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October 22, 2012

Mr. Michael Hinton
Division of Environmental Remediation
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203

Reference: Ekonol Polyester Resins Site (#V00653-9)
Quarterly Report for Groundwater Monitoring
Second Quarter 2012

Dear Mr. Hinton:

Provided herein is the report for the second quarter of the performance and quarterly monitoring following the bioremediation systems installation at the Ekonol Polyester Resins Site (Site). This scope of work is defined in the February 2010 NYSDEC approved "Remedial Action Work Plan (RAWP) for *In Situ* Treatment Using Enhanced Bioremediation," and the NYSDEC-approved (April 10, 2012) changes to the reporting scope and schedule. Documentation of well inspection and maintenance, and sub-slab depressurization system operations and maintenance is also discussed herein.

**Performance and Quarterly Monitoring**

As part of the operations, monitoring and maintenance activities following installation of the remedial systems, the second quarterly sampling event was completed in June 2012. In addition to monitoring the overall groundwater conditions, performance monitoring was completed to assist in evaluating the effectiveness of the remediation in overburden groundwater near the bioreactor and the bedrock groundwater treatment area. During this event, a complete round of water levels was collected from the monitoring wells. The water levels are provided in Attachment A.

The groundwater sampling was completed between June 19 and June 28, 2012. Groundwater samples were collected in accordance with the methods defined in the approved remedial action work plan and the sampling matrix included in Attachment A. Along with performance parameters measured in each sample, groundwater samples were submitted to a qualified laboratory for analysis of selected volatile organic compounds (VOCs), total organic carbon (TOC), sulfate, chloride, dissolved gases (methane, ethane, ethene, dissolved hydrogen, and acetylene), major and minor ions, and Dehalococcoides (DHC) and Dehalobactor (DHB) bacteria and TCE/VC reductase genes. The analytical laboratories used for these analyses included Lancaster Laboratories, Inc., Microbial Insights, Inc. (bacteria counts), and Microseeps, Inc. (acetylene and dissolved hydrogen).

Low-flow groundwater sampling methods were employed. Dissolved oxygen (DO) concentration, pH, redox potential (ORP), specific conductance, temperature, visual appearance, and depth-to-water were recorded while purging the monitoring wells to establish when parameter stabilization occurred. After parameter stabilization was achieved and samples for the laboratory analyses were collected, groundwater samples were obtained and analyzed in the field for ferrous iron, manganese (II), alkalinity, hydrogen sulfide, and carbon dioxide. Results of the field measurements were recorded on well sampling records and in the field notebook. Sampling records are provided in Attachment A.

The analytical results for these samples were reviewed for usability with respect the NYSDEC requirements. The data is provided in the data usability report included in Attachment B. The data is considered valid for its intended use.

During performance monitoring, wastes including purge water from well sampling, equipment decontamination rinsates, and personal protective equipment (PPE) were generated. Water generated during the quarterly sampling events was contained in 55-gallon drums, evaluated, and subsequently disposed of as hazardous waste at an appropriate offsite location. The PPE was disposed of as a non-hazardous waste.

**Bioreactor and Injection/Monitoring Well Inspection**

As part of the quarterly event, the surface conditions above the bioreactor trenches were inspected for settlement, and the at-surface protective casing for the injection and monitoring wells were inspected for integrity. During this inspection, the condition of the protective casing and the need for maintenance and repair was assessed and recorded. In June 2012, there were no necessary repairs or maintenance to the protective casings or wells associated with the bioreactor. Pavement repairs in the vicinity of bioreactor area were required for an area approximately 5 feet by 15 feet. Small pot-holes, less than 2 inches deep, had developed in the area of new pavement between the bioreactor trenches. In this location, the excavated material was backfilled with soils. Inspection records are provided in Attachment C. Although the potholes were small and shallow (less than 2 inches) the repair of the potholes was conducted on July 13, 2012 with cold patch.

During this inspection, the condition and need for maintenance and repairs for the protective casings, if any, was recorded in the comment section of the table. No repairs were necessary at the time.

**Sub-slab Depressurization System Operations and Maintenance**

During the quarterly sampling event, the sub-slab depressurization system was inspected in accordance with the NYSDEC-approved operations and maintenance plan for the system dated December 5, 2011. The inspection showed that the system is in good working order. It included a visual inspection of the system's interior and exterior components, recording of U-Tube manometer measurements, and smoke stick testing. The system was shut down temporarily to confirm that the audible alarm functions as designed. The June 2012 inspection checklist for the

SSD system is included in Attachment C. In June 2012, repairs and maintenance to the sub-slab depressurization system were not needed.

**Performance and Quarterly Monitoring Results**

Provided below is an update on progress of the bioremediation through the June 2012 sampling event. The performance of the *in situ* bioremediation was evaluated using the most recent concentrations and data trends (through June 2012) in comparison to the three main performance objectives. The objectives are:

- Groundwater geochemical parameters of increased total organic carbon (TOC), decreased sulfate, and stable pH between 6 and 8 (approximately);

- Increased microbiological populations including species known to degrade chlorinated solvent compounds: Dehalococcoides (DHC) and Dehalobacter (DHB); and

- Decreases and/or transformation of chlorinated volatile organic compound (CVOCs).

**Bioreactor:**

The current level of performance is based on:

- Establishing geochemical conditions for anaerobic dechlorination in the bioreactors to the extent that CVOCs are readily degraded within the bioreactors,

- In the short-term, evaluating substrate concentration and CVOC degradation outside of the bioreactors in light of the heterogeneity of overburden groundwater flow (i.e. remediation effects will be uneven in the area).

- In the long-term, evaluating an increase in remediation of groundwater impacts as dictated by groundwater flow characteristics.

**Bioreactor Performance (shallow, overburden groundwater)**

The majority of the mulch bioreactor trench was installed during the period from late March 2011 to late April 2011. The westernmost segment of the northern trench was installed in November 2010. Figure 1 shows the wells and bioreactor trenches installed as part of the remedy and the concentration of key compounds related to the remedy performance.

**General Observations**

The bioreactors continued to degrade concentrations of CVOCs in overburden groundwater, and in general concentrations within the trenches remained at significantly decreased levels (Figure 1) compared to baseline data. At all the monitoring wells inside the bioreactor, the concentrations have declined since the installation. Most of the decreases have been on an order of magnitude or greater. TCE, the primary CVOC, was not detected (ND) at all locations, and at 7 of the 10 locations, individual CVOC analytes were below 60 µg/L. Two locations outside this low concentration range were OR-6SM and OR-9SM where the cis-1,2 DCE concentration remained elevated at 950 and 4000 µg/L (respectively) and VC remained elevated at 420 and 910 (respectively). Although concentrations were elevated here, they remained below the baseline/original concentrations.

TOC concentrations have steadily decreased in the bioreactor wells, but remain above 100 µg/L, with the exception of OR-4SM (85 mg/L). While there is no defined optimal concentration of TOC for active bioremediation, it is generally considered that between 50 and 100 mg/L is sufficient for microbial activity (AFCEE, 2004). Other parameters, such as CVOC degradation and microbial concentrations are used in concert with TOC to evaluate ongoing performance. The microbial population results indicate that DHC has increased to approximately $10^5$ to $10^6$ cells/mL within the bioreactor trenches, from an early concentration of generally 100 cells/mL or less.

The influence of the bioreactor trenches on shallow groundwater outside of the reactors is expected to be variable, especially in the short term, given the nature of the soils and groundwater flow paths and velocity. As such, there continues to be a large range of CVOC concentrations in the shallow performance monitoring (PMW) wells (e.g. TCE range is ND to 5,100 µg/L) located outside the bioreactor trenches as detailed below. At some wells, the CVOC concentrations have decreased, while in other wells, the concentrations have increased (likely from degradation and/or desorption respectively) or remained fairly constant.

CVOC concentrations outside the bioreactor remained variable (as high as 10,000s of µg/L). At locations PMW-3S and PMW-4S downgradient of the bioreactors, there were notable increases in CVOCs, accompanied by increases in TOC and ethene. June 2012 data indicated that the increases in TCE, DCE, and VC at these locations may have peaked, and concentrations have begun to decline. The ethene concentrations are near 1,000 µg/L at PMW-3S and 110 µg/L at PMW-4S, indicating active degradation at these wells. Additionally, the DHC populations at PMW-3S have continued to increase to $7.5 \times 10^5$ cell/ml from an original concentration of $1.3 \times 10^3$. There is evidence of biodegradation at some locations between the bioreactors, including decreasing CVOCs associated with elevated TOC and ethene at PMW-2S and decreasing DCE and VC concentrations at PMW-7S. Other locations such as PMW-5S, PMW-9S and PMW-11S currently show little to no influence from the bioreactors. The locations will be further evaluated over time to determine if the treatment zone is expanding.

As previously observed, the degradation is most prominent in areas where TOC was or currently is elevated. In some wells, the elevated TOC has remained, but in general, TOC is decreasing. TOC in the PMW wells ranged from 2.1 to 234 mg/L, with an average of 40mg/L.

