Standard \_\_\_\_\_  $\mu\text{mhos/cm}$  @ 25°C  
 pH 7.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Reading \_\_\_\_\_  $\mu\text{mhos/cm}$  @ \_\_\_\_\_ °C  
 pH 10.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Turbidity Meter: \_\_\_\_\_  
 Dissolved Oxygen Meter: \_\_\_\_\_ Other: Horiba U-52

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific Conductance	Turbidity or D.O.	Clarity, Odor, PID Readings, Other:
		10:07					
	~2GPM	10:14	22.18	7.18	1.57	71000	Gy Brown, turbid, sulfurous
	~2GPM	10:18	21.37	7.15	1.33	157	odor
	~2GPM	10:22	21.40	7.21	1.37	126	
	~2GPM	10:28	21.26	7.17	1.37	34.8	
	~2GPM	10:30	21.15	7.18	1.37	97.2	
	~2GPM	10:36	21.36	7.18	1.38	1000	
	~2GPM	10:50	21.95	7.22	1.39	68.5	
	~2GPM	10:56	21.62	7.18	1.39	2.5	
	~2GPM	11:00	21.35	7.12	1.41	2.7	

Development Completed at ~100 Gallons Discharged. Date: 8/5/11 Time: 1100  
 Criteria: Parameter Stabilization Personnel: Jim M, Francis R

\* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.



Tetra Tech EM Inc.

Sheet 1 of 1

## WELL DEVELOPMENT DATA SHEET

BORING NO. Q16-K007WELL NO. Q16-M4J06

Project PPG Site 016  
 Project No. 3  
 Date(s) of Installation 8-2-11  
 Date(s) of Development 8-5-11  
 Personnel/Company Jim M / Francis R - Tetra Tech

Type of Rig Used \_\_\_\_\_

Casing Diameter/Type 2" PVC  
 Borehole Diameter 8"  
 Screened Interval(s) 4' - 9' 6gs  
 Total Length of Well Casing 5'  
 Measured Total Depth (TOC) Initial 8.70' TIC 9.00' 8gs  
 Final \_\_\_\_\_

Initial Depth to Water  
 (TOC) 2.79 6gs Date 8-5-11 Time 1350  
 Stabilized Depth to Water  
 (TOC) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

TECHNIQUE(S) DEVELOPMENT  
 EQUIPMENT TYPE/CAPACITY

Jetting (Airlift) \_\_\_\_\_  
☒ Surge Block \_\_\_\_\_  
 Bailing \_\_\_\_\_  
☒ Pumping Whale Pump  
 Other \_\_\_\_\_

## FLUIDS ADDED

Lost Drilling Fluid: \_\_\_\_\_ Gallons  
 Lost Purge Water: \_\_\_\_\_ Gallons  
 Water During Installation: \_\_\_\_\_ Gallons  
 Total Fluids Added: \_\_\_\_\_ Gallons  
 Source of Added Water: \_\_\_\_\_  
 Ground Water Quality Parameters of  
 Added Water Measured: Y N  
 Sample Collected of Added Water: Y N  
 Sample Designation of Added Water: \_\_\_\_\_

## PURGE VOLUME CALCULATION

Casing Volume: \_\_\_\_\_ Ft. of water  
 x \_\_\_\_\_ Gallons/Foot  
 = \_\_\_\_\_ Gallons per Single Casing Volume  
 Sand Pack Volume: \_\_\_\_\_ Ft. of Saturated Sand Pack  
 x \_\_\_\_\_ Gallons/Foot (borehole diameter)  
 = \_\_\_\_\_ Gallons (in borehole)  
 - \_\_\_\_\_ Gallons of Casing Volume  
 = \_\_\_\_\_ x 0.3 (Assuming porosity = 30%)  
 = \_\_\_\_\_ Gallons Within Sand Pack  
 Single Purge Volume: \_\_\_\_\_ Gallons (Casing Vol. +  
 Sand Pack Vol. + Fluids Added)  
 Minimum Purge Volume: \_\_\_\_\_ Gallons  
 Actual Purge Volume: \_\_\_\_\_ Gallons  
 Volume Measured by: \_\_\_\_\_  
 Rate of Development \_\_\_\_\_ Gallons/Minute (Hour, Day)  
 Pumping Rate/Depth \_\_\_\_\_ @ \_\_\_\_\_ Ft. (Below Grd.)  
 Immiscible Phases Present: Y N Thickness \_\_\_\_\_

## INSTRUMENT CALIBRATION

pH Meter: \_\_\_\_\_ Spec. Conductance Meter: \_\_\_\_\_  
 pH 4.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Standard \_\_\_\_\_  $\mu$ mhos/cm @ 25 °C  
 pH 7.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Reading \_\_\_\_\_  $\mu$ mhos/cm @ \_\_\_\_\_ °C  
 pH 10.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C  
 Dissolved Oxygen Meter: \_\_\_\_\_ Turbidity Meter: \_\_\_\_\_  
 Other: Horiba U-52

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific Conductance	Turbidity or D.O.	Clarity, Odor, PID Readings, Other:
		<u>1358</u>					
	<u>2 GPM</u>	<u>1402</u>	<u>25.84</u>	<u>7.45</u>	<u>1.93</u>	<u>271</u>	<u>Very turbid, grey brown, slight sulfurous odor</u>
	<u>2 GPM</u>	<u>1406</u>	<u>24.07</u>	<u>7.61</u>	<u>1.94</u>	<u>79.0</u>	
	<u>2 GPM</u>	<u>1413</u>	<u>23.29</u>	<u>7.76</u>	<u>1.93</u>	<u>17.3</u>	
	<u>2 GPM</u>	<u>1428</u>	<u>23.64</u>	<u>7.76</u>	<u>1.92</u>	<u>13.2</u>	
	<u>2 GPM</u>	<u>1421</u>	<u>23.41</u>	<u>7.73</u>	<u>1.95</u>	<u>6.8</u>	

Development Completed at ~40 Gallons Discharged. Date: 8/5/11 Time: 1422  
 Criteria: Parameter stabilization, low turbidity Personnel: Jim M. / Francis R.

\* Specific Conductance readings temperature compensated to 25 °C, if not, report temperatures at which reading obtained.



Tetra Tech EM Inc.

Sheet 1 of 1

## WELL DEVELOPMENT DATA SHEET

BORING NO. 016-LotoWELL NO. 016-MH07

Project PPG Site a16  
 Project No. \_\_\_\_\_  
 Date(s) of Installation 8-3-11  
 Date(s) of Development 8-19-11  
 Personnel/Company Jim M / Francis R - Tetra Tech  
 Type of Rig Used \_\_\_\_\_

Casing Diameter/Type 2"  
 Borehole Diameter 3"  
 Screened Interval(s) 3.5'-8.5'  
 Total Length of Well Casing 5'  
 Measured Total Depth (TOC) Initial 3.65' 6gs  
 Final \_\_\_\_\_  
 Initial Depth to Water (TOC) 3.44 TIC 3.37' 6gs Date \_\_\_\_\_ Time \_\_\_\_\_  
 Stabilized Depth to Water (TOC) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

TECHNIQUE(S) DEVELOPMENT  
 EQUIPMENT TYPE/CAPACITY

Jetting (Airlift) \_\_\_\_\_  
☒ Surge Block \_\_\_\_\_  
 Bailing \_\_\_\_\_  
☒ Pumping Whale pump  
 Other \_\_\_\_\_

## FLUIDS ADDED

Lost Drilling Fluid: \_\_\_\_\_ Gallons  
 Lost Purge Water: \_\_\_\_\_ Gallons  
 Water During Installation: \_\_\_\_\_ Gallons  
 Total Fluids Added: \_\_\_\_\_ Gallons  
 Source of Added Water: \_\_\_\_\_  
 Ground Water Quality Parameters of  
 Added Water Measured: Y N  
 Sample Collected of Added Water: Y N  
 Sample Designation of Added Water: \_\_\_\_\_

## PURGE VOLUME CALCULATION

Casing Volume: \_\_\_\_\_ Ft. of water  
 x \_\_\_\_\_ Gallons/Foot  
 = \_\_\_\_\_ Gallons per Single Casing Volume  
 Sand Pack Volume: \_\_\_\_\_ Ft. of Saturated Sand Pack  
 x \_\_\_\_\_ Gallons/Foot (borehole diameter)  
 = \_\_\_\_\_ Gallons (in borehole)  
 - \_\_\_\_\_ Gallons of Casing Volume  
 = \_\_\_\_\_ x 0.3 (Assuming porosity = 30%)  
 = \_\_\_\_\_ Gallons Within Sand Pack  
 Single Purge Volume: \_\_\_\_\_ Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)  
 Minimum Purge Volume: \_\_\_\_\_ Gallons  
 Actual Purge Volume: \_\_\_\_\_ Gallons  
 Volume Measured by: \_\_\_\_\_  
 Rate of Development \_\_\_\_\_ Gallons/Minute (Hour, Day)  
 Pumping Rate/Depth \_\_\_\_\_ @ \_\_\_\_\_ Ft. (Below Grd.)  
 Immiscible Phases Present: Y N Thickness \_\_\_\_\_

## INSTRUMENT CALIBRATION

pH Meter: \_\_\_\_\_ Spec. Conductance Meter: \_\_\_\_\_  
 pH 4.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Standard \_\_\_\_\_ µmhos/cm @ 25°C  
 pH 7.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Reading \_\_\_\_\_ µmhos/cm @ \_\_\_\_\_ °C  
 pH 10.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C  
 Dissolved Oxygen Meter: \_\_\_\_\_ Turbidity Meter: \_\_\_\_\_  
 Other: Horiba U-52

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific Conductance	Turbidity or D.O.	Clarity, Odor, PID Readings, Other:
		1328					
	2GPM	1330	22.40	7.65	2.17	21000	very turbid grey-brown -20
		1333	22.79	7.53	2.33	238	slight sulfurous odor -44
		1337	22.85	7.52	2.36	63.3	-63
		1341	22.76	7.50	2.37	55.4	-77
		1345	22.85	7.50	2.35	36.9	-82
		1349	22.75	7.48	2.35	16.8	-85
		1353	23.09	7.46	2.35	21.6	-87

Development Completed at ~ 1350 Gallons Discharged. Date: 8/19/11 Time: 1355  
 Criteria: Parameter stabilization, low turbidity Personnel: Jim M, Francis R

\* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.



Tetra Tech EM Inc.

Sheet 1 of 1

## WELL DEVELOPMENT DATA SHEET

BORING NO. 016\_K013WELL NO. 016\_MW08

Project PPG Site 016  
 Project No. \_\_\_\_\_  
 Date(s) of Installation 8/3/11  
 Date(s) of Development 8/9/11  
 Personnel/Company Jim M. / Francis R. - TetraTech  
 Type of Rig Used \_\_\_\_\_

Casing Diameter/Type 2" PVC  
 Borehole Diameter 8"  
 Screened Interval(s) 3.5-8.5  
 Total Length of Well Casing \_\_\_\_\_  
 Measured Total Depth (TOC) Initial 8.32  
 Final \_\_\_\_\_  
 Initial Depth to Water (TOC) 4.00 Date 8-9-11 Time 12:30  
 Stabilized Depth to Water (TOC) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

DEVELOPMENT  
 TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

☐ Jetting (Airlift) \_\_\_\_\_  
☒ Surge Block \_\_\_\_\_  
☐ Bailing \_\_\_\_\_  
☒ Pumping Whale pump  
☐ Other \_\_\_\_\_

## FLUIDS ADDED

Lost Drilling Fluid: \_\_\_\_\_ Gallons  
 Lost Purge Water: \_\_\_\_\_ Gallons  
 Water During Installation: \_\_\_\_\_ Gallons  
 Total Fluids Added: \_\_\_\_\_ Gallons  
 Source of Added Water: \_\_\_\_\_  
 Ground Water Quality Parameters of  
 Added Water Measured: Y N  
 Sample Collected of Added Water: Y N  
 Sample Designation of Added Water: \_\_\_\_\_

## PURGE VOLUME CALCULATION

Casing Volume: \_\_\_\_\_ Ft. of water  
 x \_\_\_\_\_ Gallons/Foot  
 = \_\_\_\_\_ Gallons per Single Casing Volume  
 Sand Pack Volume: \_\_\_\_\_ Ft. of Saturated Sand Pack  
 x \_\_\_\_\_ Gallons/Foot (borehole diameter)  
 = \_\_\_\_\_ Gallons (in borehole)  
 - \_\_\_\_\_ Gallons of Casing Volume  
 = \_\_\_\_\_ x 0.3 (Assuming porosity = 30%)  
 = \_\_\_\_\_ Gallons Within Sand Pack  
 Single Purge Volume: \_\_\_\_\_ Gallons (Casing Vol. +  
 Sand Pack Vol. + Fluids Added)  
 Minimum Purge Volume: \_\_\_\_\_ Gallons  
 Actual Purge Volume: \_\_\_\_\_ Gallons  
 Volume Measured by: \_\_\_\_\_  
 Rate of Development \_\_\_\_\_ Gallons/Minute (Hour, Day)  
 Pumping Rate/Depth \_\_\_\_\_ @ \_\_\_\_\_ Ft. (Below Grd.)  
 Immiscible Phases Present: Y N Thickness \_\_\_\_\_

## INSTRUMENT CALIBRATION

pH Meter: \_\_\_\_\_ Spec. Conductance Meter: \_\_\_\_\_  
 pH 4.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Standard \_\_\_\_\_  $\mu\text{mhos/cm}$  @ 25°C  
 pH 7.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Reading \_\_\_\_\_  $\mu\text{mhos/cm}$  @ \_\_\_\_\_ °C  
 pH 10.0 = \_\_\_\_\_ @ \_\_\_\_\_ °C Turbidity Meter: \_\_\_\_\_  
 Dissolved Oxygen Meter: \_\_\_\_\_ Other: Horiba U-52

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific Conductance	Turbidity or D.O.	Clarity, Odor, PID Readings, Other:
	3 GPM	12:37	28.77	7.29	2.65	200	turbid, H. brown,
	3 GPM	12:39	26.85	7.58	2.77	120	SW Fungus odor
	3 GPM	12:41	25.72	7.38	2.79	31.4	
	3 GPM	12:43	25.41	7.31	2.80	6.7	
	3 GPM	12:45	25.18	7.28	2.81	2.6	

Development Completed at ~15 Gallons Discharged. Date: 8/9/11 Time: 12:45  
 Criteria: Parameter stability, low turbidity Personnel: Jim M., Francis R.

\* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

# LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: PPG Site Site 014  
 DATE: 8-5-2011  
 WEATHER: Sunny, high 70's, med. humidity

CONSULTING FIRM: Tetra Tech  
 FIELD PERSONNEL: Jim Michalski

MONITOR WELL PPG4-MW02 WELL DEPTH: 16.35 SCREENED/OPEN INTERVAL: 7.35 - 16.35' TIC  
 WELL PERMIT #: \_\_\_\_\_ WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 11.30 ft below TIC  
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.95 ft below TIC  
 BENEATH INNER CAP: 0.0 MAKE/MODEL OF PUMP: \_\_\_\_\_ SERIAL #: \_\_\_\_\_

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1145	X			NA		NA		NA		NA		NA		NA		5.10
1157	X		7.14	0.00	2.44	0.000	-131	0.000	1.07	0.00	0.0	0.00	22.15	0.00	200	5.15
1220	X		7.05	0.00	2.59	0.000	-125	0.000	0.29	0.00	0.0	0.00	21.08	0.00	200	5.15
1225	X		7.03	0.00	2.59	0.000	-128	0.000	0.29	0.00	0.0	0.00	20.90	0.00	200	5.15
1230	X		7.01	0.00	2.63	0.000	-130	0.000	0.25	0.00	0.0	0.00	20.85	0.00	200	5.17
1235	X		6.98	0.00	2.65	0.000	-131	0.000	0.24	0.00	0.0	0.00	20.80	0.00	200	5.17
1240	X		7.00	0.00	2.65	0.000	-130	0.000	0.22	0.00	0.0	0.00	20.82	0.00	200	5.17
1245	X		7.01	0.00	2.66	0.000	-135	0.000	0.21	0.00	0.0	0.00	20.86	0.00	200	5.17
1250	X		7.00	0.00	2.66	0.000	-137	0.000	0.21	0.00	0.0	0.00	20.85	0.00	200	5.12
1255	X		6.99	0.00	2.65	0.000	-136	0.000	0.19	0.00	0.0	0.00	20.84	0.00	200	5.12
1300	X		7.00	0.00	2.66	0.000	-140	0.000	0.19	0.00	0.0	0.00	20.84	0.00		

COMMENTS:

MAKE/MODEL OF WQ METER:

SERIAL #:

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:  $\pm 0.1$  for pH;  $\pm 3\%$  for Specific Conductivity and Temperature;  $\pm 10$  mv for Redox Potential; and  $\pm 10\%$  for Dissolved Oxygen and Turbidity



# LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>PPG Site 016</u>				CONSULTING FIRM: <u>Tetra Tech</u>			
DATE: <u>2/5/11</u>				FIELD PERSONNEL: <u>Francis R.</u>			
WEATHER: <u>Sunny, high low 80s, mod humidity</u>							

  

MONITOR WELL <u>PPG-4-MW15</u>		WELL DEPTH: <u>9.37' TIC (10' lgs)</u>		SCREENED/OPEN INTERVAL: <u>2.5' to 10' lgs</u>	
WELL PERMIT #:		WELL DIAMETER: <u>2</u> Inches			

  

PID/FID READINGS (ppm):		BACKGROUND: <u>0.0</u>		PUMP INTAKE DEPTH: <u>6.00</u> ft below TIC	
		BENEATH OUTER CAP: <u>0.0</u>		DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>1.55</u> ft below TIC	
		BENEATH INNER CAP: <u>1.7</u>		MAKE/MODEL OF PUMP: <u>QED Micropump</u> SERIAL #: _____	

  

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
943	X			NA		NA		NA		NA		NA		NA	120	1.91
1030	X		6.83	0.00	1.03	0.000	-158	0.000	0.29	0.00	0.0	0.00	28.57	0.00	120	1.91
1035	X		6.82	0.00	1.05	0.000	-155	0.000	0.30	0.00	0.0	0.00	28.59	0.00	120	1.91
1040	X		6.82	0.00	1.06	0.000	-155	0.000	0.28	0.00	0.0	0.00	28.61	0.00	120	1.91
1045	X		6.82	0.00	1.09	0.000	-156	0.000	0.27	0.00	0.0	0.00	28.62	0.00	120	1.91
1050		X	6.81	0.00	1.10	0.000	-156	0.000	0.29	0.00	0.0	0.00	28.65	0.00	120	1.91
				0.00		0.000		0.000		0.00		0.00		0.00		
				0.00		0.000		0.000		0.00		0.00		0.00		
				0.00		0.000		0.000		0.00		0.00		0.00		
				0.00		0.000		0.000		0.00		0.00		0.00		
				0.00		0.000		0.000		0.00		0.00		0.00		

  

COMMENTS:

  

MAKE/MODEL OF WQ METER:	SERIAL #:
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\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;  
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

# **LOW FLOW SAMPLING DATA SHEET**

SHEET 1 OF 1

SITE: PPG Site 016  
DATE: 8-5-11  
WEATHER: Sunny, 80's, moderate humidity

CONSULTING FIRM: Tetra Tech  
FIELD PERSONNEL: Jim M.

MONITOR WELL: PPG4-MW16 WELL DEPTH: 8 11.15' TIC 12' 6" SCREENED/OPEN INTERVAL: 3.65-11.15' TIC  
WELL PERMIT #: \_\_\_\_\_ WELL DIAMETER: 2 Inches 4.5 - 12' 6"

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 7.80 ft below TIC  
BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.70 ft below TIC  
BENEATH INNER CAP: 0.0 MAKE/MODEL OF PUMP: QED Micropump SERIAL #: \_\_\_\_\_

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
12:13				NA		NA		NA		NA		NA		NA		3.71
12:15# 12:32*				0.00		0.000		0.000		0.00		0.00		0.00		3.70
12:35			7.15	0.00	0.906	0.000	-102	0.000	0.77	0.00	0.9	0.00	24.26	0.00	100	3.80
12:40			7.13	0.00	0.917	0.000	-111	0.000	0.63	0.00	0.2	0.00	23.00	0.00	100	3.81
12:45			7.09	0.00	0.919	0.000	-121	0.000	0.44	0.00	0.0	0.00	26.70	0.00	100	3.82
12:50			7.08	0.00	0.929	0.000	-127	0.000	0.36	0.00	0.0	0.00	26.23	0.00	100	3.83
12:53			7.09	0.00	0.942	0.000	-131	0.000	0.31	0.00	0.0	0.00	26.25	0.00	100	3.83
13:00			7.08	0.00	0.953	0.000	-133	0.000	0.29	0.00	0.0	0.00	25.87	0.00	100	3.83
13:05			7.08	0.00	0.963	0.000	-135	0.000	0.27	0.00	0.0	0.00	25.55	0.00	100	3.83
13:10			Sampled	0.00		0.000		0.000		0.00		0.00		0.00		
				0.00		0.000		0.000		0.00		0.00		0.00		

COMMENTS: \* Out of CO<sub>2</sub> - replaced & resumed purging @ 12:32

MAKE/MODEL OF WQ METER: \_\_\_\_\_ SERIAL #: \_\_\_\_\_

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

# **LOW FLOW SAMPLING DATA SHEET**

SHEET 1 OF 1

SITE: <u>PPG Site 016</u> DATE: <u>9-16-11</u> WEATHER: <u>Sunny / 60's</u>	CONSULTING FIRM: <u>Tetra Tech</u> FIELD PERSONNEL: <u>Jim M.</u>
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MONITOR WELL: <u>016-RW01</u>	WELL DEPTH: <u>9.5' TIC</u>	SCREENED/OPEN INTERVAL: <u>4.5'-9.5' Root TIC</u>
WELL PERMIT #:	WELL DIAMETER: <u>2</u> Inches	

PID/FID READINGS (ppm): BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____	PUMP INTAKE DEPTH: <u>2.5'</u> ft below TIC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>3.52</u> ft below TIC MAKE/MODEL OF PUMP: <u>QED Microperge</u> SERIAL #: _____
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1357				NA		NA		NA		NA		NA		NA	190	3.47
1400			6.94	0.00	1.95	0.000	-51	0.000	4.32	0.00	19.1	0.00	22.29	0.00	150	3.50
1405			6.92	0.00	1.98	0.000	-53	0.000	2.53	0.00	9.5	0.00	21.56	0.00	225	3.54
1410			6.89	0.00	1.97	0.000	-47	0.000	1.68	0.00	3.3	0.00	21.36	0.00	225	3.54
1415			6.88	0.00	1.95	0.000	-45	0.000	1.56	0.00	2.3	0.00	21.24	0.00	225	3.53
1420			6.87	0.00	1.95	0.000	-46	0.000	* 1.38	0.00	2.1	0.00	21.20	0.00	225	3.53
1425			6.87	0.00	1.96	0.000	-50	0.000	0.91	0.00	1.2	0.00	21.17	0.00	225	3.53
1430			6.87	0.00	1.96	0.000	-54	0.000	0.75	0.00	0.9	0.00	21.14	0.00	225	3.53
1435			6.87	0.00	1.96	0.000	-56	0.000	0.72	0.00	0.6	0.00	21.12	0.00	225	3.53
1440			6.87	0.00	1.96	0.000	-57	0.000	0.68	0.00	0.5	0.00	21.07	0.00	225	3.53
1455			Sample	0.00		0.000		0.000		0.00		0.00		0.00		

COMMENTS: <u>Purge water clear, strong sulfurous odor</u> <u>* fluctuating w/ purge cycle, took lower reading</u>
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MAKE/MODEL OF WQ METER: <u>Horiba U-52</u> SERIAL #: _____
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\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

# **LOW FLOW SAMPLING DATA SHEET**

SHEET 1 OF 1

SITE: <u>PPG- Site Oil</u>		CONSULTING FIRM: <u>IT</u>	
DATE: <u>9/16/11</u>		FIELD PERSONNEL: <u>F. Riquillo</u>	
WEATHER: <u>Sunny warm high 60s</u>			
MONITOR WELL #: <u>016-MW02</u>		WELL DEPTH: <u>10' bgs</u>	SCREENED/OPEN INTERVAL: <u>5-10' bgs</u>
WELL PERMIT #:		WELL DIAMETER: _____ inches	<u>4.5'-9.5' TIC</u>
PID/FID READINGS (ppm):		PUMP INTAKE DEPTH: <u>6.70</u> ft below <u>TIC</u> ( <u>2.75' bgs</u> )	
BACKGROUND: _____		DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>3.41</u> ft below <u>TIC</u>	
BENEATH OUTER CAP: _____		MAKE/MODEL OF PUMP: _____	
BENEATH INNER CAP: _____			

  

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1357	X			NA		NA		NA		NA		NA		NA	200	3.41
1400	X		7.23		2.36		-228		9.64		247		21.03			3.42
1407	X		7.22		2.35		-262		8.98		116		20.66			3.42
1412	X		7.22		2.38		-280		8.19		25.3		20.58			3.42
1417	X		7.22		2.41		-283		7.69		12.9		20.50			3.42
1422	X		7.22		2.41		-286		7.16		7.2		26.44			3.42
1427	X		7.22		2.42		-288		6.10		5.1		20.46			3.42
1432	X		7.22		2.42		-290		5.97		4.4		20.44			3.42
1437	X		7.22		2.42		-291		5.56		3.6		20.41			3.42
1442	X		7.22		2.42		-294		4.96		2.1		20.40			3.42
1447	X		7.22		2.43		-296		4.59		2.2		20.39			3.42
COMMENTS: 1452 X 7.22      2.43      -297      4.47      2.3      26.35      3.42																
1457 X 7.22      2.43      -299      4.21      2.2      20.33      3.42																

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 for pH; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

# LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>2451 PPG Site 016</u>				CONSULTING FIRM: <u>Tetra Tech</u>			
DATE: <u>8-15-11</u>				FIELD PERSONNEL: <u>Jim M.</u>			
WEATHER: <u>cloudy, rain, high hum. High 60's</u>							
MONITOR WELL: <u>016-MW03</u>				WELL DEPTH: <u>9.5' TIC</u>		SCREENED/OPEN INTERVAL: <u>4.5'-9.5' TIC</u>	
WELL PERMIT #: _____				WELL DIAMETER: <u>2</u> Inches			
PID/FID READINGS (ppm):				PUMP INTAKE DEPTH: <u>7.0</u> ft below TIC			
BACKGROUND: _____				DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>337</u> ft below TIC			
BENEATH OUTER CAP: _____				MAKE/MODEL OF PUMP: _____			
BENEATH INNER CAP: _____				SERIAL #: _____			

  

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1600				NA		NA		NA		NA		NA		NA	300	3.33
1610			8.54	0.00	2.75	0.000	-249	0.000	0.61	0.00	148	0.00	20.90	0.00	300	3.33
1615			8.33	0.00	2.86	0.000	-244	0.000	0.35	0.00	28.6	0.00	20.67	0.00	300	3.33
1620			8.34	0.00	2.83	0.000	-245	0.000	0.31	0.00	18.9	0.00	20.60	0.00	300	3.33
1625			8.36	0.00	2.83	0.000	-246	0.000	0.28	0.00	11.9	0.00	20.60	0.00	300	3.33
1630			8.37	0.00	2.89	0.000	-246	0.000	0.26	0.00	9.1	0.00	20.59	0.00	300	3.33
1635			8.37	0.00	2.90	0.000	-246	0.000	0.24	0.00	8.7	0.00	20.56	0.00	300	3.33
1640			8.36	0.00	2.91	0.000	-245	0.000	0.23	0.00	8.1	0.00	20.56	0.00	300	3.33
1645			Sampled			0.000		0.000		0.00		0.00		0.00		
				0.00		0.000		0.000		0.00		0.00		0.00		
				0.00		0.000		0.000		0.00		0.00		0.00		

COMMENTS: Purge water turbid, grey-brown, strong sulfurous odor  
Sampled at 1645

MAKE/MODEL OF WQ METER: _____	SERIAL #: _____
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\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:  $\pm 0.1$  for pH;  $\pm 3\%$  for Specific Conductivity and Temperature;  $\pm 10$  mv for Redox Potential; and  $\pm 10\%$  for Dissolved Oxygen and Turbidity

# **LOW FLOW SAMPLING DATA SHEET**

SHEET 1 OF 1

SITE: PPG - Site 016  
 DATE: 9/15/11  
 WEATHER: humid, partly sunny  
 CONSULTING FIRM: TF  
 FIELD PERSONNEL: F. Ronguilla

MONITOR WELL #: 016-MW004 WELL DEPTH: 10' TIC  
 WELL PERMIT #: \_\_\_\_\_ WELL DIAMETER: \_\_\_\_\_ inches  
 SCREENED/OPEN INTERVAL: 5-10' TIC

PID/FID READINGS (ppm):  
 BACKGROUND: \_\_\_\_\_ PUMP INTAKE DEPTH: 7.5' ft below ~~TOC~~ TIC  
 BENEATH OUTER CAP: \_\_\_\_\_ DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.83 ft below ~~TOC~~ TIC  
 BENEATH INNER CAP: \_\_\_\_\_ MAKE/MODEL OF PUMP: \_\_\_\_\_

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1431	X			NA		NA		NA		NA		NA		NA	200	3.83
1437	X		7.00		2.66		-167		9.58		12.7		21.17			3.90
1441	X		7.00		2.64		-172		8.86		6.0		20.70			3.90
1447	X		7.00		2.61		-174		7.77		2.9		20.41			3.91
1451	X		7.00		2.60		-176		7.06		1.9		20.32			3.91
1457	X		6.99		2.58		-178		6.00		1.2		20.22			3.93
1501	X		6.99		2.58		-179		5.56		1.3		20.20			3.93
1507	X		6.99		2.57		-180		5.03		1.1		20.18			3.95
1511	X		6.99		2.57		-180		4.73		1.0		20.20			3.95
1517	X		6.99		2.57		-181		4.63		0.8		20.20			3.96
1521	X		6.99		2.57		-181		4.59		0.8		20.19			3.96

COMMENTS:  
 1527 X 6.99 2.57 -181 4.53 0.8 20.17 3.96

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:  $\pm 0.1$  for pH;  $\pm 3\%$  for Specific Conductivity and Temperature;  $\pm 10$  mv for Redox Potential; and  $\pm 10\%$  for Dissolved Oxygen and Turbidity.