At side and downgradient shallow wells, such as MW-11S and MW-12S, where elevated concentrations were observed in previous events, there were continued decreases in CVOCs from the previously elevated (or rising) concentrations.

Groundwater elevation data indicate that groundwater flow conditions have remained similar since installation of the bioreactor walls. Groundwater flow is generally south through the bioreactors.

**Specific Observations**

Specific observations from groundwater collected within and adjacent to the bioreactor trenches (see Figure 1) are provided below.

- TOC has steadily decreased in the bioreactor trenches, with all samples from the bioreactor wells remaining above 100 µg/L, with the exception of OR-4SM (85 mg/L). By comparison, the concentrations during the first sampling event (2 months after installation) were appreciably higher: 500 to 2,000 mg/L. These initially higher concentrations were likely due to addition of the vegetable oil substrate, which was expected to decrease more rapidly than the TOC within the mulch. Between March 2012 and June 2012, the concentration remained relatively stable, indicating the rate of TOC decline has decreased. Given the other criteria (decreased sulfate and reduced CVOCs), the bioreactors appear to be operating effectively at these TOC concentrations. TOC depletion will continue to be evaluated.

- Sulfate remains lower than background levels in the overburden reactor wells, indicating that the TOC is still actively suppressing sulfate. Within the bioreactors, sulfate was on average 67 mg/L compared with a background of approximately 1,000 – 3,000 mg/L. At PMW-1S, PMW-2S, and PMW-6S, located outside the bioreactors, the sulfate remained depleted. In other locations outside the wall, sulfate remained similar to background. This sustained decrease in sulfate is favorable to degradation of CVOCs.

- pH was between 6 and 7 SU in the overburden bioreactor wells and performance monitoring wells, and generally increased slightly from the previous monitoring event. pH above approximately 6.0 is favorable for DHC activity.

- ORP in the shallow wells was in the same range as in previous sampling events, with a wide range, from low positive values (<+100 eV) in a few wells to highly anaerobic (< -350 eV) in most of the wells. Highly anaerobic conditions favor the anaerobic biodegradation of chlorinated solvents through the reductive dehalogenation pathway catalyzed by DHC.

- At selected downgradient performance monitoring wells (up to 20 feet downgradient from the source area and bioreactor trenches), there were appreciable increases in degradation products DCE, VC, and ethene at wells PMW-3S and PMW-4S during the period of the June 2011 to March 2012 (previous quarter). June data indicated that the increases in TCE, DCE, and VC at these locations may have stabilized. Biodegradation is active in these locations, as confirmed by concentrations of ethene and DHC. Ethene was near 930 µg/L at PMW-3S and 110 µg/L at PMW-4S, and DHC populations at PMW-3S have continued to increase to 1.06 $10^6$ cell/ml from an original concentration of 1.3 x $10^3$ (DHC was not sampled at PMW-4S).

**Bedrock Injections:**

The current level of performance is based on:

- Establishing geochemical conditions for anaerobic dechlorination in the source area, to the extent that, CVOCs are degraded,

- Short term changes in geochemistry and CVOC concentrations in adjacent and nearby downgradient areas as a result of groundwater transport of TOC and subsequent degradation mechanisms.

- Spatial variability in substrate distribution and degradation due to the heterogeneity of groundwater flow within a fractured bedrock.

- Long-term expansion of the bedrock groundwater treatment area.

**Bedrock Bioremediation Performance (deeper, bedrock groundwater)**

Substrate injections occurred in the source area in July 2011. Groundwater samples were collected during July 2011 (baseline), late August 2011 (1 month), November 2011 (3-4 months), March 2012 (7-8 months) and June 2012 (11 months). Figure 2 shows the bedrock well locations and concentrations.

The data indicate variability in CVOC biodegradation profiles in the bedrock wells. Some bedrock wells showed decreasing concentration trends for TCE, DCE, and VC, whereas other wells showed TCE degradation with minimal degradation of DCE and VC. TCE has been reduced substantially in a few locations, but significant DCE remains in many wells. In general, there is active bioremediation and with associated mass conversion. However, mass remains and TOC is depleting.

Groundwater elevation data indicate the groundwater flow conditions have remained similar since installation of the bioreactor walls. Groundwater flow is generally south across the site.

Detailed observations are as follows:

- TOC has decreased within and downgradient of the treatment area, however, in some locations the TOC remains elevated. In June 2012, the TOC ranged from less than 17.7 to 450 mg/L, with an average of 131 in the treatment area. Immediately downgradient from the treatment area, the TOC is generally higher, with an average of 591 in wells PMW-12D, PMW-13D, and PMW-14D.

- Sulfate remains at decreased levels although it is increasing in some locations of the treatment area. Sulfate ranges from 18.7 to 615 mg/L with an average of 266 mg/L. In some instances the sulfate is beginning to increase as the TOC declines.

- The pH in the bedrock wells is primarily between 6 and 8. Previously wells PMW-10, PMW-11, PMW-13, and PMW-14D had a pH of less than 6; pH in wells PMW-11 and PMW-13 has increased above 6.0 whereas PMW-14D, is currently 5.63. PMW-14D is a location where TOC remains elevated at 987 mg/L and is also where the peak TOC concentrations occurred in November 2011 (approximately 3.5 months after the injections).

- At well PMW-16D, there has been a sustained elevated pH ranging from 10.5 to 12.7 since August 2011. A potential cause could be grout from the rock socket of the open borehole. During an upcoming sampling round, the sample tubing will be replaced making the intake depth as close as possible to the facture zone to confirm the pH in this well.

- Elevated sulfide concentrations can inhibit CVOC biodegradation by DHC. At INJ-07D, PMW-09D, PMW-15D, and PMW-17D, and RMW-2D, sulfide concentrations increased into the range of 94 to 157 mg/L. These data indicate the potential for sulfide to inhibit CVOC biodegradation at these locations.

- Some wells showed signs of significant CVOC decreases through bioremediation (sequential dechlorination and/or biogeochemical degradation).

- The microbial population results indicate that DHC is approximately $10^2$ to $10^6$ cells/mL within and immediately downgradient of the bedrock treatment area. The increases in DHC indicate increasing biodegradation.

- CVOC concentrations at MW-11D and MW-17D continued to decrease. TCA concentrations at MW-11D continued to decrease to 430 µg/L (down from a high of 25,000 at baseline – July 2011). TCA concentrations at MW-17D also continued to decrease, down to 660 µg/L from 7,200 µg/L in August 2011. Other compounds of lesser concentrations also continued to decrease at these locations.

In general, it appears that the bedrock remediation is progressing in selected areas. As expected, there is variability in the degradation rates across the bedrock remediation area, and in

some areas it is less than optimal. Factors that can limit or slow down the rate of biodegradation in the bedrock may be related to:

- natural heterogeneities in flow paths, permeability, and porosity associated with fractured bedrock;
- high and variable groundwater flow rates;
- high source area concentrations particularly near INJ-07D;
- lower than optimal TOC concentrations;
- low DHC populations in some locations, potentially related to low pH and/or elevated hydrogen sulfide; and,
- a lack of available iron to precipitate and maintain low sulfide concentrations, and to sustain abiotic degradation.

These factors may be contributing to a slower that optimal degradation in certain areas.

**Other Site Wells**

At downgradient monitoring wells, outside of the bioreactor and bedrock bioremediation zone, where a longer record of concentrations exists, the following was observed:

Shallow Wells:

- At MW-10S which is located approximately 15 ft. southeast of the eastern-most bioreactor trench, the DCE concentration (1,021 µg/L; June 2012) remains below the 5,600 µg/L observed in November 2011 and is slightly higher than the 893 µg/L in March 2012. VC concentration increased to 740 ug/L (June 2012) from 510 µg/L (March 2012). Ethene concentration continued to increase from 18 µg/L (July 2011) to 590 µg/L in June 2012. These results are consistent with the progression of CVOC biodegradation.
- At MW-12S, located approximately 200 ft. downgradient from the bioreactors, TCA continues to decrease from 18,000 µg/L in June 2011 to 120 µg/l in June 2012. Meanwhile, concentrations of TCE remained similar to historical concentrations at 7,000 µg/L (June 2012). Ethene and ethane show an increasing trend in this well.
- At MW-9S, west of the bioreactors, DCE and VC concentrations are similar between the March and June 2012 sampling events.

- Concentrations of all CVOC's remained similar between August 2011 and June 2012 in MW-1S located upgradient of the bedrock bioreactors. Furthermore, ethene remained below detection and sulfate remained at elevated concentrations.

Bedrock Wells:

- CVOC concentrations in downgradient wells MW-13D, MW-15D, MW-16D, and MW-19D, and in wells side gradient to the bedrock injection area including MW-10D, MW-12D and MW-18D are within historical ranges and do not show clear trends. It appears that remediation activities have not significantly influenced concentrations at these locations at this time.

- At downgradient well MW-20D, there was an increase in TCA from 6,200 µg/L to 14,000 µg/L. Meanwhile TCE, DCE, and VC decreased at the same location. This increase of TCA is unusual but may represent a temporary change similar to what was observed during baseline sampling at MW-11D and MW-12S, and later at MW-17D. At each of these wells, located upgradient to MW-20D, TCA steadily decreased to pre-construction concentrations during subsequent sampling events.

- At MW-21D (side gradient to MW-20D), the concentrations are within or near the historical range.

**General Site Conclusions**

The data to date suggest the remediation program is operating as expected for immediate, short and long-term expectations. Performance monitoring is being used to define the need for additional injections. The monitoring results indicate that there are some areas that require additional injections to improve performance. Additional injections are typical in most bioremediation projects and were expected given the CVOC concentrations and the subsurface conditions at the Site.

Bioreactor: Results of the March and June, 2012 data indicate that the bioreactor trenches are functioning well. Other than continued monitoring, no additional work is necessary at this time. Items to be monitored going forward include TOC depletion in the bioreactor and the areal extent of CVOC degradation. In the future, TOC may need to be replenished through addition of vegetable oil substrate. At this time, no additional maintenance is required for the wells, well pads or pavement over the reactor.

Bedrock Bioremediation Area: A plan to add amendments to selected areas of the treatment zone to encourage CVOC degradation has been provided to NYSDEC. Amendments include additional substrate, bioaugmentation solution, and/or biogeochemical enhancement materials (e.g. iron). At this time, no additional maintenance is required for the wells or well pads used for the bedrock remediation.

Additional substrate and amendment injections are tentatively planned for late October, early November 2012.

Sub-slab Depressurization: The SSD is operating as expected. No maintenance work is necessary at this time.

If you have any questions regarding this report or the planned future activities, feel free to contact William B. Barber of Atlantic Richfield Company at (216) 271-8038.

Sincerely,

George W. Hermance

George W. Hermance
Project Manager

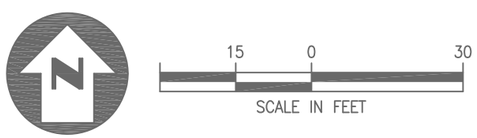
Attachments

cc: W. Barber, Atlantic Richfield Co.
S. Fiorenza, BP
M. Forcucci, NYSDOH
M. Kolar, Patriot
J. Sabbatis, Saint-Gobain
G. Brown, RT Environmental Services

# FIGURES

## FIGURE 1: SHALLOW CONCENTRATIONS

## FIGURE 2: BEDROCK CONCENTRATIONS




LEGEND:

- RAILROAD TRACKS
- NEW BORING WELL (POST 2010)
- REPLACEMENT BEDROCK INVESTIGATION WELL
- OLD BORING WELL (PRE 2010)
- FW — FIRE WATER LINE
- G — GAS LINE
- SAN — SANITARY LINE
- STM — STORM LINE
- CB — CATCH BASIN
- MH — MANHOLE
- MULCH AND GRAVEL BIOREACTOR
- EDGE OF NEW ASPHALT

| MW-1S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 1.1 J | 3.5 J | 4.4 J | 14 |
| Total DCE | 104.9 | 126.3 | 125.6 | 179.4 |
| VC | 7.5 | 14 | 5.2 | 15 |
| TCA | 5 U | 5 U | 5 U | 0.8 U |
| DCA | 5 U | 5 U | 5 U | 1 U |
| Ethene | 5 U | 5 U | 5 U | 1 U |
| TOC | 3.2 | 1.3 | 2.8 | 2.6 |
| Sulfate | 2750 | 2110 | 2420 J | 2260 |

| OR-5SM | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 5 U | 5 U | 5 U | 1 U |
| Total DCE | 79 | 35.9 | 113 | 62.1 |
| VC | 63 | 9.4 | 45 | 11 |
| TCA | 5 U | 5 U | 5 U | 0.8 UJ |
| DCA | 2.4 J | 1.9 J | 2.3 J | 1.7 J |
| Ethene | 610 | 440 | 450 | 76 |
| TOC | 203 | 213 | 258 | 139 |
| Sulfate | 12.4 | 4.1 J | 2.4 J | 1.5 U |

| PMW-2S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 25 U | 5 U | 10 U | 2.8 J |
| Total DCE | 2925 | 719 | 1795.1 | 454.6 |
| VC | 1400 | 680 | 1300 | 350 |
| TCA | 25 U | 5 U | 10 U | 0.8 UJ |
| DCA | 25 U | 2.8 J | 2.9 J | 2 J |
| Ethene | 1200 | 1300 | 390 | 220 |
| TOC | 447 | 437 | 260 | 234 |
| Sulfate | 5 U | 2.6 J | 22.3 | 1.8 J |

| PMW-1S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 25 U | 5 U | 5 U | 1.4 J |
| Total DCE | 4899.1 | 236 | 468 | 228.1 |
| VC | 2600 | 320 | 660 | 160 |
| TCA | 25 U | 5 U | 5 U | 0.8 U |
| DCA | 25 U | 2.9 J | 2.6 J | 1.1 J |
| Ethene | 690 | 2100 | 590 | 500 |
| TOC | 503 | 561 | 88.3 | 29.3 |
| Sulfate | 5 U | 3.1 J | 4.9 J | 14.7 |

| OR-9SM | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 95 | 5 U | 1.1 J | 16 J |
| Total DCE | 8481 | 41 | 46.9 | 4031 |
| VC | 1100 | 18 | 23 | 910 |
| TCA | 320 | 5.3 | 4.4 J | 73 |
| DCA | 230 | 44 | 6.5 | 25 J |
| Ethene | 58 | 78 | 30 | 170 |
| TOC | 1290 | 384 | 56.4 | 172 |
| Sulfate | 66.5 | 6.5 | 48.6 | 115 J |

| MW-2S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 500 U | 150 J | 520 J | 600 |
| Total DCE | 221890 | 121440 | 242290 | 252260 |
| VC | 24000 | 18000 | 30000 | 27000 |
| TCA | 500 U | 500 U | 1000 U | 40 UJ |
| DCA | 500 U | 500 U | 1000 U | 50 U |
| Ethene | 120 | 92 | 140 | 390 |
| TOC | 7 | 5.4 | 5 | 5.5 |
| Sulfate | 1510 J | 868 | 1100 J | 1170 |

| OR-3SM | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 10 U | 25 U | 50 UJ | 1 U |
| Total DCE | 4107 | 2405 | 148 | 49.61 |
| VC | 950 | 1400 | 50 UJ | 1.8 J |
| TCA | 10 U | 25 U | 50 UJ | 0.8 UJ |
| DCA | 10 U | 25 U | 50 UJ | 1 U |
| Ethene | 30 | 110 | 40 | 1 U |
| TOC | 2260 | 1760 | 39.3 | 838 |
| Sulfate | 3.1 J | 2.7 J | 5 U | 2 J |

| OR-13SM | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 50 U | 25 U | 50 UJ | 1 U |
| Total DCE | 518.6 | 97.3 | 150 | 12.71 |
| VC | 160 | 59 | 50 UJ | 1 U |
| TCA | 50 U | 25 U | 50 UJ | 0.8 UJ |
| DCA | 95 | 25 | 50 UJ | 6.9 |
| Ethene | 23 | 23 | 21 | 6.8 |
| TOC | 1830 | 1020 | 233 | 192 |
| Sulfate | 17 | 2.5 J | 19 | 14.2 J |

| OR-18SM | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 50 U | 5 U | 5 U | 1 U |
| Total DCE | 490 | 24.1 | 11.7 | 13.9 |
| VC | 150 | 29 | 13 | 22 |
| TCA | 50 U | 5 U | 5 U | 0.8 U |
| DCA | 50 U | 5 U | 5 U | 1 U |
| Ethene | 14 | 26 | 28 | 38 |
| TOC | 485 | 62.1 | 64.9 | 105 |
| Sulfate | 600 | 581 | 348 J | 280 |

| PMW-11S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 270 | 170 | 170 | 320 |
| Total DCE | 17248 | 8758 | 9297 | 13262 |
| VC | 3600 | 760 | 2000 | 2600 |
| TCA | 50 U | 50 U | 100 U | 4 UJ |
| DCA | 38 J | 32 J | 41 J | 47 |
| Ethene | 140 | 59 | 100 | 170 |
| TOC | 4.9 | 2.3 | 2.2 | 2.1 |
| Sulfate | 2110 | 2330 | 1800 J | 1880 |

| MW-10S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 16 | 34 | 6.2 | 10 |
| Total DCE | 1115 | 5635.9 | 893.6 | 1021.7 |
| VC | 270 | 640 | 510 | 740 |
| TCA | 5 U | 25 U | 5 U | 0.8 U |
| DCA | 2.3 J | 25 U | 5 U | 2.3 J |
| Ethene | 42 | 69 | 230 | 590 |
| TOC | NS | NS | NS | #N/A |
| Sulfate | NS | NS | NS | #N/A |

| OR-15SM | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 50 U | 25 U | 50 U | 1 U |
| Total DCE | 280 | 54.3 | 150 | 3.6 |
| VC | 58 | 25 U | 50 U | 1 U |
| TCA | 50 U | 25 U | 50 U | 0.8 U |
| DCA | 50 U | 25 U | 50 U | 1 U |
| Ethene | 2.2 J | 8.2 | 5 U | 1 U |
| TOC | 2060 | 682 | 270 | 267 |
| Sulfate | 1.9 J | 5 U | 2.2 J | 1.5 U |