# **LOW FLOW SAMPLING DATA SHEET**

SHEET 1 OF 1

SITE: <u>PPG - Site 016</u>		CONSULTING FIRM: <u>TT</u>	
DATE: <u>7/15/11</u>		FIELD PERSONNEL: <u>F. Rengul</u>	
WEATHER: <u>cloudy, rainy</u>			
MONITOR WELL #: <u>MW-05 016-MW05</u>		WELL DEPTH: <u>10' TIC</u>	
WELL PERMIT #:		SCREENED/OPEN INTERVAL: <u>5-10' TIC</u>	
WELL DIAMETER: <u>2</u> inches			
PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: <u>7.5</u> ft below <del>TOC</del> <u>TIC</u> BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>2.62</u> ft below <del>TOC</del> <u>TIC</u> BENEATH INNER CAP: _____ MAKE/MODEL OF PUMP: _____			

  

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1554	X			NA		NA		NA		NA		NA		NA		2.62
1559	X		7.29		2.07		-164		2.73		974		21.86			3.70
1603	X		7.28		21.88		-171		21.44		274		21.80			3.70
1608	X		7.26		1.69		-169		1.04		106.0		21.26			3.71
1613	X		7.25		1.65		-170		0.83		384		21.26			3.74
1618	X		7.25		1.64		-172		0.66		25.3		21.24			3.75
1623	X		7.25		1.63		-173		0.56		217.4		21.26			3.75
1628	X		7.27		1.62		-174		0.54		16.9		21.24			3.77
1633	X		7.25		1.62		-176		0.51		15.7		21.23			3.79
1638		X	7.24		1.60		-177		0.49		15.3		21.21			3.80

COMMENTS:

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:  $\pm 0.1$  for pH;  $\pm 3\%$  for Specific Conductivity and Temperature;  $\pm 10$  mv for Redox Potential; and  $\pm 10\%$  for Dissolved Oxygen and Turbidity.

# **LOW FLOW SAMPLING DATA SHEET**

SHEET 1 OF 1

SITE: <u>PPG Site 016</u>		CONSULTING FIRM: <u>TF</u>	
DATE: <u>9/15/11</u>		FIELD PERSONNEL: <u>Jim M / Francis R</u>	
WEATHER: <u>cloudy, windy</u>			
MONITOR WELL #: <u>016-WW06</u>		WELL DEPTH: <u>9' TIC</u>	SCREENED/OPEN INTERVAL: <u>4'-9' TIC</u>
WELL PERMIT #:		WELL DIAMETER: <u>2"</u> inches	
PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: <u>6.5</u> ft below <del>TOC</del> <u>TIC</u> BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC BENEATH INNER CAP: _____ MAKE/MODEL OF PUMP: _____			

  

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1153	X			NA		NA		NA		NA		NA		NA	300	
1158	X		7.89		2.20		-205		2.91		284		22.11			2.10
1203	X		7.90		2.27		-248		1.47		90.7		21.64			2.10
1208	X		7.89		2.27		-254		1.15		34.6		21.46			2.10
1213	X		7.88		2.27		-258		0.92		13.4		21.35			2.15
1218	X		7.88		2.26		-260		0.69		9.8		21.34			2.16
1223	X		7.88		2.27		-262		0.59		6.4		21.35			2.18
1228	X		7.91		2.26		-263		0.71		5.7		21.33			2.20
1233	X		7.88		2.26		-266		0.69		5.4		21.32			2.21
1238	X		7.87		2.26		-267		0.67		5.1		21.30			2.26

COMMENTS:

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 for pH; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.



# LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>PAG Site 016</u> DATE: <u>9/15/11</u> WEATHER: <u>Cloudy, high 60's, high humidity</u>	CONSULTING FIRM: <u>Tetra Tech</u> FIELD PERSONNEL: <u>Sam M/ Francis R</u>
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MONITOR WELL <u>016-MW07</u>	WELL DEPTH: <u>9'</u>	SCREENED/OPEN INTERVAL: <u>4'-9'</u>
WELL PERMIT #:	WELL DIAMETER: <u>2</u> Inches	

PID/FID READINGS (ppm): BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____	PUMP INTAKE DEPTH: <u>65'</u> ft below TIC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>305</u> ft below TIC MAKE/MODEL OF PUMP: _____	SERIAL #: _____
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1038	X			NA		NA		NA		NA		NA		NA	300	305
1043	X		7.56	0.00	2.94	0.000	-156	0.000	3.99	0.00	256	0.00	22.87	0.00		3.07
1052	X		7.66	0.00	2.97	0.000	-185	0.000	1.30	0.00	69.2	0.00	22.35	0.00		3.07
1057	X		7.65	0.00	2.91	0.000	-168	0.000	2.55	0.00	50.0	0.00	22.39	0.00		3.07
1102	X		7.65	0.00	2.94	0.000	-181	0.000	1.22	0.00	33.7	0.00	22.06	0.00		3.07
1107	X		7.65	0.00	2.95	0.000	-190	0.000	0.77	0.00	22.4	0.00	<del>22.96</del> 21.96	0.00		3.08
1112	X		7.65	0.00	2.91	0.000	-193	0.000	0.67	0.00	14.3	0.00	21.94	0.00		3.08
1117	X		7.66	0.00	2.89	0.000	-196	0.000	0.64	0.00	13.8	0.00	21.93	0.00		3.10
1122		X	7.66	0.00	2.86	0.000	-197	0.000	0.62	0.00	13.5	0.00	21.92	0.00		3.10
				0.00		0.000		0.000		0.00		0.00		0.00		
				0.00		0.000		0.000		0.00		0.00		0.00		

COMMENTS:

MAKE/MODEL OF WQ METER: <u>Hontela U-52</u>	SERIAL #: _____
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\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:  $\pm 0.1$  for pH;  $\pm 3\%$  for Specific Conductivity and Temperature;  $\pm 10$  mv for Redox Potential; and  $\pm 10\%$  for Dissolved Oxygen and Turbidity

# LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: PPG Site 016  
DATE: 9/15/11  
WEATHER: mostly cloudy, low 70's, moderate humidity

CONSULTING FIRM: Tetra Tech  
FIELD PERSONNEL: Jim M.

MONITOR WELL: 016-MW08 WELL DEPTH: 8.5' TIC SCREENED/OPEN INTERVAL: 3.5-8.5' TIC  
WELL PERMIT #: \_\_\_\_\_ WELL DIAMETER: 2.5" inches

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 60 ft below TIC  
BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 2.67 ft below TIC  
BENEATH INNER CAP: 0 MAKE/MODEL OF PUMP: QED Micropump SERIAL #: \_\_\_\_\_

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1050				NA		NA		NA		NA		NA		NA	300	2.61
1057			7.42	0.00	2.06	0.000	-122	0.000	3.95	0.00	46.0	0.00	24.74	0.00	300	2.62
1105			7.43	0.00	1.97	0.000	-135	0.000	1.99	0.00	8.1	0.00	24.45	0.00	300	2.62
1110			7.44	0.00	1.97	0.000	-136	0.000	1.60	0.00	4.2	0.00	24.48	0.00	300	2.62
1115			7.43	0.00	1.98	0.000	-137	0.000	1.30	0.00	3.1	0.00	24.46	0.00	300	2.62
1120			7.43	0.00	1.99	0.000	-138	0.000	1.11	0.00	2.3	0.00	24.35	0.00	300	2.62
1125			7.43	0.00	2.02	0.000	-139	0.000	0.92	0.00	1.6	0.00	24.31	0.00	300	2.62
1130			7.43	0.00	2.03	0.000	-139	0.000	0.80	0.00	1.2	0.00	24.34	0.00	300	2.62
1135			7.43	0.00	2.04	0.000	-140	0.000	0.73	0.00	1.0	0.00	24.34	0.00	300	2.62
1140			7.43	0.00	2.05	0.000	-141	0.000	0.68	0.00	0.8	0.00	24.34	0.00	300	2.62
1145				0.00		0.000		0.000		0.00		0.00		0.00		

COMMENTS: Sample taken at 1145. Pump water clear, slight sulfurous odor

MAKE/MODEL OF WQ METER: Hanna U52 SERIAL #: 012458

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:  $\pm 0.1$  for pH;  $\pm 3\%$  for Specific Conductivity and Temperature;  $\pm 10$  mv for Redox Potential; and  $\pm 10\%$  for Dissolved Oxygen and Turbidity

# **LOW FLOW SAMPLING DATA SHEET**

SHEET 1 OF 1

SITE: <u>PPG Site 016</u>	CONSULTING FIRM: <u>Tetra Tech</u>	
DATE: <u>9-15-11</u>	FIELD PERSONNEL: <u>Jim M</u>	
WEATHER: <u>Cloudy, low 70's, high humidity</u>		
MONITOR WELL: <u>PPG4-MW02</u>	WELL DEPTH: <u>16.35' TIC</u>	SCREENED/OPEN INTERVAL: <u>7.35-16.35' TIC</u>
WELL PERMIT #:	WELL DIAMETER: <u>2</u> Inches	<u>14.10</u>

PID/FID READINGS (ppm): BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____	PUMP INTAKE DEPTH: <del>14.10</del> ft below TIC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>5.59</u> ft below TIC MAKE/MODEL OF PUMP: <u>GED Micropump</u> SERIAL #: _____
--	---

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1215				NA		NA		NA		NA		NA		NA	250	5.54
1220			7.13	0.00	2.29	0.000	-176	0.000	2.74	0.00	4.0	0.00	21.63	0.00	250	5.66
1225			7.08	0.00	1.49	0.000	-185	0.000	2.90	0.00	3.0	0.00	20.64	0.00	250	5.64
1230			7.07	0.00	1.48	0.000	-185	0.000	1.49	0.00	3.3	0.00	19.27	0.00	250	5.64
1235			7.07	0.00	1.50	0.000	-191	0.000	1.06	0.00	1.7	0.00	19.31	0.00	250	5.64
1240			7.07	0.00	1.52	0.000	-195	0.000	0.89	0.00	1.2	0.00	19.29	0.00	250	5.64
1245			7.07	0.00	1.53	0.000	-201	0.000	0.70	0.00	1.0	0.00	19.29	0.00	250	5.64
1250			7.08	0.00	1.54	0.000	-206	0.000	0.59	0.00	0.3	0.00	19.36	0.00	250	5.64
1255			7.08	0.00	1.56	0.000	-211	0.000	0.49	0.00	0.3	0.00	19.37	0.00	250	5.64
1300			7.08	0.00	1.57	0.000	-215	0.000	0.45	0.00	0.1	0.00	19.35	0.00	250	5.64
1305			7.09	0.00	1.57	0.000	-219	0.000	0.41	0.00	0.2	0.00	19.32	0.00	250	5.64

COMMENTS: Purge water clear, slight sulfurous odor  
X Sampled at 1310

MAKE/MODEL OF WQ METER: Hontech-52 SERIAL #:

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

# **LOW FLOW SAMPLING DATA SHEET**

SHEET 1 OF 1

SITE: <u>PPG - Site 016</u>		CONSULTING FIRM: <u>JT</u>	
DATE: <u>9/15/11</u>		FIELD PERSONNEL: <u>F. Rengulb</u>	
WEATHER: <u>rain humid</u>			

  

MONITOR WELL #: <u>PPG4-MW15</u>	WELL DEPTH: <u>9.37 TIC (10' bgs)</u>	SCREENED/OPEN INTERVAL: <u>2.5' to 10' bgs</u>
WELL PERMIT #:	WELL DIAMETER: <u>2</u> inches	

  

PID/FID READINGS (ppm):		BACKGROUND: _____	PUMP INTAKE DEPTH: <u>8.80'</u> ft below <del>TOC</del> TIC
		BENEATH OUTER CAP: _____	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>1.32</u> ft below TOC
		BENEATH INNER CAP: _____	MAKE/MODEL OF PUMP: _____

  

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1316	X			NA		NA		NA		NA		NA		NA	300	1.32
1321	X		7.31		1.23		-219		1.29		7.5		24.85			2.10
1326	X		7.22		1.26		-219		0.66		3.9		25.06			2.10
1331	X		7.22		1.27		-219		0.63		3.8		25.04			2.10
1336	X		7.21		1.33		-222		0.54		3.6		24.98			2.12
1341	X		7.20		1.42		-224		0.46		2.7		24.95			2.15
1346	X		7.17		1.54		-223		0.43		2.2		24.93			2.18
1351	X		7.16		1.57		-223		0.37		1.6		24.92			2.20
1356	X		7.14		1.65		-222		0.32		1.2		24.97			2.25
1401	X		7.15		1.67		-223		0.30		1.0		24.99			2.27
1406		X	7.14		1.69		-222		0.30		0.8		24.98			2.30

  

COMMENTS:

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 for pH; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

# LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: PPG Site 016  
DATE: 9-15-11  
WEATHER: cloudy, 70's, high humidity

CONSULTING FIRM: Tetra Tech  
FIELD PERSONNEL: JMM

MONITOR WELL: PPG-4-MW16 WELL DEPTH: 11.15' TIC SCREENED/OPEN INTERVAL: 3.65-11.15' TIC  
WELL PERMIT #: \_\_\_\_\_ WELL DIAMETER: 2 Inches 4.5' 12' 6" S

PID/FID READINGS (ppm): BACKGROUND: \_\_\_\_\_ PUMP INTAKE DEPTH: 4.28 ft below TIC  
BENEATH OUTER CAP: \_\_\_\_\_ DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.02 ft below TIC  
BENEATH INNER CAP: \_\_\_\_\_ MAKE/MODEL OF PUMP: QED MicroPump SERIAL #: \_\_\_\_\_