| PMW-9S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 2900 | 2800 | 3400 | 5100 |
| Total DCE | 1723.7 | 1826.5 | 3043 | 2746 |
| VC | 91 | 66 | 81 | 93 |
| TCA | 10 U | 25 U | 25 U | 1.5 J |
| DCA | 10 U | 25 U | 25 U | 1 U |
| Ethene | 9.6 | 2.8 J | 2.4 J | 7.1 |
| TOC | 4.9 | 3.4 | 3.9 | 3.4 |
| Sulfate | 3450 J | 5 U | 3780 | 3010 J |

| PMW-5S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 3000 | 2600 | 3000 | 3100 |
| Total DCE | 53940 | 59920 | 49030 | 58100 |
| VC | 12000 | 9300 | 7800 | 9800 |
| TCA | 250 U | 500 U | 250 U | 8 UJ |
| DCA | 250 U | 500 U | 250 U | 16 J |
| Ethene | 280 | 200 | 230 | 450 |
| TOC | 5.2 | 5.8 | 6.6 | 5.8 |
| Sulfate | 2020 | 1630 | 1540 | 1530 |

| OR-4SM | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 50 U | 25 U | 50 U | 1 U |
| Total DCE | 1271 | 67 | 113 | 14.6 |
| VC | 120 | 25 U | 50 U | 1 U |
| TCA | 50 U | 25 U | 50 U | 0.8 U |
| DCA | 50 U | 25 U | 50 U | 1 U |
| Ethene | 5 U | 15 | 5 U | 1 U |
| TOC | 993 | 352 | 98.6 | 84.7 |
| Sulfate | 1.8 J | 2.7 J | 1.6 J | 2.2 J |

| PMW-6S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 22 J | 9.7 J | 25 U | 10 U |
| Total DCE | 8348.4 | 2995 | 4528.2 | 4108 |
| VC | 11000 | 3400 | 3800 | 3100 |
| TCA | 25 U | 25 U | 25 U | 8 UJ |
| DCA | 16 J | 15 J | 8.4 J | 10 U |
| Ethene | 630 | 3900 | 920 | 510 |
| TOC | 385 | 177 | 48.3 | 47.9 |
| Sulfate | 122 | 190 | 372 | 173 J |

| OR-6SM | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 25 U | 5 U | 50 UJ | 10 UJ |
| Total DCE | 2559 | 135 | 636 | 1068 |
| VC | 430 | 130 | 420 J | 420 J |
| TCA | 25 U | 5 U | 50 UJ | 8 UJ |
| DCA | 7.3 J | 5.2 | 50 UJ | 10 UJ |
| Ethene | 12 | 250 | 140 | 180 J |
| TOC | 1730 | 982 | 336 | 243 |
| Sulfate | 6.3 | 4.7 J | 45 | 6.5 J |

| MW-4S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 10 | 2.7 J | 1.4 J | 1.6 J |
| Total DCE | 138.6 | 34.3 | 56 | 38.6 |
| VC | 91 | 50 | 140 | 74 |
| TCA | 5 U | 5 U | 5 U | 0.8 U |
| DCA | 1.8 J | 1.6 J | 1.4 J | 1 U |
| Ethene | 75 | 110 | 42 | 15 |
| TOC | 5.4 | 6.1 | 4.1 | 3.8 |
| Sulfate | 4090 J | 4190 | 4440 J | 3190 J |

| PMW-7S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 5 U | 5 U | 5 U | 1 U |
| Total DCE | 23 | 13 | 21 | 5.3 |
| VC | 11 | 14 | 1.7 J | 2.8 J |
| TCA | 5 U | 5 U | 5 U | 0.8 UJ |
| DCA | 140 | 41 | 84 | 54 |
| Ethene | 1.2 J | 4.7 J | 5 U | 1 U |
| TOC | 7.6 | 6 | 6.3 | 6.3 |
| Sulfate | 4530 | 3840 | 3990 | 4090 J |

| PMW-3S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 84 | 250 U | 610 | 660 |
| Total DCE | 62210 | 44025 | 100790 | 66350 |
| VC | 12000 | 27000 | 19000 | 13000 |
| TCA | 50 U | 250 U | 500 U | 80 U |
| DCA | 33 J | 250 U | 500 U | 100 U |
| Ethene | 810 | 1700 | 1300 | 930 |
| TOC | 238 | 229 | 78.3 | 84.8 |
| Sulfate | 404 J | 444 | 849 | 1010 |

| PMW-4S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 130 | 250 | 340 | 270 |
| Total DCE | 4027.9 | 8855 | 14334 | 11300 |
| VC | 300 | 460 | 840 | 660 |
| TCA | 13 U | 50 U | 50 U | 4.5 J |
| DCA | 4.6 J | 10 J | 14 J | 14 J |
| Ethene | 17 | 19 | 44 | 110 |
| TOC | 16.2 | 6.5 | 3.5 | 3.8 |
| Sulfate | 604 | 1310 | 1970 | 1400 |

| MW-6S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 5 U | 5 U | 5 U | 1 U |
| Total DCE | 28.98 | 46.5 | 675.7 | 54.6 |
| VC | 210 | 250 | 280 | 210 |
| TCA | 5 U | 5.5 | 1.5 J | 0.8 U |
| DCA | 6.3 | 9.9 | 10 | 3.9 J |
| Ethene | 3.5 J | 4.8 J | 5.4 | 4 J |
| TOC | NS | NS | NS | #N/A |
| Sulfate | NS | NS | NS | #N/A |

| MW-12S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 5300 | 3300 | 4700 | 7000 |
| Total DCE | 9503 | 4598 | 2941 | 2946 |
| VC | 370 | 510 | 230 | 190 |
| TCA | 9100 | 3000 | 270 | 120 |
| DCA | 500 | 480 | 100 | 48 |
| Ethene | 3.8 J | 25 | 150 | 150 |
| TOC | NS | NS | NS | #N/A |
| Sulfate | NS | NS | NS | #N/A |

| OR-10SM | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 50 U | 5 U | 50 UJ | 1 UJ |
| Total DCE | 1001 | 14.1 | 150 | 4.1 |
| VC | 210 | 5.1 | 50 UJ | 1 UJ |
| TCA | 28 J | 5 U | 50 UJ | 0.8 UJ |
| DCA | 73 | 9.5 | 50 UJ | 1 UJ |
| Ethene | 13 | 18 | 5 U | 1 UJ |
| TOC | 1690 | 616 | 154 | 102 |
| Sulfate | 17.6 | 4 J | 38.5 | 27.8 J |

| PMW-10S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 5 U | 5 U | 5 U | 1 U |
| Total DCE | 15 | 15 | 15 | 2.4 |
| VC | 1.9 J | 5 U | 5 U | 2.7 J |
| TCA | 5 U | 5 U | 5 U | 0.8 U |
| DCA | 5 U | 5 U | 5 U | 1 U |
| Ethene | 5 U | 5 U | 5 U | 1 U |
| TOC | 5.5 | 2.7 | 2.5 | 2.4 |
| Sulfate | 3550 J | 3080 | 3150 | 2820 |

| OR-14SM | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 50 U | 25 U | 50 U | 10 UJ |
| Total DCE | 450 | 75 | 150 | 24 |
| VC | 50 U | 25 U | 50 U | 10 UJ |
| TCA | 50 U | 25 U | 50 U | 8 UJ |
| DCA | 50 U | 25 U | 50 U | 10 UJ |
| Ethene | 5 UJ | 1.9 J | 5 U | 2.3 J |
| TOC | 1870 | 426 | 193 | 171 |
| Sulfate | 2.1 J | 3.1 J | 33.3 J | 240 |

| PMW-8S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 67 | 9.7 | 3.6 J | 1 U |
| Total DCE | 3534 | 888.6 | 104.6 | 52.5 |
| VC | 380 | 320 | 85 | 48 |
| TCA | 240 | 83 | 24 | 25 J |
| DCA | 89 | 67 | 27 | 29 |
| Ethene | 23 | 300 | 210 | 280 |
| TOC | 291 | 41.3 | 16.7 | 16.6 |
| Sulfate | 1480 J | 1080 | 1770 | 2210 J |

| MW-3S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 1.3 J | 5 U | 5 U | 1 U |
| Total DCE | 17.1 | 15 | 15 | 2.4 |
| VC | 5 U | 5 U | 5 U | 1 U |
| TCA | 5 U | 5 U | 5 U | 0.8 U |
| DCA | 5 U | 5 U | 5 U | 1 U |
| Ethene | 5 U | 5 U | 5 U | 1 U |
| TOC | 3.8 | 8.6 | 14.1 | 19.8 |
| Sulfate | 3170 J | 3470 | 283 J | 462 |

| MW-11S | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 200 | 150 | 160 | 89 |
| Total DCE | 1341 | 2266 | 483.2 | 298.4 |
| VC | 210 | 790 | 300 | 270 |
| TCA | 210 | 300 | 49 | 39 J |
| DCA | 81 | 200 | 68 | 67 |
| Ethene | 3.6 J | 38 | 87 | 110 |
| TOC | NS | NS | NS | #N/A |
| Sulfate | NS | NS | NS | #N/A |



NOTES: UTILTY LOCATIONS ARE APPROXIMATE OTHER UTILITIES MAY EXIST FINAL LOCATIONS WILL BE DEPENDENT UPON SITE CONDITIONS AND PLANT OPERATIONS
NS = NOT SAMPLED

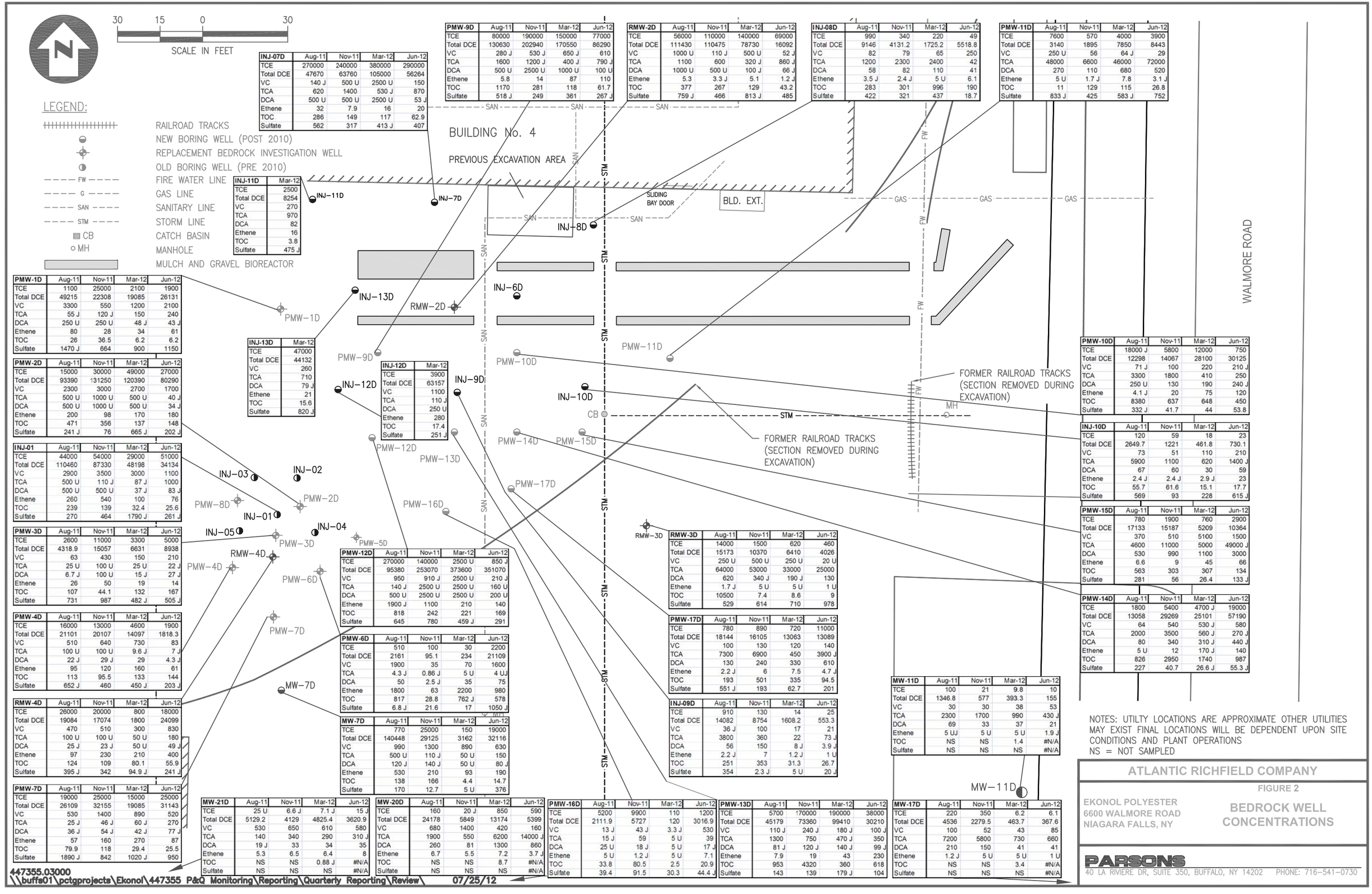
ATLANTIC RICHFIELD COMPANY

FIGURE 1

EKONOL POLYESTER
6600 WALMORE ROAD
NIAGARA FALLS, NY

OVERBURDEN WELL CONCENTRATIONS

PARSONS
40 LA RIVIERE DR, SUITE 350, BUFFALO, NY 14202 PHONE: 716-541-0730




| INJ-07D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 270000 | 240000 | 380000 | 290000 |
| Total DCE | 47670 | 63760 | 105000 | 56264 |
| VC | 140 J | 500 U | 2500 U | 150 |
| TCA | 620 | 1400 | 530 J | 870 |
| DCA | 500 U | 500 U | 2500 U | 53 J |
| Ethene | 32 | 7.9 | 16 | 20 |
| TOC | 286 | 149 | 117 | 62.9 |
| Sulfate | 562 | 317 | 413 J | 407 |

| PMW-9D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 80000 | 190000 | 150000 | 77000 |
| Total DCE | 130630 | 202940 | 170550 | 86290 |
| VC | 280 J | 530 J | 650 J | 610 |
| TCA | 1600 | 1200 J | 400 J | 790 J |
| DCA | 500 U | 2500 U | 1000 U | 100 U |
| Ethene | 5.8 | 14 | 87 | 110 |
| TOC | 1170 | 281 | 118 | 61.7 |
| Sulfate | 518 J | 249 | 361 | 267 J |

| RMW-2D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 56000 | 110000 | 140000 | 69000 |
| Total DCE | 111430 | 110475 | 78730 | 16092 |
| VC | 1000 U | 110 J | 500 U | 52 J |
| TCA | 1100 | 600 | 320 J | 860 J |
| DCA | 1000 U | 500 U | 100 J | 66 J |
| Ethene | 5.3 | 3.3 J | 5.1 | 1.2 J |
| TOC | 377 | 267 | 129 | 43.2 |
| Sulfate | 759 J | 466 | 813 J | 485 |

| INJ-08D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 990 | 340 | 220 | 49 |
| Total DCE | 9146 | 4131.2 | 1725.2 | 5518.8 |
| VC | 82 | 79 | 65 | 250 |
| TCA | 1200 | 2300 | 2400 | 42 |
| DCA | 58 | 82 | 110 | 41 |
| Ethene | 3.5 J | 2.4 J | 5 U | 6.1 |
| TOC | 283 | 301 | 996 | 190 |
| Sulfate | 422 | 321 | 437 | 18.7 |

| PMW-11D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 7600 | 570 | 4000 | 3900 |
| Total DCE | 3140 | 1895 | 7850 | 8443 |
| VC | 250 U | 56 | 64 J | 29 |
| TCA | 48000 | 6600 | 46000 | 72000 |
| DCA | 270 | 110 | 680 | 520 |
| Ethene | 5 U | 1.7 J | 7.8 | 3.1 J |
| TOC | 11 | 129 | 115 | 26.8 |
| Sulfate | 833 J | 425 | 583 J | 752 |

| INJ-11D | Mar-12 |
|---|---|
| TCE | 2500 |
| Total DCE | 8254 |
| VC | 270 |
| TCA | 970 |
| DCA | 82 |
| Ethene | 16 |
| TOC | 3.8 |
| Sulfate | 475 J |

| PMW-1D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 1100 | 25000 | 2100 | 1900 |
| Total DCE | 49215 | 22308 | 19085 | 26131 |
| VC | 3300 | 550 | 1200 | 2100 |
| TCA | 55 J | 120 J | 150 | 240 |
| DCA | 250 U | 250 U | 48 J | 43 J |
| Ethene | 80 | 28 | 34 | 61 |
| TOC | 26 | 36.5 | 6.2 | 6.2 |
| Sulfate | 1470 J | 664 | 900 | 1150 |

| INJ-13D | Mar-12 |
|---|---|
| TCE | 47000 |
| Total DCE | 44132 |
| VC | 260 |
| TCA | 710 |
| DCA | 79 J |
| Ethene | 21 |
| TOC | 15.6 |
| Sulfate | 820 J |

| INJ-12D | Mar-12 |
|---|---|
| TCE | 3900 |
| Total DCE | 63157 |
| VC | 1100 |
| TCA | 110 J |
| DCA | 250 U |
| Ethene | 280 |
| TOC | 17.4 |
| Sulfate | 251 J |

| PMW-10D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 18000 J | 5800 | 12000 | 750 |
| Total DCE | 12298 | 14067 | 28100 | 30125 |
| VC | 71 J | 100 | 220 | 210 J |
| TCA | 3300 | 1800 | 410 | 250 |
| DCA | 250 U | 130 | 190 | 240 J |
| Ethene | 4.1 J | 20 | 75 | 120 |
| TOC | 8380 | 637 | 648 | 450 |
| Sulfate | 332 J | 41.7 | 44 | 53.8 |