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1345				NA		NA		NA		NA		NA		NA	<del>225</del> <sup>300</sup>	2.98
1350			6.91	0.00	2.33	0.000	-143	0.000	3.08	0.00	8.5	0.00	20.72	0.00	250	3.22
1355			6.94	0.00	2.04	0.000	-152	0.000	2.03	0.00	14.5	0.00	21.00	0.00	200	3.22
1400			7.01	0.00	1.57	0.000	-146	0.000	1.54	0.00	13.4	0.00	21.43	0.00	200	3.22
1405			7.11	0.00	1.04	0.000	-134	0.000	1.39	0.00	10.0	0.00	21.46	0.00	200	3.23
1410			7.18	0.00	0.792	0.000	-132	0.000	1.25	0.00	5.8	0.00	21.54	0.00	200	3.23
1415			7.22	0.00	0.758	0.000	-135	0.000	1.02	0.00	3.0	0.00	21.57	0.00	200	3.23
1420			7.22	0.00	0.806	0.000	-139	0.000	0.87	0.00	1.8	0.00	21.47	0.00	200	3.24
1425			7.23	0.00	0.910	0.000	-143	0.000	0.71	0.00	1.1	0.00	21.41	0.00	200	3.24
1430			7.23	0.00	1.00	0.000	-147	0.000	0.61	0.00	0.3	0.00	21.43	0.00	200	3.24
1435			7.24	0.00	1.13	0.000	-152	0.000	0.50	0.00	0.0	0.00	21.44	0.00	200	3.24

COMMENTS: Purge water clear, slight sulfurous odor

MAKE/MODEL OF WQ METER: Hanba U-52 SERIAL #: \_\_\_\_\_

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:  $\pm 0.1$  for pH;  $\pm 3\%$  for Specific Conductivity and Temperature;  $\pm 10$  mv for Redox Potential; and  $\pm 10\%$  for Dissolved Oxygen and Turbidity

# LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: PPG Site 016  
DATE: 9-13-11  
WEATHER: Cloudy, High 60's, and High humidity

CONSULTING FIRM: Tetra Tech  
FIELD PERSONNEL: JMM

MONITOR WELL PPGH-MW16 WELL DEPTH: 11.15' TIC  
WELL PERMIT #: \_\_\_\_\_ WELL DIAMETER: 2 Inches

SCREENED/OPEN INTERVAL: 3.65' - 11.15' TIC  
4.5' - 12' bgs

PID/FID READINGS (ppm):  
BACKGROUND: \_\_\_\_\_  
BENEATH OUTER CAP: \_\_\_\_\_  
BENEATH INNER CAP: \_\_\_\_\_

PUMP INTAKE DEPTH: 9.29 ft below TIC  
DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.02 ft below TIC  
MAKE/MODEL OF PUMP: \_\_\_\_\_ SERIAL #: \_\_\_\_\_

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1440			7.23	NA	1.19	NA	-156	NA	0.45	NA	0.0	NA	21.48	NA	200	3.24
1445			7.24	0.00	1.26	0.000	-160	0.000	0.39	0.00	0.0	0.00	21.39	0.00	200	3.24
1450			7.24	0.00	1.32	0.000	-165	0.000	0.34	0.00	0.0	0.00	21.38	0.00	200	3.24
1455			7.24	0.00	1.34	0.000	-168	0.000	0.31	0.00	0.0	0.00	21.34	0.00	200	3.24
1500			7.24	0.00	1.37	0.000	-171	0.000	0.29	0.00	0.0	0.00	21.32	0.00	200	3.24
1505			7.25	0.00	1.39	0.000	-175	0.000	0.27	0.00	0.0	0.00	21.31	0.00	200	3.24
1510			Sampled	0.00		0.000		0.000		0.00		0.00		0.00		
1515				0.00		0.000		0.000		0.00		0.00		0.00		
				0.00		0.000		0.000		0.00		0.00		0.00		
				0.00		0.000		0.000		0.00		0.00		0.00		
				0.00		0.000		0.000		0.00		0.00		0.00		

COMMENTS: Sampled @ 1510

MAKE/MODEL OF WQ METER:

SERIAL #:

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:  $\pm 0.1$  for pH;  $\pm 3\%$  for Specific Conductivity and Temperature;  $\pm 10$  mv for Redox Potential; and  $\pm 10\%$  for Dissolved Oxygen and Turbidity

**MONITORING WELL RECORD**

**PROPERTY OWNER:** K. I. D. REALTY CO

Company/Organization: K.I.D. Realty Co

Address: 4931 Fisher Island Dr Miami, Florida 33109

**WELL LOCATION:** Site 016

Address: 45 Linden Ave

County: Hudson

Municipality: Jersey City

Lot: 4.L

Block: 1507

Easting (X): 607062 Northing (Y): 676295

Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL STARTED:** August 22, 2011

**DATE WELL COMPLETED:** August 22, 2011

**WELL USE:** MONITORING

**Other Use(s):** \_\_\_\_\_

**Local ID:** 016-MW-01

**WELL CONSTRUCTION**

Total Depth Drilled (ft.): 9.5

Finished Well Depth (ft.): 9.5

Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	9.5	10		
Casing	0	4.5	2	PVC	Sch 40
Screen	4.5	9.5	2	PVC	Sch 40 .010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	2.5	10	2	3	47	4
Gravel Pack	2.5	9.5	10	2	Morie #1		

Grouting Method: Gravity method

Drilling Method: Hollow Stem Augers

**ADDITIONAL INFORMATION**

Protective Casing: No

Static Water Level: 4.2 ft. below land surface

Water Level Measure Tool: Tape

Well Development Period: 1 hrs.

Method of Development: Submersible

Pump Type: \_\_\_\_\_

Pump Capacity:    gpm

Total Design Head:    ft.

Drilling Fluid: \_\_\_\_\_

Drill Rig: Geoprobe 6620

Health and Safety Plan Submitted? Yes

**ATTACHMENTS:**

**GEOLOGIC LOG**

0 - .8: Grey OT - Other Concrete

.8 - 9.5: Grey OT - Other Concrete, debris

**ADDITIONAL INFORMATION:**

Driller of Record: John Brass,  
MONITORING LICENSE # 545089

Company: ENVIRONMENTAL PROBING  
INVESTIGATION

### MONITORING WELL RECORD

PROPERTY OWNER: K. I. D. REALTY CO

Company/Organization: K.I.D. Realty Co

Address: 4931 Fisher Island Dr Miami, Florida 33109

WELL LOCATION: Site 016

Address: 45 Linden Ave

County: Hudson

Municipality: Jersey City

Lot: 4.L

Block: 1507

Easting (X): 607392 Northing (Y): 676327

Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: August 18, 2011

DATE WELL COMPLETED: August 18, 2011

WELL USE: MONITORING

Other Use(s): \_\_\_\_\_

Local ID: 016-MW-02

#### WELL CONSTRUCTION

Total Depth Drilled (ft.): 9.5

Finished Well Depth (ft.): 9.5

Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rate/Screen # Used (lbs/ch no.)
Borehole	0	9.5	10		
Casing	0	4.5	2	PVC	Sch 40
Screen	4.5	9.5	2	PVC	Sch 40 .010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	2.5	10	2	3	47	4
Gravel Pack	2.5	9.5	10	2	Morie #1		

Grouting Method: Gravity method

Drilling Method: Hollow Stem Augers

#### ADDITIONAL INFORMATION

Protective Casing: No

Static Water Level: 4.2 ft. below land surface

Water Level Measure Tool: Tape

Well Development Period: 1 hrs.

Method of Development: Submersible

Pump Type: \_\_\_\_\_

Pump Capacity:    gpm

Total Design Head:    ft.

Drilling Fluid: \_\_\_\_\_

Drill Rig: Geoprobe 6620

Health and Safety Plan Submitted? Yes

#### ATTACHMENTS:

#### GEOLOGIC LOG

0 - .8: Grey OT - Other Concrete

.8 - 9.5: Tan SM - Silty sands, sand-silt mixtures

#### ADDITIONAL INFORMATION:

Driller of Record: John Brass,  
MONITORING LICENSE # 545089

Company: ENVIRONMENTAL PROBING  
INVESTIGATION



**MONITORING WELL RECORD**

**PROPERTY OWNER:** K. I. D. REALTY CO

Company/Organization: K.I.D. Realty Co

Address: 4931 Fisher Island Dr Miami, Florida 33109

**WELL LOCATION:** Site 016

Address: 45 Linden Ave

County: Hudson

Municipality: Jersey City

Lot: 4.L

Block: 1507

Easting (X): 607576 Northing (Y): 676489

Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL STARTED:** August 17, 2011

**DATE WELL COMPLETED:** August 17, 2011

**WELL USE:** MONITORING

**Other Use(s):** \_\_\_\_\_

**Local ID:** 016-MW-03

**WELL CONSTRUCTION**

Total Depth Drilled (ft.): 9.5

Finished Well Depth (ft.): 9.5

Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	9.5	10		
Casing	0	4.5	2	PVC	Sch 40
Screen	4.5	9.5	2	PVC	Sch 40 .010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	2.5	10	2	3	47	4
Gravel Pack	2.5	9.5	10	2	Morie #1		

Grouting Method: Gravity method

Drilling Method: Hollow Stem Augers

**ADDITIONAL INFORMATION**

Protective Casing: No

Static Water Level: 4.2 ft. below land surface

Water Level Measure Tool: Tape

Well Development Period: 1 hrs.

Method of Development: Submersible

Pump Type: \_\_\_\_\_

Pump Capacity:    gpm

Total Design Head:    ft.

Drilling Fluid: \_\_\_\_\_

Drill Rig: Geoprobe 6620

Health and Safety Plan Submitted? Yes

**ATTACHMENTS:**

**GEOLOGIC LOG**

0 - .8: Grey OT - Other Concrete

.8 - 9.5: Brown SM - Silty sands, sand-silt mixtures

**ADDITIONAL INFORMATION:**

Driller of Record: John Brass,  
MONITORING LICENSE # 545089

Company: ENVIRONMENTAL PROBING  
INVESTIGATION

**MONITORING WELL RECORD**

**PROPERTY OWNER:** K. I. D. REALTY CO

Company/Organization: K.I.D. Realty Co

Address: 4931 Fisher Island Dr Miami, Florida 33109

**WELL LOCATION:** Site 016

Address: 45 Linden Ave

County: Hudson Municipality: Jersey City Lot: 4.L Block: 1507

Easting (X): 607506 Northing (Y): 676715  
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL STARTED:** August 2, 2011

**DATE WELL COMPLETED:** August 2, 2011

**WELL USE:** MONITORING

**Other Use(s):** \_\_\_\_\_

**Local ID:** 016-MW-04

**WELL CONSTRUCTION**

Total Depth Drilled (ft.): 10 Finished Well Depth (ft.): 10 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	10	10		
Casing	0	5	2	PVC	Sch 40
Screen	5	10	2	PVC	Sch 40 .010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	10	2	3	47	4
Gravel Pack	3	10	10	2	Morie #1		

Grouting Method: Gravity method

Drilling Method: Hollow Stem Augers

**ADDITIONAL INFORMATION**

Protective Casing: No

Static Water Level: 5 ft. below land surface

Water Level Measure Tool: Tape

Well Development Period: 1 hrs.

Method of Development: Submersible

Pump Type: \_\_\_\_\_

Pump Capacity:    gpm

Total Design Head:    ft.

Drilling Fluid: \_\_\_\_\_

Drill Rig: Geoprobe 7720

Health and Safety Plan Submitted? Yes

**ATTACHMENTS:**

**GEOLOGIC LOG**

0 - 10: Brown SM - Silty sands, sand-silt mixtures

**ADDITIONAL INFORMATION:**

Driller of Record: Arthur Benjamin,  
MONITORING LICENSE # 300257

Company: ENVIRONMENTAL PROBING  
INVESTIGATION

**MONITORING WELL RECORD**

**PROPERTY OWNER:** K. I. D. REALTY CO

Company/Organization: K.I.D. Realty Co

Address: 4931 Fisher Island Dr Miami, Florida 33109

**WELL LOCATION:** Site 016

Address: 45 Linden Ave

County: Hudson

Municipality: Jersey City

Lot: 4.L

Block: 1507

Easting (X): 607796 Northing (Y): 676690

Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL STARTED:** August 2, 2011

**DATE WELL COMPLETED:** August 2, 2011

**WELL USE:** MONITORING

Other Use(s): \_\_\_\_\_

**Local ID:** 016-MW-05

**WELL CONSTRUCTION**

Total Depth Drilled (ft.): 10

Finished Well Depth (ft.): 10

Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	10	10		
Casing	0	5	2	PVC	Sch 40
Screen	5	10	2	PVC	Sch 40 .010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	10	2	3	47	4
Gravel Pack	3	10	10	2	Morie #1		

Grouting Method: Gravity method

Drilling Method: Hollow Stem Augers

**ADDITIONAL INFORMATION**

Protective Casing: No

Static Water Level: 6 ft. below land surface

Water Level Measure Tool: Tape

Well Development Period: 1 hrs.

Method of Development: Submersible

Pump Type: \_\_\_\_\_

Pump Capacity:    gpm

Total Design Head:    ft.

Drilling Fluid: \_\_\_\_\_

Drill Rig: Geoprobe 7720

Health and Safety Plan Submitted? Yes

**ATTACHMENTS:**

**GEOLOGIC LOG**

0 - 10: Brown SM - Silty sands, sand-silt mixtures

**ADDITIONAL INFORMATION:**

Driller of Record: Arthur Benjamin,  
MONITORING LICENSE # 300257

Company: ENVIRONMENTAL PROBING  
INVESTIGATION

**MONITORING WELL RECORD**

**PROPERTY OWNER:** K. I. D. REALTY CO

Company/Organization: K.I.D. Realty Co

Address: 4931 Fisher Island Dr Miami, Florida 33109

**WELL LOCATION:** Site 016

Address: 45 Linden Ave

County: Hudson Municipality: Jersey City Lot: 4.L Block: 1507

Easting (X): 607831 Northing (Y): 676624  
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL STARTED:** August 3, 2011

**DATE WELL COMPLETED:** August 3, 2011

**WELL USE:** MONITORING

**Other Use(s):** \_\_\_\_\_

**Local ID:** 016-MW-06

**WELL CONSTRUCTION**

Total Depth Drilled (ft.): 8.5 Finished Well Depth (ft.): 8.5 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	8.5	10		
Casing	0	3.5	2	PVC	Sch 40
Screen	3.5	8.5	2	PVC	Sch 40 .010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	1.5	10	2	3	47	4
Gravel Pack	1.5	8.5	10	2	Morie #1		

Grouting Method: Gravity method

Drilling Method: Hollow Stem Augers

**ADDITIONAL INFORMATION**

Protective Casing: No

Static Water Level: 4 ft. below land surface

Water Level Measure Tool: Tape

Well Development Period: 1 hrs.

Method of Development: Submersible

Pump Type: \_\_\_\_\_

Pump Capacity:    gpm

Total Design Head:    ft.