| PMW-2D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 15000 | 30000 | 49000 | 27000 |
| Total DCE | 93390 | 131250 | 120390 | 80290 |
| VC | 2300 | 3000 | 2700 | 1700 |
| TCA | 500 U | 1000 U | 500 U | 40 J |
| DCA | 500 U | 1000 U | 500 U | 34 J |
| Ethene | 200 | 98 | 170 | 180 |
| TOC | 471 | 356 | 137 | 148 |
| Sulfate | 241 J | 76 | 665 J | 202 J |

| INJ-10D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 120 | 59 | 18 | 23 |
| Total DCE | 2649.7 | 1221 | 461.8 | 730.1 |
| VC | 73 | 51 | 110 | 210 |
| TCA | 5900 | 1100 | 620 | 1400 J |
| DCA | 67 | 60 | 30 | 59 |
| Ethene | 2.4 J | 2.4 J | 2.9 J | 23 |
| TOC | 55.7 | 61.6 | 15.1 | 17.7 |
| Sulfate | 569 | 93 | 228 | 615 J |

| INJ-01 | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 44000 | 54000 | 29000 | 51000 |
| Total DCE | 110460 | 87330 | 48198 | 34134 |
| VC | 2900 | 3500 | 3000 | 1100 |
| TCA | 500 U | 110 J | 87 J | 1000 |
| DCA | 500 U | 500 U | 37 J | 83 J |
| Ethene | 260 | 540 | 100 | 76 |
| TOC | 239 | 139 | 32.4 | 25.6 |
| Sulfate | 270 | 464 | 1790 J | 261 J |

| PMW-15D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 780 | 1900 | 760 | 2900 |
| Total DCE | 17133 | 15187 | 5209 | 10364 |
| VC | 370 | 510 | 5100 | 1500 |
| TCA | 4600 | 11000 | 5000 | 49000 J |
| DCA | 530 | 990 | 1100 | 3000 |
| Ethene | 6.6 | 9 | 45 | 66 |
| TOC | 563 | 303 | 307 | 134 |
| Sulfate | 281 | 56 | 26.4 | 133 J |

| PMW-3D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 2600 | 11000 | 3300 | 5000 |
| Total DCE | 4318.9 | 15057 | 6631 | 8938 |
| VC | 63 | 430 | 150 | 210 |
| TCA | 25 U | 100 U | 25 U | 22 J |
| DCA | 6.7 J | 100 U | 15 J | 27 J |
| Ethene | 26 | 50 | 19 | 14 |
| TOC | 107 | 44.1 | 132 | 167 |
| Sulfate | 731 | 987 | 482 J | 505 J |

| PMW-14D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 1800 | 5400 | 4700 J | 19000 |
| Total DCE | 13058 | 29269 | 25101 | 57190 |
| VC | 64 | 540 | 530 J | 580 |
| TCA | 2000 | 3500 | 560 J | 270 J |
| DCA | 80 | 340 | 310 J | 440 J |
| Ethene | 5 U | 12 | 170 J | 140 |
| TOC | 826 | 2950 | 1740 | 987 |
| Sulfate | 227 | 40.7 | 26.6 J | 55.3 J |

| PMW-4D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 16000 | 13000 | 4600 | 1900 |
| Total DCE | 21101 | 20107 | 14097 | 1818.3 |
| VC | 510 | 640 | 730 | 83 |
| TCA | 100 U | 100 U | 9.6 J | 7 J |
| DCA | 22 J | 29 J | 29 | 4.3 J |
| Ethene | 95 | 120 | 160 | 61 |
| TOC | 113 | 95.5 | 133 | 144 |
| Sulfate | 652 J | 460 | 450 J | 203 J |

| PMW-12D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 270000 | 140000 | 2500 U | 850 J |
| Total DCE | 95380 | 253070 | 373600 | 351070 |
| VC | 950 | 910 J | 2500 U | 210 J |
| TCA | 140 J | 2500 U | 2500 U | 160 U |
| DCA | 500 U | 2500 U | 2500 U | 200 U |
| Ethene | 1900 J | 1100 | 210 | 140 |
| TOC | 818 | 242 | 221 | 169 |
| Sulfate | 645 | 780 | 459 J | 291 |

| RMW-3D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 14000 | 1500 | 620 | 460 |
| Total DCE | 15173 | 10370 | 6410 | 4026 |
| VC | 250 U | 500 U | 250 U | 20 U |
| TCA | 64000 | 53000 | 33000 | 25000 |
| DCA | 620 | 340 J | 190 J | 130 |
| Ethene | 1.7 J | 5 U | 5 U | 1 U |
| TOC | 10500 | 7.4 | 8.6 | 9 |
| Sulfate | 529 | 614 | 710 | 978 |

| PMW-6D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 510 | 100 | 30 | 2200 |
| Total DCE | 2161 | 95.1 | 234 | 21109 |
| VC | 1900 | 35 | 70 | 1600 |
| TCA | 4.3 J | 0.86 J | 5 U | 4 UJ |
| DCA | 50 | 2.5 J | 35 | 75 |
| Ethene | 1800 | 63 | 2200 | 980 |
| TOC | 817 | 28.8 | 762 J | 578 |
| Sulfate | 6.8 J | 21.6 | 17 | 1050 J |

| PMW-17D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 780 | 890 | 720 | 11000 |
| Total DCE | 18144 | 16105 | 13063 | 13089 |
| VC | 100 | 130 | 120 | 140 |
| TCA | 7300 | 6900 | 450 | 3900 J |
| DCA | 130 | 240 | 330 | 610 |
| Ethene | 2.2 J | 6 | 7.5 | 4.7 J |
| TOC | 193 | 501 | 335 | 94.5 |
| Sulfate | 551 J | 193 | 62.7 | 201 |

| MW-7D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 770 | 25000 | 150 | 19000 |
| Total DCE | 140448 | 29125 | 3162 | 32116 |
| VC | 990 | 1300 | 890 | 630 |
| TCA | 500 U | 110 J | 50 U | 150 |
| DCA | 120 J | 140 J | 50 U | 80 J |
| Ethene | 530 | 210 | 93 | 190 |
| TOC | 138 | 166 | 4.4 | 14.7 |
| Sulfate | 170 | 12.7 | 5 U | 376 |

| INJ-09D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 910 | 130 | 14 | 25 |
| Total DCE | 14082 | 8754 | 1608.2 | 553.3 |
| VC | 36 J | 100 | 17 | 21 |
| TCA | 3800 | 360 | 22 | 73 J |
| DCA | 56 | 150 | 8 J | 3.9 J |
| Ethene | 2.2 J | 7 | 1.2 J | 1 U |
| TOC | 251 | 353 | 31.3 | 26.7 |
| Sulfate | 354 | 2.3 J | 5 U | 20 J |

| MW-11D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 100 | 21 | 9.8 | 10 |
| Total DCE | 1346.8 | 577 | 393.3 | 155 |
| VC | 30 | 30 | 38 | 53 |
| TCA | 2300 | 1700 | 990 | 430 J |
| DCA | 69 | 33 | 37 | 21 |
| Ethene | 5 UJ | 5 U | 5 U | 1.9 J |
| TOC | NS | NS | 1.4 | #N/A |
| Sulfate | NS | NS | NS | #N/A |

| MW-21D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 25 U | 6.6 J | 7.1 J | 15 J |
| Total DCE | 5129.2 | 4129 | 4825.4 | 3620.9 |
| VC | 530 | 650 | 610 | 580 |
| TCA | 140 | 340 | 290 | 310 J |
| DCA | 19 J | 33 | 34 | 35 |
| Ethene | 5.3 | 6.5 | 6.4 | 8 |
| TOC | NS | NS | 0.88 J | #N/A |
| Sulfate | NS | NS | NS | #N/A |

| MW-20D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 160 | 20 J | 850 | 590 |
| Total DCE | 24178 | 5849 | 13174 | 5399 |
| VC | 680 | 1400 | 420 | 160 |
| TCA | 1900 | 550 | 6200 | 14000 J |
| DCA | 260 | 81 | 1300 | 860 |
| Ethene | 6.7 | 5.5 | 7.2 | 3.7 J |
| TOC | NS | NS | 8.7 | #N/A |
| Sulfate | NS | NS | NS | #N/A |

| PMW-16D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 5200 | 9900 | 110 | 1200 |
| Total DCE | 2111.9 | 5727 | 120 | 3016.9 |
| VC | 13 J | 43 J | 3.3 J | 530 |
| TCA | 15 J | 59 | 5 U | 39 |
| DCA | 25 U | 18 J | 5 U | 17 J |
| Ethene | 5 U | 1.2 J | 5 U | 7.1 |
| TOC | 33.8 | 80.5 | 2.5 | 20.9 |
| Sulfate | 39.4 | 91.5 | 30.3 | 44.4 J |

| PMW-13D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 5700 | 170000 | 190000 | 38000 |
| Total DCE | 45179 | 73360 | 99410 | 30210 |
| VC | 110 J | 240 J | 180 J | 100 J |
| TCA | 1300 | 750 | 470 J | 350 |
| DCA | 81 J | 120 J | 140 J | 99 J |
| Ethene | 7.9 | 19 | 43 | 230 |
| TOC | 953 | 4320 | 360 | 618 |
| Sulfate | 143 | 139 | 179 J | 104 |

| MW-17D | Aug-11 | Nov-11 | Mar-12 | Jun-12 |
|---|---|---|---|---|
| TCE | 220 | 350 | 6.2 | 6.1 |
| Total DCE | 4536 | 2279.5 | 463.7 | 367.6 |
| VC | 100 | 52 | 43 | 85 |
| TCA | 7200 | 5800 | 730 | 660 |
| DCA | 210 | 150 | 41 | 41 |
| Ethene | 1.2 J | 5 U | 5 U | 1 U |
| TOC | NS | NS | 3.4 | #N/A |
| Sulfate | NS | NS | NS | #N/A |