Drilling Fluid: \_\_\_\_\_

Drill Rig: Geoprobe 7720

Health and Safety Plan Submitted? Yes

**ATTACHMENTS:**

**GEOLOGIC LOG**

0 - 8.5: Brown SM - Silty sands, sand-silt mixtures

**ADDITIONAL INFORMATION:**

Driller of Record: Arthur Benjamin,  
MONITORING LICENSE # 300257

Company: ENVIRONMENTAL PROBING  
INVESTIGATION

**MONITORING WELL RECORD**

**PROPERTY OWNER:** K. I. D. REALTY CO

Company/Organization: K.I.D. Realty Co

Address: 4931 Fisher Island Dr Miami, Florida 33109

**WELL LOCATION:** Site 016

Address: 45 Linden Ave

County: Hudson

Municipality: Jersey City

Lot: 4.L

Block: 1507

Easting (X): 607769 Northing (Y): 676500

Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL STARTED:** August 3, 2011

**DATE WELL COMPLETED:** August 3, 2011

**WELL USE:** MONITORING

**Other Use(s):** \_\_\_\_\_

**Local ID:** 016-MW-07

**WELL CONSTRUCTION**

Total Depth Drilled (ft.): 8.5

Finished Well Depth (ft.): 8.5

Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	8.5	10		
Casing	0	3.5	2	PVC	Sch 40
Screen	3.5	8.5	2	PVC	Sch 40 .010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	1.5	10	2	3	47	4
Gravel Pack	1.5	8.2	10	2	Morie #1		

Grouting Method: Gravity method

Drilling Method: Hollow Stem Augers

**ADDITIONAL INFORMATION**

Protective Casing: No

Static Water Level: 4 ft. below land surface

Water Level Measure Tool: Tape

Well Development Period: 1 hrs.

Method of Development: Submersible

Pump Type: \_\_\_\_\_

Pump Capacity:    gpm

Total Design Head:    ft.

Drilling Fluid: \_\_\_\_\_

Drill Rig: Geoprobe 7720

Health and Safety Plan Submitted? Yes

**ATTACHMENTS:**

**GEOLOGIC LOG**

0 - 8.5: Brown SM - Silty sands, sand-silt mixtures

**ADDITIONAL INFORMATION:**

Driller of Record: Arthur Benjamin,  
MONITORING LICENSE # 300257

Company: ENVIRONMENTAL PROBING  
INVESTIGATION

**MONITORING WELL RECORD**

**PROPERTY OWNER:** K. I. D. REALTY CO

Company/Organization: K.I.D. Realty Co

Address: 4931 Fisher Island Dr Miami, Florida 33109

**WELL LOCATION:** Site 016

Address: 45 Linden Ave

County: Hudson

Municipality: Jersey City

Lot: 4.L

Block: 1507

Easting (X): 607587 Northing (Y): 676282

Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL STARTED:** August 3, 2011

**DATE WELL COMPLETED:** August 3, 2011

**WELL USE:** MONITORING

**Other Use(s):** \_\_\_\_\_

**Local ID:** 016-MW-08

**WELL CONSTRUCTION**

Total Depth Drilled (ft.): 9

Finished Well Depth (ft.): 9

Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	9	10		
Casing	0	4	2	PVC	Sch 40
Screen	4	9	2	PVC	Sch 40 .010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	2	1	2	3	47	4
Gravel Pack	2	9	10	2	Morie #1		

Grouting Method: Gravity method

Drilling Method: Hollow Stem Augers

**ADDITIONAL INFORMATION**

Protective Casing: No

Static Water Level: 5 ft. below land surface

Water Level Measure Tool: Tape

Well Development Period: 1 hrs.

Method of Development: Submersible

Pump Type: \_\_\_\_\_

Pump Capacity:    gpm

Total Design Head:    ft.

Drilling Fluid: \_\_\_\_\_

Drill Rig: Geoprobe 7720

Health and Safety Plan Submitted? Yes

**ATTACHMENTS:**

**GEOLOGIC LOG**

0 - 9: Brown SM - Silty sands, sand-silt mixtures

**ADDITIONAL INFORMATION:**

Driller of Record: Arthur Benjamin,  
MONITORING LICENSE # 300257

Company: ENVIRONMENTAL PROBING  
INVESTIGATION

## APPENDIX G - CONTOUR MAP REPORTING FORM

This reporting form shall accompany each groundwater contour map submittal. Use additional sheets as necessary.

1. Did any surveyed well casing elevations change from the previous sampling event? Yes.. No. If yes, attach new "Well Certification--Form B--Location Certification" as found in the "Guide for the Submission of Remedial Action Workplans" (NJDEP, March 1995) and identify the reason for the elevation change (damage to casing, installation of recovery system in monitoring well, etc.).

2. Are there any monitor wells in unconfined aquifers in which the water table elevation is higher than the top of the well screen? Yes.. No. If yes, identify these wells.

3. Are there any monitor wells present at the site but omitted from the contour map? Yes.. No. Unless the omission of the well(s) has been previously approved by the Department, justify the omissions.

4. Are there any monitor wells containing separate phase product during this measuring event? Yes.. No. Were any of the monitor wells with separate phase product included in the groundwater contour map? Yes... No... If yes, show the formula used to correct the water table elevation.

5. Has the groundwater flow direction changed more than 45 degrees from the previous groundwater contour map? Yes.. No. If yes, discuss the reasons for the change.

6. Has groundwater mounding and/or depressions been identified in the groundwater contour map? Yes.. No. Unless the groundwater mounds and/or depressions are caused by the groundwater remediation system, discuss the reasons for this occurrence.

7. Are all the wells used in the contour map screened in the same water-bearing zone? Yes. No... If no, justify inclusion of those wells.

8. Were the groundwater contours computer generated..., computer aided..., or hand-drawn.? If computer aided or generated, identify the interpolation method(s) used.



New Jersey Department of Environmental Protection  
Site Remediation Program

**MONITORING WELL CERTIFICATION FORM A - AS-BUILT  
CERTIFICATION**

Date Stamp  
(For Department use only)

**SECTION A. SITE NAME AND LOCATION**

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: 45 Linden Ave

Municipality: Jersey City

(Township, Borough or City)

County: Hudson

Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_

Case Tracking Number(s): \_\_\_\_\_

**SECTION B. WELL OWNER AND LOCATION**

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot) Block# 1507

Lot # 4.L

**SECTION C. WELL LOCATION SPECIFICS**

1. Well Permit Number (This number must be permanently affixed to the well casing):... E201110441
2. Site Well Number as shown on application or plans: ..... 016-MW-01
3. Well Completion Date: ..... 8/22/2011
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... 0
5. Total Depth of Well to the nearest ½ foot: ..... 9.5
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 4.5
7. Screen Length (or length of open hole) in feet: ..... 5
8. Screen or Slot Size: ..... .010
9. Screen or Slot Material: ..... PVC
10. Casing Material (PVC, steel, or other – specify): ..... PVC
11. Casing Diameter (inches): ..... 2
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): ..... 4.2
13. Yield (gallons per minute): ..... 1
14. Development Technique (specify): ..... Submersible Pump
15. Length of Time well is developed/pumped or bailed (hours and minutes): ..... 1





New Jersey Department of Environmental Protection  
Site Remediation Program

**MONITORING WELL CERTIFICATION FORM A - AS-BUILT  
CERTIFICATION**

Date Stamp  
(For Department use only)

**SECTION A. SITE NAME AND LOCATION**

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: 45 Linden Ave

Municipality: Jersey City

(Township, Borough or City)

County: Hudson

Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_

Case Tracking Number(s): \_\_\_\_\_

**SECTION B. WELL OWNER AND LOCATION**

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot)

Block# 1507

Lot # 4.L

**SECTION C. WELL LOCATION SPECIFICS**

1. Well Permit Number (This number must be permanently affixed to the well casing):... E201110442

2. Site Well Number as shown on application or plans): ..... 016-MW-02

3. Well Completion Date: ..... 8/18/2011

4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... 0

5. Total Depth of Well to the nearest ½ foot: ..... 9.5

6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'): ..... 4.5

7. Screen Length (or length of open hole) in feet: ..... 5

8. Screen or Slot Size: ..... .010

9. Screen or Slot Material: ..... PVC

10. Casing Material (PVC, steel, or other – specify): ..... PVC

11. Casing Diameter (inches): ..... 2

12. Static Water Level from top of casing at the time of installation (nearest 0.01'): ..... 4.2

13. Yield (gallons per minute): ..... 1

14. Development Technique (specify): ..... Submersible Pump

15. Length of Time well is developed/pumped or bailed (hours and minutes): ..... 1



New Jersey Department of Environmental Protection  
Site Remediation Program

**MONITORING WELL CERTIFICATION FORM A - AS-BUILT  
CERTIFICATION**

Date Stamp  
(For Department use only)

**SECTION A. SITE NAME AND LOCATION**

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: 45 Linden Ave

Municipality: Jersey City

(Township, Borough or City)

County: Hudson

Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_

Case Tracking Number(s): \_\_\_\_\_

**SECTION B. WELL OWNER AND LOCATION**

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot)

Block# 1507

Lot # 4.L

**SECTION C. WELL LOCATION SPECIFICS**

1. Well Permit Number (This number must be permanently affixed to the well casing):... E201110443
2. Site Well Number as shown on application or plans): ..... 016-MW-03
3. Well Completion Date: ..... 8/18/2011
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... 0
5. Total Depth of Well to the nearest ½ foot: ..... 9.5
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'): ..... 4.5
7. Screen Length (or length of open hole) in feet: ..... 5
8. Screen or Slot Size: ..... .010
9. Screen or Slot Material: ..... PVC
10. Casing Material (PVC, steel, or other – specify): ..... PVC
11. Casing Diameter (inches): ..... 2
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): ..... 4.2
13. Yield (gallons per minute): ..... 1
14. Development Technique (specify): ..... Submersible Pump
15. Length of Time well is developed/pumped or bailed (hours and minutes): ..... 1





New Jersey Department of Environmental Protection  
Site Remediation Program

**MONITORING WELL CERTIFICATION FORM A - AS-BUILT  
CERTIFICATION**

Date Stamp  
(For Department use only)

**SECTION A. SITE NAME AND LOCATION**

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: 45 Linden Ave

Municipality: Jersey City

(Township, Borough or City)

County: Hudson

Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_

Case Tracking Number(s): \_\_\_\_\_

**SECTION B. WELL OWNER AND LOCATION**

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot)

Block# 1507

Lot # 4.L

**SECTION C. WELL LOCATION SPECIFICS**

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201110444
2. Site Well Number as shown on application or plans): ..... 016-MW-04
3. Well Completion Date: ..... 8/02/2011
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... 0
5. Total Depth of Well to the nearest ½ foot: ..... 10
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 5
7. Screen Length (or length of open hole) in feet: ..... 5
8. Screen or Slot Size: ..... .010
9. Screen or Slot Material: ..... PVC
10. Casing Material (PVC, steel, or other – specify): ..... PVC
11. Casing Diameter (inches): ..... 2
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): ..... 5
13. Yield (gallons per minute): ..... 1
14. Development Technique (specify): ..... Submersible Pump
15. Length of Time well is developed/pumped or bailed (hours and minutes): ..... 1



New Jersey Department of Environmental Protection  
Site Remediation Program

**MONITORING WELL CERTIFICATION FORM A - AS-BUILT  
CERTIFICATION**

Date Stamp  
(For Department use only)

**SECTION A. SITE NAME AND LOCATION**

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: 45 Linden Ave

Municipality: Jersey City

(Township, Borough or City)

County: Hudson

Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_

Case Tracking Number(s): \_\_\_\_\_

**SECTION B. WELL OWNER AND LOCATION**

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot)

Block# 1507

Lot # 4.L

**SECTION C. WELL LOCATION SPECIFICS**

1. Well Permit Number (This number must be permanently affixed to the well casing):... E201110445
2. Site Well Number as shown on application or plans): ..... 016-MW-05
3. Well Completion Date: ..... 8/02/2011
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... 0
5. Total Depth of Well to the nearest ½ foot: ..... 10
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'): ..... 5
7. Screen Length (or length of open hole) in feet: ..... 5
8. Screen or Slot Size: ..... .010
9. Screen or Slot Material: ..... PVC
10. Casing Material (PVC, steel, or other – specify): ..... PVC
11. Casing Diameter (inches): ..... 2
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): ..... 5
13. Yield (gallons per minute): ..... 1
14. Development Technique (specify): ..... Submersible Pump
15. Length of Time well is developed/pumped or bailed (hours and minutes): ..... 1





New Jersey Department of Environmental Protection  
Site Remediation Program

**MONITORING WELL CERTIFICATION FORM A - AS-BUILT  
CERTIFICATION**

Date Stamp  
(For Department use only)

**SECTION A. SITE NAME AND LOCATION**

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: 45 Linden Ave

Municipality: Jersey City

(Township, Borough or City)

County: Hudson

Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_

Case Tracking Number(s): \_\_\_\_\_

**SECTION B. WELL OWNER AND LOCATION**

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot)

Block# 1507

Lot # 4.L

**SECTION C. WELL LOCATION SPECIFICS**

1. Well Permit Number (This number must be permanently affixed to the well casing):... E201110446
2. Site Well Number as shown on application or plans): ..... 016-MW-06
3. Well Completion Date: ..... 8/03/2011
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... 0
5. Total Depth of Well to the nearest ½ foot: ..... 8.5
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'): ..... 3.5
7. Screen Length (or length of open hole) in feet: ..... 5
8. Screen or Slot Size: ..... .010
9. Screen or Slot Material: ..... PVC
10. Casing Material (PVC, steel, or other – specify): ..... PVC
11. Casing Diameter (inches): ..... 2
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): ..... 4
13. Yield (gallons per minute): ..... 1
14. Development Technique (specify): ..... Submersible Pump
15. Length of Time well is developed/pumped or bailed (hours and minutes): ..... 1



New Jersey Department of Environmental Protection  
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT  
CERTIFICATION

Date Stamp  
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Site 016

List all AKAs:

Street Address: 45 Linden Ave

Municipality: Jersey City

(Township, Borough or City)

County: Hudson

Zip Code: 07305

Program Interest (PI) Number(s):

Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot)

Block# 1507

Lot # 4.L

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):... E201110447
2. Site Well Number as shown on application or plans): 016-MW-07
3. Well Completion Date: 8/03/2011
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): 0
5. Total Depth of Well to the nearest 1/2 foot: 8.5
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'): 3.5
7. Screen Length (or length of open hole) in feet: 5
8. Screen or Slot Size: .010
9. Screen or Slot Material: PVC
10. Casing Material (PVC, steel, or other - specify): PVC
11. Casing Diameter (inches): 2
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 4
13. Yield (gallons per minute): 1
14. Development Technique (specify): Submersible Pump
15. Length of Time well is developed/pumped or bailed (hours and minutes): 1





New Jersey Department of Environmental Protection  
Site Remediation Program

**MONITORING WELL CERTIFICATION FORM A - AS-BUILT  
CERTIFICATION**

Date Stamp  
(For Department use only)

**SECTION A. SITE NAME AND LOCATION**

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: 45 Linden Ave

Municipality: Jersey City

(Township, Borough or City)

County: Hudson

Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_

Case Tracking Number(s): \_\_\_\_\_

**SECTION B. WELL OWNER AND LOCATION**

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot)

Block# 1507

Lot # 4.L

**SECTION C. WELL LOCATION SPECIFICS**

1. Well Permit Number (This number must be permanently affixed to the well casing):... E201110448
2. Site Well Number as shown on application or plans): ..... 016-MW-08
3. Well Completion Date: ..... 8/03/2011
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... 0
5. Total Depth of Well to the nearest ½ foot: ..... 9
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'): ..... 4
7. Screen Length (or length of open hole) in feet: ..... 5
8. Screen or Slot Size: ..... .010
9. Screen or Slot Material: ..... PVC
10. Casing Material (PVC, steel, or other – specify): ..... PVC
11. Casing Diameter (inches): ..... 2
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): ..... 5
13. Yield (gallons per minute): ..... 1
14. Development Technique (specify): ..... Submersible Pump
15. Length of Time well is developed/pumped or bailed (hours and minutes): ..... 1



New Jersey Department of Environmental Protection  
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp  
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Site 016

List all AKAs:

Street Address: 45 Linden Ave

Municipality: City of Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot) Block# 1507 Lot # 4.L

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201110441

2. Site Well Number (As shown on application or plans): 016-MW-01

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40° 41' 21.27"

Longitude: West 74° 05' 06.56"

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 676257

East 607161

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 9.49

Elevation Top of Outer casing: 10.00 Elevation of ground: 10.00 (CONC)

Check one: ☒ NAVD 88 ☐ NVGD29 ☐ On Site Datum ☐ Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

BENCHMARK: NJ12 NJ INST OF TECH 2 CORS ARP ELEV.=164.8' (NAVD 88 DATUM)

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature:

Date 3/5/2013

Surveyor's Name: Steven D. Parent

License Number: 24GS03626900

Firm Name: DPK Consulting, LLC

Certificate of Authorization #: 24GA28042200

Mailing Address 147 Union Avenue - Suite 1C

City/Town: Middlesex

State New Jersey

Zip Code: 08846

Phone Number 732.764.0100

Ext.:

Fax: 732.764.0990





New Jersey Department of Environmental Protection  
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp  
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Site 016

List all AKAs:

Street Address: 45 Linden Ave

Municipality: City of Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot) Block# 1507 Lot # 4.L

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201110442

2. Site Well Number (As shown on application or plans): 016-MW-02

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40° 41' 22.10" Longitude: West 74° 05' 03.74"

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 676343 East 607377

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 9.43

Elevation Top of Outer casing: 9.77 Elevation of ground: 9.80 (CONC)

Check one: ☒ NAVD 88 ☐ NVGD29 ☐ On Site Datum ☐ Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

BENCHMARK: NJ12 NJ INST OF TECH 2 CORS ARP ELEV.=164.8' (NAVD 88 DATUM)

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature:

Date 3/5/2013

Surveyor's Name: Steven D. Parent

License Number: 24GS03626900

Firm Name: DPK Consulting, LLC

Certificate of Authorization #: 24GA28042200

Mailing Address 147 Union Avenue - Suite 1C

City/Town: Middlesex State New Jersey Zip Code: 08846

Phone Number 732.764.0100 Ext.: Fax: 732.764.0990



New Jersey Department of Environmental Protection  
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp  
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Site 016

List all AKAs:

Street Address: 45 Linden Ave

Municipality: City of Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot) Block# 1507 Lot # 4.L

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201110443

2. Site Well Number (As shown on application or plans): 016-MW-03

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40° 41' 23.55"

Longitude: West 74° 05' 01.38"

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 676491

East 607559

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 8.86

Elevation Top of Outer casing: 9.39 Elevation of ground: 9.39 (CONC)

Check one: ☒ NAVD 88 ☐ NVGD29 ☐ On Site Datum ☐ Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

BENCHMARK: NJ12 NJ INST OF TECH 2 CORS ARP ELEV.=164.8' (NAVD 88 DATUM)

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature:

Date 3/5/2013

Surveyor's Name: Steven D. Parent

License Number: 24GS03626900

Firm Name: DPK Consulting, LLC

Certificate of Authorization #: 24GA28042200

Mailing Address 147 Union Avenue - Suite 1C

City/Town: Middlesex

State New Jersey

Zip Code: 08846

Phone Number 732.764.0100

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Fax: 732.764.0990



New Jersey Department of Environmental Protection  
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp  
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SECTION A. SITE NAME AND LOCATION

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: 45 Linden Ave

Municipality: City of Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_ Case Tracking Number(s): \_\_\_\_\_

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot) Block# 1507 Lot # 4.L

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201110444

2. Site Well Number (As shown on application or plans): 016-MW-04

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40° 41' 25.85"

Longitude: West 74° 05' 01.87"

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 676722

East 607520

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 8.87

Elevation Top of Outer casing: 9.27 Elevation of ground: 9.26 (CONC)

Check one: ☒ NAVD 88 ☐ NVGD29 ☐ On Site Datum ☐ Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

BENCHMARK: NJ12 NJ INST OF TECH 2 CORS ARP ELEV.=164.8' (NAVD 88 DATUM)

7. Significant observations and notes:

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Professional Land Surveyor's Signature: \_\_\_\_\_

Date 3/5/2013

Surveyor's Name: Steven D. Parent

License Number: 24GS03626900

Firm Name: DPK Consulting, LLC

Certificate of Authorization #: 24GA28042200

Mailing Address 147 Union Avenue - Suite 1C

City/Town: Middlesex

State New Jersey

Zip Code: 08846

Phone Number 732.764.0100

Ext.: \_\_\_\_\_

Fax: 732.764.0990



New Jersey Department of Environmental Protection  
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp  
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: 45 Linden Ave

Municipality: City of Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_ Case Tracking Number(s): \_\_\_\_\_

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot) Block# 1507 Lot # 4.L

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201110445

2. Site Well Number (As shown on application or plans): 016-MW-05

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40° 41' 25.52"

Longitude: West 74° 04' 58.26"

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 676691

East 607798

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 7.48

Elevation Top of Outer casing: 7.79 Elevation of ground: 7.86 (CONC)

Check one: ☒ NAVD 88 ☐ NVGD29 ☐ On Site Datum ☐ Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

BENCHMARK: NJ12 NJ INST OF TECH 2 CORS ARP ELEV.=164.8' (NAVD 88 DATUM)

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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Professional Land Surveyor's Signature: \_\_\_\_\_

Date 3/5/2013

Surveyor's Name: Steven D. Parent

License Number: 24GS03626900

Firm Name: DPK Consulting, LLC

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City/Town: Middlesex State New Jersey Zip Code: 08846

Phone Number 732.764.0100 Ext.: \_\_\_\_\_ Fax: 732.764.0990



New Jersey Department of Environmental Protection  
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp  
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: 45 Linden Ave

Municipality: City of Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_ Case Tracking Number(s): \_\_\_\_\_

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot) Block# 1507 Lot # 4.L

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201110446

2. Site Well Number (As shown on application or plans): 016-MW-06

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40° 41' 24.17"

Longitude: West 74° 04' 57.43"

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 676554

East 607863

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 7.06

Elevation Top of Outer casing: 7.36 Elevation of ground: 7.31

Check one: ☒ NAVD 88 ☐ NVGD29 ☐ On Site Datum ☐ Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

BENCHMARK: NJ12 NJ INST OF TECH 2 CORS ARP ELEV.=164.8' (NAVD 88 DATUM)

7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: \_\_\_\_\_

Date 3/5/2013

Surveyor's Name: Steven D. Parent

License Number: 24GS03626900

Firm Name: DPK Consulting, LLC

Certificate of Authorization #: 24GA28042200

Mailing Address 147 Union Avenue - Suite 1C

City/Town: Middlesex

State New Jersey

Zip Code: 08846

Phone Number 732.764.0100

Ext.: \_\_\_\_\_

Fax: 732.764.0990





New Jersey Department of Environmental Protection  
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp  
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Site 016

List all AKAs:

Street Address: 45 Linden Ave

Municipality: City of Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot) Block# 1507 Lot # 4.L

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201110447

2. Site Well Number (As shown on application or plans): 016-MW-07

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40° 41' 22.47" Longitude: West 74° 04' 58.41"

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 676382 East 607788

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 8.45

Elevation Top of Outer casing: 8.86 Elevation of ground: 8.81

Check one: ☒ NAVD 88 ☐ NVGD29 ☐ On Site Datum ☐ Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

BENCHMARK: NJ12 NJ INST OF TECH 2 CORS ARP ELEV.=164.8' (NAVD 88 DATUM)

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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SEAL

Professional Land Surveyor's Signature: Date 3/5/2013

Surveyor's Name: Steven D. Parent License Number: 24GS03626900

Firm Name: DPK Consulting, LLC Certificate of Authorization #: 24GA28042200

Mailing Address 147 Union Avenue - Suite 1C

City/Town: Middlesex State New Jersey Zip Code: 08846

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New Jersey Department of Environmental Protection  
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp  
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Site 016

List all AKAs:

Street Address: 45 Linden Ave

Municipality: City of Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner K.I.D. Realty

2. Well Location (Street Address) 45 Linden Ave

3. Well Location (Municipal Block and Lot) Block# 1507 Lot # 4.L

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201110448

2. Site Well Number (As shown on application or plans): 016-MW-08

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40° 41' 21.44"

Longitude: West 74° 05' 00.37"

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 676277

East 607638

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 8.52

Elevation Top of Outer casing: 8.71 Elevation of ground: 8.67 (PAVE)

Check one: ☒ NAVD 88 ☐ NVGD29 ☐ On Site Datum ☐ Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

BENCHMARK: NJ12 NJ INST OF TECH 2 CORS ARP ELEV.=164.8' (NAVD 88 DATUM)

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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SEAL

Professional Land Surveyor's Signature:

Date 3/5/2013

Surveyor's Name: Steven D. Parent

License Number: 24GS03626900

Firm Name: DPK Consulting, LLC

Certificate of Authorization #: 24GA28042200

Mailing Address 147 Union Avenue - Suite 1C

City/Town: Middlesex

State New Jersey

Zip Code: 08846

Phone Number 732.764.0100

Ext.:

Fax: 732.764.0990

## **APPENDIX D-2 DELINEATION INVESTIGATION**



## LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF     

SITE: <u>PPG SITE 016</u>	CONSULTING FIRM: <u>TETRA TECH</u>
DATE: <u>1-30-13</u>	FIELD PERSONNEL: <u>TRAVIS KOT</u>
WEATHER: <u>OVERCAST, 50°F</u>	

MONITOR WELL #: <u>016-MW-1</u>	WELL DEPTH: <u>9.5' TIC</u>	SCREENED/OPEN INTERVAL: <u>4.5-9.5' TIC</u>
WELL PERMIT #:	WELL DIAMETER: <u>2"</u> inches	

PID/FID READINGS (ppm):	BACKGROUND: <u>    </u>	PUMP INTAKE DEPTH: <u>7'</u> ft below TOC
	BENEATH OUTER CAP: <u>    </u>	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>4.30</u> ft below TOC
	BENEATH INNER CAP: <u>    </u>	

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
10:35	X		5.82	NA	1.81	NA	115	NA	7.39	NA	165	NA	14.18	NA	150	4.35
10:40	X		5.78	0.04	1.82	0.01	103	12	6.28	1.11	93.0	72	14.33	0.15	150	4.35
10:45	X		5.77	0.01	1.82	0.0	98	5	5.31	0.97	67.5	25.5	14.47	0.14	150	4.35
10:50	X		5.76	0.01	1.83	0.01	94	4	4.71	<del>0.06</del> 0.6	49.4	18.1	14.53	0.06	150	4.35
10:55	X		5.73	0.03	1.82	0.01	93	1	4.30	0.41	40.5	8.9	14.55	0.02	150	4.35
11:00	X		5.71	0.02	1.82	0.00	92	1	3.89	0.41	45.6	5.1	14.56	0.01	150	4.35
11:05	X		5.71	0.00	1.82	0.00	91	1	3.68	0.21	43.4	2.2	14.61	0.05	150	4.35
11:10	X		5.71	0.00	1.82	0.00	92	1	3.70	0.02	41.9	1.5	14.59	0.02	150	4.35
11:15	X		5.71	0.00	1.81	0.01	91	1	3.67	0.03	38.2	3.7	14.60	0.01	150	4.35
11:20		X														

COMMENTS: sampled at 11:20

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

## LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Site 016</u> DATE: <u>1/31/13</u> WEATHER: <u>partly sunny windy</u>	CONSULTING FIRM: <u>TF</u> FIELD PERSONNEL: <u>F. Ronquillo</u>
---	--

MONITOR WELL #: <u>016-MW02</u>	WELL DEPTH: <u>9</u>	SCREENED/OPEN INTERVAL: <u>4-9</u>
WELL PERMIT #:	WELL DIAMETER: <u>2</u> inches	

PID/FID READINGS (ppm): BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____	PUMP INTAKE DEPTH: <u>7.5</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>9.1</u> ft below TOC
--	--

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1115	X		7.30	NA	2.23	NA	-120	NA	2.60	NA	0.0	NA	13.33	NA	400	4.15
1120	X		7.18		2.23		-125		1.67		618		14.04		400	4.15
1125	X		7.19		2.23		-136		1.17		244		14.18		400	4.15
1130	X		7.22		2.23		-144		0.96		76.9		14.27		400	4.15
1135	X		7.22		2.22		-146		6.76		30.3		14.26		400	4.15
1140	X		7.20		2.21		-147		0.69		14.0		14.25		400	4.15
1145	X		7.20		2.20		-147		6.67		5.6		14.22		400	4.15
1150	X		7.20		2.20		-146		6.55		2.3		14.23		400	4.15
1155	X		7.20		2.20		-147		0.51		1.7		14.25		400	4.15
1200	X	X	7.20		2.20		-147		0.48		1.4		14.25		400	4.15

**COMMENTS:**

*collect sample @ 1200*

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:  $\pm 0.1$  for pH;  $\pm 3\%$  for Specific Conductivity and Temperature;  $\pm 10$  mv for Redox Potential; and  $\pm 10\%$  for Dissolved Oxygen and Turbidity

## LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	<u>Site 016</u>	CONSULTING FIRM:	<u>TT</u>
DATE:	<u>11/31/13</u>	FIELD PERSONNEL:	<u>F. Ronguillo</u>
WEATHER:	<u>partly sunny windy</u>		
MONITOR WELL #:	<u>016-MW03</u>	WELL DEPTH:	<u>9.5</u>
WELL PERMIT #:		WELL DIAMETER:	<u>          </u> inches
		SCREENED/OPEN INTERVAL:	<u>4.5-9.5</u>

<b>PID/FID READINGS (ppm):</b> BACKGROUND: <u>                    </u> BENEATH OUTER CAP: <u>                    </u> BENEATH INNER CAP: <u>                    </u>	PUMP INTAKE DEPTH: <u>7.0</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>3.7</u> ft below TOC
---	--

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1243	X		9.19	NA	2.45	NA	-199	NA	4.16	NA	35.2	NA	13.64	NA	400	3.75
1248	Y		9.09		2.54		-228		1.60		21.2		14.10			3.75
1253	Y		8.74		2.51		-229		0.97		10.3		14.09			3.75
1258	Y		8.32		2.54		-220		0.74		5.0		14.18			3.80
1303	Y		7.64		2.57		-191		0.59		1.3		14.16			3.80
1308	Y		7.47		2.59		-180		0.49		0.0		14.23			3.80
013	X		7.42		2.61		-175		0.45		0.0		14.25			3.82
1318	X		7.40		2.63		-170		0.40		0.0		14.27			3.82
1323	X		7.39		2.64		-167		0.38		0.0		14.28			3.82

COMMENTS:

Collect sample @ 1323

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;  
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

## LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF     

<b>SITE:</b> <u>PRG SITE 016</u> <b>DATE:</b> <u>1-31-13</u> <b>WEATHER:</b> <u>Mostly Sunny 50°F</u>	<b>CONSULTING FIRM:</b> <u>Tetra Tech</u> <b>FIELD PERSONNEL:</b> <u>TRAVIS KOT</u>
<b>MONITOR WELL #:</b> <u>016 MW04</u> <b>WELL DEPTH:</b> <u>10' btic</u> <b>WELL PERMIT #:</b> <u>                    </u> <b>WELL DIAMETER:</b> <u>2"</u> inches	<b>SCREENED/OPEN INTERVAL:</b> <u>5-10' btic</u>

<b>PID/FID READINGS (ppm):</b> BACKGROUND: <u>                    </u> BENEATH OUTER CAP: <u>                    </u> BENEATH INNER CAP: <u>                    </u>	<b>PUMP INTAKE DEPTH:</b> <u>7.5</u> ft below TOC <b>DEPTH TO WATER BEFORE PUMP INSTALLATION:</b> <u>3.82</u> ft below TOC
---	---

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
9:30	X		6.26	NA	2.77	NA	-43	NA	3.65	NA	41.6	NA	16.49	NA	350	3.85
9:35	X		6.21	0.05	2.76	0.01	-44	1	5.78	2.13	14.6	27	16.55	0.06	200	3.80
9:40	X		6.19	0.02	2.76	0.0	-42	1	4.76	1.02	9.8	4.8	16.58	0.03	200	3.81
9:45	X		6.15	0.04	2.75	0.01	-41	1	4.45	0.01	5.0	4.8	16.69	0.11	200	3.86
9:50	X		6.13	0.02	2.74	0.01	-40	1	4.18	0.27	3.2	1.8	16.70	0.01	200	3.85
9:55			6.14	0.01	2.72	0.02	-41	1	3.69	0.49	0.0	0.0	16.79	0.09	250	3.84
10:00			6.15	0.01	2.71	0.01	-43	2	3.40	0.29	0.0	0.0	16.82	0.03	250	3.85
10:05			6.14	0.01	2.71	0.00	-42	1	3.15	0.25	0.0	0.0	16.86	0.04	250	3.85
10:10			6.15	0.01	2.72	0.01	-44	2	2.81	0.34	0.0	0.0	16.89	0.03	250	3.86
10:15			6.14	0.01	2.74	0.02	-44	0	2.78	0.03	0.0	0.0	16.89	0.0	250	3.86
10:20			6.13	0.01	2.74	0.00	-44	0	2.69	0.09	0.0	0.0	16.91	0.02	250	3.86

**COMMENTS:** Strong hydrocarbon odor. Sampled at 1345

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

## LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Site 016</u>	CONSULTING FIRM: <u>T+</u>
DATE: <u>1/30/13</u>	FIELD PERSONNEL: <u>E. Rengnille</u>
WEATHER: <u>cloudy</u>	

MONITOR WELL #: <u>G16-MW05</u>	WELL DEPTH: <u>10'</u>	SCREENED/OPEN INTERVAL: <u>5-10</u>
WELL PERMIT #:	WELL DIAMETER: <u>2</u> inches	

PID/FID READINGS (ppm): BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____	PUMP INTAKE DEPTH: <u>7.5</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>2.42</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1210	X		6.47	NA	1.35	NA	-29	NA	5.58	NA	357	NA	13.96	NA	400	2.5
1215	X		6.00		1.17		-7		3.57		198		14.51		400	↓
1220	X		5.95		1.09		-2		2.11		98.1		14.33			2.52
1225	X		5.93		1.11		-2		1.48		62.7		14.42			2.52
1230	X		5.93		1.10		-5		0.58		46.2		14.46			2.52
1235	X		5.92		1.11		-4		0.42		30.7		14.53			2.50
1240	X		5.92		1.10		-5		0.41		22.3		14.50			2.50
1245	X		5.92		1.09		-5		0.37		24.7		14.52			2.50
1250	X		5.92		1.09		-5		0.34		24.5		14.52			2.50
1255		X	5.92		1.10		-6		0.31		24.3		14.52			2.50

COMMENTS:

Collect sample @ 1255

Collected Duplicate 1300

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;  
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

## LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Site 014</u>	CONSULTING FIRM: <u>TT</u>
DATE: <u>1/31/13</u>	FIELD PERSONNEL: <u>F. Rongvillu</u>
WEATHER: <u>cloudy, very windy</u>	

MONITOR WELL #: <u>016-MW07</u>	WELL DEPTH: <u>9</u>	SCREENED/OPEN INTERVAL: <u>4-9</u>
WELL PERMIT #:	WELL DIAMETER: <u>2</u> inches	

PID/FID READINGS (ppm):	BACKGROUND: _____	PUMP INTAKE DEPTH: <u>6.5</u> ft below TOC
	BENEATH OUTER CAP: _____	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>3.5</u> ft below TOC
	BENEATH INNER CAP: _____	

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
917	X		7.87	NA	2.78	NA	-74	NA	3.91	NA	0.0	NA	9.56	NA	400	3.53
922	X		7.80		2.72		-113		1.91		973		9.30			3.53
927	X		7.61		2.65		-118		1.38		486		9.20			3.53
932	X		7.40		2.49		-110		1.13		212		9.07			3.55
937	X		7.35		2.46		-111		0.95		157		9.00			3.55
942	X		7.34		2.43		-113		0.80		103		8.96			3.55
947	X		7.31		2.37		-116		0.77		99		8.99			3.55
952	X		7.31		2.32		-115		0.74		93		9.01			3.55
957	X	X	7.31		2.34		-113		0.71		89		9.00		↓	3.55

**COMMENTS:**

collected sample @ 957

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

## LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Site 016</u>	CONSULTING FIRM: <u>TT</u>
DATE: <u>1/1/13</u>	FIELD PERSONNEL: <u>F. Revilla</u>
WEATHER: <u>Cloud</u>	

MONITOR WELL #: <u>016-MW08</u>	WELL DEPTH: <u>8.5</u>	SCREENED/OPEN INTERVAL: <u>3.5-8.5</u>
WELL PERMIT #: _____	WELL DIAMETER: _____ inches	

PID/FID READINGS (ppm):	BACKGROUND: _____	PUMP INTAKE DEPTH: <u>6</u> ft below TOC
	BENEATH OUTER CAP: _____	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>3.31</u> ft below TOC
	BENEATH INNER CAP: _____	

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
923	X		7.71	NA	3.00	NA	71	NA	3.90	NA	265	NA	6.24	NA	375	3.40
928	X		7.87		3.71		-85		1.75		229		8.60		375	3.40
933	X		7.91		3.53		-137		1.36		142		7.92		375	3.40
938	X		7.93		3.42		-156		0.96		58.5		7.93		375	3.40
943	X		7.93		3.41		-161		0.83		21.4		7.93		375	3.40
948	X		7.93		3.40		-163		0.87		10.9		7.93		375	3.40
953	X		7.93		3.39		-166		0.74		5.8		7.93		375	3.40
958	X		7.94		3.37		-169		0.71		2.9		7.94		375	3.40
1003		X	7.74		3.37		-171		0.68		1.0		7.95		375	3.40

**COMMENTS:**

collect sample @ 1003

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:  $\pm 0.1$  for pH;  $\pm 3\%$  for Specific Conductivity and Temperature;  $\pm 10$  mv for Redox Potential; and  $\pm 10\%$  for Dissolved Oxygen and Turbidity

## LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF     

SITE: <u>PPG - SITE 016</u> DATE: <u>2-1-13</u> WEATHER: <u>33°F overcast</u>	CONSULTING FIRM: <u>Tetra Tech.</u> FIELD PERSONNEL: <u>TK</u>
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MONITOR WELL #: <u>MW-10</u>	WELL DEPTH: <u>34</u>	SCREENED/OPEN INTERVAL: <u>29-34' bgs</u>
WELL PERMIT #:	WELL DIAMETER: <u>2"</u> inches	

PID/FID READINGS (ppm): BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____	PUMP INTAKE DEPTH: <u>31</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>7.65</u> ft below TOC <div style="text-align: right;">TIC</div>
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
9:30	X		7.14	NA	5.49	NA	-23	NA	5.18	NA	675	NA	11.50	NA	250	7.80
935	X		7.06		7.10		-75		2.05		359		12.30		250	7.80
940	X		7.05		7.31		-82		2.07		182		12.63		250	7.80
945	X		7.08		6.94		-87		1.73		77.4		13.01		250	7.81
950	X		7.10		6.67		-92		1.59		33.1		13.08		250	7.81
955	X		7.13		6.47		-95		1.44		18.1		13.26		250	7.81
1000	X		7.15		6.29		-98		1.30		7.2		13.26		250	7.81
10:05	X		7.16		6.14		-100		1.20		4.2		13.44		250	7.81
1010	X		7.18		6.02		-101		1.16		1.0		13.52		250	7.81
1015	X		7.19		5.95		-103		1.14		0.0		13.60		250	7.80
1020	X		7.20		5.90		-103		1.10		0.0		13.61		250	7.80

COMMENTS: <u>sampled at 10:30</u>
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\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



## LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Site 016</u>	CONSULTING FIRM: <u>T4</u>
DATE: <u>2/13</u>	FIELD PERSONNEL: <u>F. Rengulb</u>
WEATHER: <u>cloud</u>	

MONITOR WELL #: <u>016-MWH</u>	WELL DEPTH: <u>19</u>	SCREENED/OPEN INTERVAL: <u>14-19</u>
WELL PERMIT #:	WELL DIAMETER: <u>2</u> inches	

PID/FID READINGS (ppm): BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____	PUMP INTAKE DEPTH: <u>15.0</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>6.5</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1105	X		7.95	NA	4.75	NA	-69	NA	7.64	NA	0.0	NA	6.24	NA	400	6.52
1110	X		7.67		5.42		-141		2.30		—		9.05		400	6.52
1115	X		7.69		5.36		-155		1.71		730		9.17		400	6.52
1120	X		7.71		5.20		-163		1.27		345		9.15		400	6.52
1125	X		7.71		5.15		-164		1.07		172		9.07		400	6.52
1130	X		7.71		5.14		-168		0.88		123		9.05		400	6.52
1135	X		7.72		5.11		-172		0.82		84.2		9.05		400	6.52
1140	X		7.74		5.09		-176		0.77		79.7		9.06		400	6.52
1145	X		7.73		5.07		-178		0.72		74.3		9.06		400	6.52
1150		X	7.73		5.05		-174		0.69		70.1		9.04		400	6.52

COMMENTS: Collect sample @ 1150

# LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF     

<b>SITE:</b> <u>PPG Site 016</u> <b>DATE:</b> <u>1-30-13</u> <b>WEATHER:</b> <u>32°F, cloudy, windy.</u>	<b>CONSULTING FIRM:</b> <u>Tetra Tech</u> <b>FIELD PERSONNEL:</b> <u>TKot</u>
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<b>MONITOR WELL #:</b> <u>PPG4-MW02</u> <b>WELL PERMIT #:</b> <u>                    </u>	<b>WELL DEPTH:</b> <u>16.35' TIC</u> <b>WELL DIAMETER:</b> <u>2</u> inches	<b>SCREENED/OPEN INTERVAL:</b> <u>7.35 - 16.35' TIC</u>
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<b>PID/FID READINGS (ppm):</b> <b>BACKGROUND:</b> <u>                    </u> <b>BENEATH OUTER CAP:</b> <u>                    </u> <b>BENEATH INNER CAP:</b> <u>                    </u>	<b>PUMP INTAKE DEPTH:</b> <u>11.8</u> ft below TOC TIC ; <u>14.1'</u> b.tic <b>DEPTH TO WATER BEFORE PUMP INSTALLATION:</b> <u>5.35</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1310	X		6.08	NA	7.50	NA	0	NA	10.23	NA	4.0	NA	11.28	NA	350	5.60
1315	X		5.97		7.40		16		8.02		0.8		11.06		250	5.57
1320	X		5.94		7.41		19		6.88		0.0		11.02		250	5.57
1325	X		5.90		7.42		22		5.51		0.0		11.00		250	5.57
1330	X		5.89		7.44		20		5.07		0.0		11.00		250	5.57
1335	X		5.87		7.43		20		4.71		0.0		11.00		250	5.57
1340	X		5.85		7.42		19		4.26		0.0		11.05		250	5.56
1345	X		5.84		7.42		17		4.18		0.0		11.01		250	5.56
1350	X															

**COMMENTS:** sampled at (11.8) 1400  
(14.1) 1350

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:  $\pm 0.1$  for pH;  $\pm 3\%$  for Specific Conductivity and Temperature;  $\pm 10$  mv for Redox Potential; and  $\pm 10\%$  for Dissolved Oxygen and Turbidity

## LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>PPG - SITE 046</u>				CONSULTING FIRM: <u>Tetra Tech</u>			
DATE: <u>1-31-13</u>				FIELD PERSONNEL: <u>TK+</u>			
WEATHER: <u>Mostly sunny 46°F high wind</u>							
MONITOR WELL #: <u>PPG4-MW15</u>				WELL DEPTH: <u>10' bgs</u>		SCREENED/OPEN INTERVAL: <u>2.5 to 10' bgs</u>	
WELL PERMIT #:				WELL DIAMETER: <u>2"</u> inches			
PID/FID READINGS (ppm):    BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____							
PUMP INTAKE DEPTH: <u>6'</u> ft below TOC ; <u>8'</u> DEPTH TO WATER BEFORE PUMP INSTALLATION : _____ ft below TOC							

  

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
13:15	X		5.84	NA	0.543	NA	109	NA	11.57	NA	8.6	NA	7.96	NA	275	1.10
13:20	X		5.48	0.36	0.529	0.014	125	16	7.83	3.74	7.4	1.2	8.26	0.3	275	1.10
13:25	X		5.38	0.1	0.564	0.035	123	2	6.18	1.65	7.7	0.3	7.79	0.47	275	1.10
13:30	X		5.36	0.02	0.604	0.04	124	1	4.72	1.46	6.9	0.8	7.59	0.2	275	1.10
13:35	X		5.35	0.01	0.632	0.028	124	0	4.37	0.35	6.9	0	7.47	0.12	275	1.20
13:40	X		5.35	0.0	0.689	0.057	124	0	4.02	0.35	6.5	0.4	7.51	0.04	275	1.20
13:45	X		5.35	0.0	0.715	0.026	125	1	3.67	0.35	6.2	0.3	7.56	0.05	275	1.20
13:50	X		5.34	0.01	0.753	0.038	125	0	3.55	0.12	5.4	0.8	7.39	0.17	275	1.21
13:55	X		5.39	0.05	0.760	0.007	122	3	3.50	0.05	5.6	0.2	7.31	0.08	275	1.20
14:00	X		5.39		0.763		120		3.51		5.2		7.28		275	1.20
		X														

COMMENTS: 6' interval collected at 14:05  
8' interval collected at 14:15

\*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;  
± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**MONITORING WELL RECORD**

**PROPERTY OWNER:** K.I.D. REALTY CO

Company/Organization: K.I.D. Realty Co

Address: 4931 Fisher Island Dr Miami, Florida 33109

**WELL LOCATION:** Site 016

Address: 45 Linden Ave E

County: Hudson Municipality: Jersey City Lot: 35 Block: 27401

Easting (X): 607654 Northing (Y): 676275  
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL STARTED:** January 14, 2013

**DATE WELL COMPLETED:** January 14, 2013

**WELL USE:** MONITORING

**Other Use(s):** \_\_\_\_\_

**Local ID:** 016-MW-10

**WELL CONSTRUCTION**

Total Depth Drilled (ft.): 34 Finished Well Depth (ft.): 34 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	34	10		
Casing	0	29	2	PVC	Sch 40
Screen	29	34	2	Sch 40 PVC	.020

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	10	2	5	94	8
Gravel Pack	27	34	10	2	Morie #1		

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Hollow Stem Augers

**ADDITIONAL INFORMATION**

Protective Casing: No

Static Water Level: 4 ft. below land surface

Water Level Measure Tool: Tape

Well Development Period: 1 hrs.

Method of Development: Submersible

Pump Type: \_\_\_\_\_

Pump Capacity:    gpm

Total Design Head:    ft.

Drilling Fluid: \_\_\_\_\_

Drill Rig: Geoprobe 7720

Health and Safety Plan Submitted? Yes

**ATTACHMENTS:**

**GEOLOGIC LOG**

0 - 2: Grey OT - Other Fill

2 - 34: Brown SM - Silty sands, sand-silt mixtures

**ADDITIONAL INFORMATION:**

Driller of Record: Robert Flemming,  
MONITORING LICENSE # 0024435

Company: ENVIRONMENTAL PROBING  
INVESTIGATION

**MONITORING WELL RECORD**

**PROPERTY OWNER:** NJ DOT

Company/Organization: NJ DOT

Address: 200 Stierli Court Mount Arlington, New Jersey 07856

**WELL LOCATION:** Site 016

Address: State Route 185

County: Hudson Municipality: Jersey City Lot: ROW Block: ROW

Easting (X): 607685 Northing (Y): 676206  
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL STARTED:** January 15, 2013

**DATE WELL COMPLETED:** January 15, 2013

**WELL USE:** MONITORING

**Other Use(s):** \_\_\_\_\_

**Local ID:** 016-MW-9

**WELL CONSTRUCTION**

Total Depth Drilled (ft.): 8 Finished Well Depth (ft.): 8 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	8	10		
Casing	0	3	2	PVC	Sch 40
Screen	3	8	2	Sch 40 PVC	.020

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	1	10	2	3	47	4
Gravel Pack	1	8	10	2	Morie #1		

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Hollow Stem Augers

**ADDITIONAL INFORMATION**

Protective Casing: No

Static Water Level: 4 ft. below land surface

Water Level Measure Tool: Tape

Well Development Period: 1 hrs.

Method of Development: Submersible

Pump Type: \_\_\_\_\_

Pump Capacity:    gpm

Total Design Head:    ft.

Drilling Fluid: \_\_\_\_\_

Drill Rig: Geoprobe 7720

Health and Safety Plan Submitted? Yes

**ATTACHMENTS:**

**GEOLOGIC LOG**

0 - 2: Grey OT - Other Fill

2 - 8: Brown SM - Silty sands, sand-silt mixtures

**ADDITIONAL INFORMATION:**

Driller of Record: Robert Flemming,  
MONITORING LICENSE # 0024435

Company: ENVIRONMENTAL PROBING  
INVESTIGATION

**MONITORING WELL RECORD**

**PROPERTY OWNER:** NJ DOT

Company/Organization: NJ DOT

Address: 200 Stierli Court Mount Arlington, New Jersey 07856

**WELL LOCATION:** Site 016

Address: State Route 185

County: Hudson Municipality: Jersey City Lot: ROW Block: ROW

Easting (X): 607722 Northing (Y): 676308  
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL STARTED:** January 14, 2013

**DATE WELL COMPLETED:** January 14, 2013

**WELL USE:** MONITORING

**Other Use(s):** \_\_\_\_\_ **Local ID:** 016-MW-11

**WELL CONSTRUCTION**

Total Depth Drilled (ft.): 16 Finished Well Depth (ft.): 16 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	16	10		
Casing	0	11	2	PVC	Sch 40
Screen	11	16	2	Sch 40 PVC	.020

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	9	10	2	3	47	4
Gravel Pack	9	16	10	2	Morie #1		

Grouting Method: Gravity method Drilling Method: Hollow Stem Augers

**ADDITIONAL INFORMATION**

Protective Casing: No  
Static Water Level: 4 ft. below land surface  
Water Level Measure Tool: Tape  
Well Development Period: 1 hrs.  
Method of Development: Submersible  
Pump Type: \_\_\_\_\_

Pump Capacity:    gpm  
Total Design Head:    ft.  
Drilling Fluid: \_\_\_\_\_  
Drill Rig: Geoprobe 7720  
Health and Safety Plan Submitted? Yes

**ATTACHMENTS:**

**GEOLOGIC LOG**

0 - 2: Grey OT - Other Fill  
2 - 16: Brown SM - Silty sands, sand-silt mixtures

**ADDITIONAL INFORMATION:**

Driller of Record: Robert Flemming,  
MONITORING LICENSE # 0024435

Company: ENVIRONMENTAL PROBING  
INVESTIGATION



New Jersey Department of Environmental Protection  
Site Remediation Program

**MONITORING WELL CERTIFICATION FORM A - AS-BUILT  
CERTIFICATION**

Date Stamp  
(For Department use only)

**SECTION A. SITE NAME AND LOCATION**

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: State Route 185

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_ Case Tracking Number(s): \_\_\_\_\_

**SECTION B. WELL OWNER AND LOCATION**

1. Name of Well Owner NJ DOT

2. Well Location (Street Address) 200 Stierli Court - Mount Arlington, NJ 07856

3. Well Location (Municipal Block and Lot) Block# ROW Lot # ROW

**SECTION C. WELL LOCATION SPECIFICS**

- |  |                         |
|--|-------------------------|
| 1. Well Permit Number (This number must be permanently affixed to the well casing):..        | <u>E201300345</u>       |
| 2. Site Well Number as shown on application or plans): .....                                 | <u>016-MW-11</u>        |
| 3. Well Completion Date: .....   | <u>1/14/2013</u>        |
| 4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): .....            | <u>0</u>                |
| 5. Total Depth of Well to the nearest ½ foot: .....  | <u>16</u>               |
| 6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):.....     | <u>11</u>               |
| 7. Screen Length (or length of open hole) in feet: .....                                     | <u>5</u>                |
| 8. Screen or Slot Size: .....  | <u>.020</u>             |
| 9. Screen or Slot Material: .....  | <u>PVC</u>              |
| 10. Casing Material (PVC, steel, or other – specify): .....                                  | <u>PVC</u>              |
| 11. Casing Diameter (inches): .....  | <u>2</u>                |
| 12. Static Water Level from top of casing at the time of installation (nearest 0.01'): ..... | <u>4</u>                |
| 13. Yield (gallons per minute): .....  | <u>1</u>                |
| 14. Development Technique (specify): .....   | <u>Submersible Pump</u> |
| 15. Length of Time well is developed/pumped or bailed (hours and minutes): .....             | <u>1</u>                |





New Jersey Department of Environmental Protection  
Site Remediation Program

**MONITORING WELL CERTIFICATION FORM A - AS-BUILT  
CERTIFICATION**

Date Stamp  
(For Department use only)

**SECTION A. SITE NAME AND LOCATION**

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: 45 Linden Avenue

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_ Case Tracking Number(s): \_\_\_\_\_

**SECTION B. WELL OWNER AND LOCATION**

1. Name of Well Owner K I D Realty

2. Well Location (Street Address) 4931 Fisher Island Dr - Miami, FL 33109

3. Well Location (Municipal Block and Lot) Block# 27401 Lot # 35

**SECTION C. WELL LOCATION SPECIFICS**

- |  |                         |
|--|-------------------------|
| 1. Well Permit Number (This number must be permanently affixed to the well casing):..        | <u>E201300252</u>       |
| 2. Site Well Number as shown on application or plans): .....                                 | <u>016-MW-10</u>        |
| 3. Well Completion Date: .....   | <u>1/14/2013</u>        |
| 4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): .....            | <u>0</u>                |
| 5. Total Depth of Well to the nearest ½ foot: .....  | <u>34</u>               |
| 6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):.....     | <u>29</u>               |
| 7. Screen Length (or length of open hole) in feet: .....                                     | <u>5</u>                |
| 8. Screen or Slot Size: .....  | <u>.020</u>             |
| 9. Screen or Slot Material: .....  | <u>PVC</u>              |
| 10. Casing Material (PVC, steel, or other – specify): .....                                  | <u>PVC</u>              |
| 11. Casing Diameter (inches): .....  | <u>2</u>                |
| 12. Static Water Level from top of casing at the time of installation (nearest 0.01'): ..... | <u>4</u>                |
| 13. Yield (gallons per minute): .....  | <u>1</u>                |
| 14. Development Techinque (specify): .....   | <u>Submersible Pump</u> |
| 15. Length of Time well is developed/pumped or bailed (hours and minutes): .....             | <u>1</u>                |





New Jersey Department of Environmental Protection  
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp  
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: 45 Linden Ave

Municipality: City of Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_ Case Tracking Number(s): \_\_\_\_\_

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner K I D Realty

2. Well Location (Street Address) 4931 Fisher Island Drive - Miami, FL 33109

3. Well Location (Municipal Block and Lot) Block# 27401 Lot # 35

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201300252

2. Site Well Number (As shown on application or plans): 016-MW-10

3. Geographic Coordinate NAD 83 to nearest 1/10 of a second:

Longitude: West 74° 05' 00.2"

Latitude: North 40° 41' 21.4"

4. New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North 676273

East 607650

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 10.95 (TOP OF PVC)

6. Source of elevation datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.)

BENCHMARK: NJ12  
NJ INST OF TECH 2 CORS ARP  
ELEV.=164.8' (NAVD 88 DATUM)

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Professional Land Surveyor's Signature: \_\_\_\_\_

Date 2/21/2013

Surveyor's Name: Steven D. Parent

License Number: 24GS03626900

Mailing Address 147 Union Avenue - Suite 1C

Certification of Authorization #: 24GA28042200

City/Town: Middlesex

State New Jersey

Zip Code: 08846

Phone Number 732.764.0100

Ext.: \_\_\_\_\_

Fax: 732.764.0990

SEAL



New Jersey Department of Environmental Protection  
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp  
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Site 016

List all AKAs: \_\_\_\_\_

Street Address: State Route 185

Municipality: City of Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): \_\_\_\_\_ Case Tracking Number(s): \_\_\_\_\_

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner NJ DOT

2. Well Location (Street Address) 200 Stierli Court - Mount Arlington, NJ 07856

3. Well Location (Municipal Block and Lot) Block# ROW Lot # ROW

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201300345

2. Site Well Number (As shown on application or plans): 016-MW-11

3. Geographic Coordinate NAD 83 to nearest 1/10 of a second:

Longitude: West 74° 04' 59.3"

Latitude: North 40° 41' 21.7"

4. New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North 676305

East 607719

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 11.43 (TOP OF PVC)

6. Source of elevation datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.)

BENCHMARK: NJ12  
NJ INST OF TECH 2 CORS ARP  
ELEV.=164.8' (NAVD 88 DATUM)

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Professional Land Surveyor's Signature: \_\_\_\_\_

Date 2/21/2013

Surveyor's Name: Steven D. Parent

License Number: 24GS03626900

Mailing Address 147 Union Avenue - Suite 1C

Certification of Authorization #: 24GA28042200

City/Town: Middlesex

State New Jersey

Zip Code: 08846

Phone Number 732.764.0100

Ext.: \_\_\_\_\_

Fax: 732.764.0990

SEAL

## APPENDIX G - CONTOUR MAP REPORTING FORM

This reporting form shall accompany each groundwater contour map submittal. Use additional sheets as necessary.

1. Did any surveyed well casing elevations change from the previous sampling event? Yes.. No. If yes, attach new "Well Certification--Form B--Location Certification" as found in the "Guide for the Submission of Remedial Action Workplans" (NJDEP, March 1995) and identify the reason for the elevation change (damage to casing, installation of recovery system in monitoring well, etc.).

2. Are there any monitor wells in unconfined aquifers in which the water table elevation is higher than the top of the well screen? Yes.. No. If yes, identify these wells.

3. Are there any monitor wells present at the site but omitted from the contour map? Yes.. No. Unless the omission of the well(s) has been previously approved by the Department, justify the omissions.

4. Are there any monitor wells containing separate phase product during this measuring event? Yes.. No. Were any of the monitor wells with separate phase product included in the groundwater contour map? Yes... No... If yes, show the formula used to correct the water table elevation.

5. Has the groundwater flow direction changed more than 45 degrees from the previous groundwater contour map? Yes.. No. If yes, discuss the reasons for the change.

6. Has groundwater mounding and/or depressions been identified in the groundwater contour map? Yes.. No. Unless the groundwater mounds and/or depressions are caused by the groundwater remediation system, discuss the reasons for this occurrence.

7. Are all the wells used in the contour map screened in the same water-bearing zone? Yes. No... If no, justify inclusion of those wells.

8. Were the groundwater contours computer generated..., computer aided..., or hand-drawn.? If computer aided or generated, identify the interpolation method(s) used.