NOTES: UTILTY LOCATIONS ARE APPROXIMATE OTHER UTILITIES MAY EXIST FINAL LOCATIONS WILL BE DEPENDENT UPON SITE CONDITIONS AND PLANT OPERATIONS
NS = NOT SAMPLED

ATLANTIC RICHFIELD COMPANY

FIGURE 2

EKONOL POLYESTER
6600 WALMORE ROAD
NIAGARA FALLS, NY

BEDROCK WELL CONCENTRATIONS

PARSONS
40 LA RIVIERE DR, SUITE 350, BUFFALO, NY 14202 PHONE: 716-541-0730

# ATTACHMENT A
# WATER LEVEL MEASUREMENT, SAMPLING MATRIX AND SAMPLING RECORDS

# Ekonol Water Levels
# 6/18/2012

| # | Well ID | DTW (ft btoc) | Time | Comments |
|---|---|---|---|---|
| 1 | INJ-01 | 7.61 | 1443 | |
| 2 | INJ-02 | 7.30 | 1435 | |
| 3 | INJ-03 | 7.11 | 1433 | |
| 4 | INJ-04 | 7.38 | 1453 | |
| 5 | INJ-05 | 7.37 | 1448 | DTB= 23.20 No DNAPL |
| 6 | INJ-06D | 7.45 | 1437 | |
| 7 | INJ-07D | 7.65 | 1447 | |
| 8 | INJ-08D | 7.55 | 1433 | |
| 9 | INJ-09D | 7.51 | 1500 | |
| 10 | INJ-10D | 7.07 | 1506 | |
| 11 | INJ-11D | 7.49 | | |
| 12 | INJ-12D | 7.37 | 1504 | |
| 13 | INJ-13D | 7.54 | 1455 | |
| 14 | MW-1S | 4.77 | | |
| 15 | MW-2S | 3.00 | 1435 | |
| 16 | MW-3S | 4.12 | | |
| 17 | MW-4S | 7.12 | 1439 | |
| 18 | MW-5S | 7.10 | | |
| 19 | MW-6S | 6.62 | | |
| 20 | MW-7D | 7.64 | | |
| 21 | MW-7S | 5.68 | | |
| 22 | MW-8S | 5.22 | 1531 | |
| 23 | MW-9S | 7.62 | 1527 | |
| 24 | MW-10D | 7.41 | | |
| 25 | MW-10S | 6.56 | 1519 | |
| 26 | MW-11D | 10.26 | | |
| 27 | MW-11S | 7.85 | | |
| 28 | MW-12D | 7.87 | | |
| 29 | MW-12S | 7.34 | | |
| 30 | MW-13D | 11.12 | | |
| 31 | MW-14D | 7.38 | | |
| 32 | MW-15D | 9.14 | | |
| 33 | MW-16D | 13.01 | | |
| 34 | MW-17D | 9.28 | | |
| 35 | MW-18D | 8.75 | | |
| 36 | MW-19D | 7.53 | | |
| 37 | MW-20D | 8.42 | | |
| 38 | MW-21D | 8.09 | | |
| 39 | OR-1SI | 3.86 | 1449 | |
| 40 | OR-2SI | 3.81 | 1445 | |
| 41 | OR-3SM | 3.21 | 1439 | |

# Ekonol Water Levels
# 6/18/2012

| # | Well ID | DTW (ft btoc) | Time | Comments |
|---|---|---|---|---|
| 42 | OR-4SM | 4.00 | 1442 | |
| 43 | OR-5SM | 2.77 | 1422 | |
| 44 | OR-6SM | 7.00 | 1428 | |
| 45 | OR-7SI | 2.85 | 1420 | |
| 46 | OR-8SI | 5.81 | 1522 | |
| 47 | OR-9SM | 7.07 | 1400 | |
| 48 | OR-10SM | 7.11 | 1407 | |
| 49 | OR-11SI | 7.22 | 1358 | |
| 50 | OR-12SI | 7.04 | 1411 | |
| 51 | OR-13SM | 7.27 | 1356 | |
| 52 | OR-14SM | 7.03 | 1413 | |
| 53 | OR-15SM | 6.64 | 1352 | |
| 54 | OR-16SI | 6.37 | 1517 | |
| 55 | OR-17SI | 6.38 | 1354 | |
| 56 | OR-18SM | 6.44 | 1348 | |
| 57 | PMW-1D | 5.78 | 1457 | |
| 58 | PMW-1S | 2.85 | 1430 | |
| 59 | PMW-2D | 7.42 | 1438 | |
| 60 | PMW-2S | 2.49 | 1424 | |
| 61 | PMW-3D | 7.55 | 1450 | |
| 62 | PMW-3S | 6.68 | 1426 | |
| 63 | PMW-4D | 6.68 | | |
| 64 | PMW-4S | 5.78 | 1502 | |
| 65 | PMW-5D | 7.19 | | |
| 66 | PMW-5S | 4.07 | 1440 | |
| 67 | PMW-6D | 8.02 | | |
| 68 | PMW-6S | 2.08 | 1443 | |
| 69 | PMW-7D | 7.65 | | |
| 70 | PMW-7S | 6.90 | 1405 | |
| 71 | PMW-8D | 7.26 | 1446 | |
| 72 | PMW-8S | 7.08 | 1409 | |
| 73 | PMW-9D | 7.69 | 1450 | No DNAPL |
| 74 | PMW-9S | 7.35 | 1415 | |
| 75 | PMW-10S | 6.26 | 1513 | |
| 76 | PMW-10D | 5.58 | 1308 | |
| 77 | PMW-11D | 7.46 | | |
| 78 | PMW-11S | 6.54 | 1350 | |
| 79 | PMW-12D | 7.69 | | |
| 80 | PMW-13D | 7.53 | | No DNAPL |
| 81 | PMW-14D | 7.55 | | No DNAPL |
| 82 | PMW-15D | 7.41 | | |

# Ekonol Water Levels
# 6/18/2012

| # | Well ID | DTW (ft btoc) | Time | Comments |
|---|---|---|---|---|
| 83 | PMW-16D | 7.11 | | |
| 84 | PMW-17D | 7.53 | | |
| 85 | RMW-1D | 7.37 | | |
| 86 | RMW-2D | 7.48 | 1442 | No DNAPL |
| 87 | RMW-3D | 7.12 | | |
| 88 | RMW-4D | 6.82 | | |

**SUMMARY GROUNDWATER MONITORING**
**EKONOL POLYESTER RESINS, WHEATFIELD, NEW YORK**

| Location | Synoptic Water Level Measurement[g/] | VOCs[a/] (SW8260B) | Methane, Ethane, Ethene (Lab SOP) | Chloride, Nitrate, Sulfate[b/] (E300.1) | Dissolved Inorganics[b/c/] (SW6010B) | Ortho-phosphate[b/] (EPA 365.1) | Sulfide[b/] (MS 4500-S2-F) | Total Organic Carbon (SW9060) | Total Inorganic Carbon (SW9060) | Microbial Population[d/] (Lab SOP) | Acetylene and Hydrogen | Real time Analyses[e/] | Mobile Lab Analysis[f/] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Overburden Bioreactor Monitoring Wells** | | | | | | | | | | | | | |
| OR-3SM | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| OR-4SM | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| OR-5SM | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| OR-6SM | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| OR-9SM | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| OR-10SM | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| OR-13SM | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| OR-14SM | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| OR-15SM | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| OR-18SM | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-1S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| PMW-2S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| PMW-3S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| PMW-4S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-5S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-6S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-7S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-8S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-9S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| PMW-10S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| PMW-11S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| | | | | | | | | | | | | | |
| **Bedrock Injection/Withdrawal Wells** | | | | | | | | | | | | | |
| INJ-7D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| INJ-8D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| INJ-9D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| INJ-10D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | | | | | | | | |
| **Bedrock Monitoring Wells** | | | | | | | | | | | | | |
| PMW-9D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-10D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-11D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| PMW-12D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-13D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-14D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-15D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| PMW-16D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-17D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Pilot Test Wells** | | | | | | | | | | | | | |
| PMW-1D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| INJ-01 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-2D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 |
| PMW-3D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-4D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-6D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 |
| RMW-4D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| PMW-7D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| MW-7D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |

**SUMMARY GROUNDWATER MONITORING**
**EKONOL POLYESTER RESINS, WHEATFIELD, NEW YORK**

| Location | Synoptic Water Level Measurement[g/] | VOCs[a/] (SW8260B) | Methane, Ethane, Ethene (Lab SOP) | Chloride, Nitrate, Sulfate[b/] (E300.1) | Dissolved Inorganics[b/c/] (SW6010B) | Ortho-phosphate[b/] (EPA 365.1) | Sulfide[b/] (MS 4500-S2-F) | Total Organic Carbon (SW9060) | Total Inorganic Carbon (SW9060) | Microbial Population[d/] (Lab SOP) | Acetylene and Hydrogen | Real time Analyses[e/] | Mobile Lab Analysis[f/] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site Investigation Wells** | | | | | | | | | | | | | |
| MW-1S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| MW-2S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 |
| MW-3S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| MW-4S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| MW-6S | 1 | 1 | 1 | | | | | | | | | 1 | 1 |
| MW-10S | 1 | 1 | 1 | | | | | | | | | 1 | 1 |
| MW-11S | 1 | 1 | 1 | | | | | | | | | 1 | 1 |
| MW-12S | 1 | 1 | 1 | | | | | | | | | 1 | 1 |
| RMW-2D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 |
| RMW-3D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| MW-11D | 1 | 1 | 1 | | | | | | | | | 1 | 1 |
| MW-17D | 1 | 1 | 1 | | | | | | | | | 1 | 1 |
| MW-20D | 1 | 1 | 1 | | | | | | | | | 1 | 1 |
| MW-21D | 1 | 1 | 1 | | | | | | | | | 1 | 1 |
| | | | | | | | | | | | | | |
| **Monitoring Subtotal** | 57 | 57 | 57 | 49 | 49 | 49 | 49 | 49 | 49 | 19 | 15 | 57 | 57 |
| | | | | | | | | | | | | | |
| **Added for Annual** | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| RMW-1D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| PMW-5D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| PMW-8D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| MW-14D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| MW-15D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| MW-16D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| | | | | | | | | | | | | | |
| MW-18D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| MW-19D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| | | | | | | | | | | | | | |
| MW-10D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| MW-12D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| MW-13D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| MW-5S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| MW-9S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| MW-7S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| MW-8S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| | | | | | | | | | | | | | |
| INJ-02 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| INJ-04 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| INJ-05 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | |
| | | | | | | | | | | | | | |
| ANNUAL SUBTOTAL | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 0 | 0 | 0 | 18 | 0 |
| | | | | | | | | | | | | | |
| **QA/QC** | | | | | | | | | | | | | |
| Duplicates | | 4 | 4 | 4 | 4 | | | 4 | | | | | |
| Matrix Spike | | 4 | | | | | | | | | | | |
| Matrix Spike Duplicate | | 4 | | | | | | | | | | | |
| Trip Blanks | | 15 | | | | | | | | | | | |
| **TASK TOTAL PER SAMPLING** | | 102 | 79 | 71 | 71 | 67 | 67 | 71 | 49 | 19 | 15 | 75 | 57 |

[a/] VOCs = volatile organic compounds, including aromatic and chlorinated aliphatic hydrocarbons. If present, an oil sample will also be collected and analyzed for VOCs.

[b/] All metal and cation samples must be field-filtered and immediately preserved (Al, As, Ca, Fe, K, Mg, Mn, Se, Na)

[c/] Dissolved inorganic compounds will consist of aluminum (Al), arsenic (As), calcium (Ca), iron (Fe), potassium (K), magnesium (Mg), manganese(Mn), selenium (Se), and sodium (Na). Samples will be field filtered.

[d/] Analysis of microbial population composition will include concentration measurements of dehalococcoides (DHC) and dehalobacter (DHB) species in cells per milliliter as well as DHC functional genes

[e/] Well head analyses include dissolved oxygen, oxidation-reduction potential, pH, temperature, electrical conductivity, and visual appearance.

[f/] Mobile lab analyses include carbon dioxide, alkalinity, sulfide, ferrous iron, and manganese.

[g/] For the baseline monitoring round, all Site Water Levels will be recorde

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: OR-3SM_061912 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (12.40-2.79)(0.16) = 1.54 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow Date/Time: 6/19/12 0850

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 850 | 2.79 | 200 | 0.00 | 6.50 | 0.00 | 476.0 | 4.76 | 20.86 | 3.02 | -142 | dark brown, slight odor |
| 900 | 3.82 | 200 | 0.50 | 6.50 | 0.00 | overrange | 4.69 | 19.90 | 3.00 | -148 | dark brown, slight odor |
| 910 | 3.88 | 200 | 1.00 | 6.49 | 0.00 | 192.0 | 4.67 | 19.67 | 2.98 | -158 | Murky, organic odor |
| 915 | 3.90 | 200 | 1.25 | 6.49 | 0.00 | 43.0 | 4.64 | 19.47 | 2.97 | -157 | Murky, organic odor |
| 920 | 3.90 | 200 | 1.50 | 6.48 | 0.00 | 73.7 | 4.65 | 19.35 | 2.97 | -161 | Murky, organic odor |
| 925 | 3.90 | 200 | 1.75 | 6.48 | 0.00 | 76.3 | 4.68 | 18.91 | 3.00 | -160 | Murky, organic odor |
| 930 | 3.91 | 200 | 2.00 | 6.48 | 0.00 | 84.9 | 4.68 | 18.98 | 2.99 | -157 | Brownish, slight odor |
| 935 | 3.94 | 200 | 2.25 | 6.47 | 0.00 | 33.1 | 4.68 | 19.09 | 2.99 | -156 | Brownish, slight odor |
| 940 | 3.95 | 200 | 2.50 | 6.47 | 0.00 | 49.1 | 4.66 | 19.22 | 2.98 | -155 | Brownish, slight odor |
| 945 | 3.96 | 200 | 2.75 | 6.47 | 0.00 | 42.8 | 4.64 | 19.26 | 2.97 | -158 | Brownish, slight odor |
| 950 | 3.96 | 200 | 3.00 | 6.48 | 0.00 | 43.4 | 4.66 | 19.16 | 2.98 | -157 | Brownish, slight odor |
| 955 | 3.96 | 200 | 3.25 | 6.47 | 0.00 | 46.9 | 4.64 | 19.27 | 2.96 | -159 | Brownish, slight odor |
| | | | | | | | | | | | |

## Sampling Data

Method: Low flow Date/Time: 6/19/12 0955 Total Volume of Water purged: 3.25 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.47 | Alkalinity (g/g) | 117 drops, 2340 |
| Spec. Cond.(mS/cm) | 4.64 | Carbon Dioxide (mg/L) | 559 |
| Turbidity (NTU) | 46.90 | Ferrous Iron (mg/L) | 5.60 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.0, orange |
| Temp.(°C) | 19.20 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | -159 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.96 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: OR-4SM_061912 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (12.35-3.73)*(0.16)=1.38 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/19/12 1120

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1120 | 3.73 | 200 | 0.00 | 6.46 | 0.00 | 401.00 | 2.25 | 22.59 | 1.45 | -114 | Slight brown tint |
| 1130 | 3.82 | 200 | 0.50 | 6.36 | 0.00 | 88.00 | 2.23 | 22.77 | 1.42 | -117 | organic odor, susp solids |
| 1140 | 3.85 | 200 | 1.00 | 6.33 | 0.00 | 35.40 | 2.20 | 22.93 | 1.41 | -124 | organic odor, susp solids |
| 1145 | 3.87 | 200 | 1.25 | 6.34 | 0.00 | 22.20 | 2.18 | 22.63 | 1.40 | -127 | organic odor, susp solids |
| 1150 | 3.90 | 200 | 1.50 | 6.35 | 0.00 | 21.60 | 2.20 | 22.32 | 1.40 | -129 | Light amber tint/odor |
| 1155 | 3.90 | 200 | 1.80 | 6.35 | 0.00 | 14.90 | 2.21 | 21.66 | 1.41 | -130 | Light amber tint/odor |
| 1200 | 3.92 | 200 | 2.20 | 6.35 | 0.00 | 17.80 | 2.25 | 20.85 | 1.41 | -130 | Light amber tint/odor |
| 1205 | 3.93 | 200 | 2.45 | 6.34 | 0.00 | 16.40 | 2.24 | 20.77 | 1.43 | -131 | Light amber tint/odor |
| 1210 | 3.94 | 200 | 2.70 | 6.33 | 0.00 | 15.00 | 2.25 | 21.16 | 1.43 | -132 | light amber tint |
| 1215 | 3.94 | 200 | 2.95 | 6.34 | 0.00 | 13.00 | 2.22 | 21.45 | 1.42 | -133 | light amber tint |
| 1220 | 3.96 | 200 | 3.25 | 6.36 | 0.00 | 21.50 | 2.21 | 21.33 | 1.41 | -133 | light amber tint |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: peristaltic Date/Time: 6/19/12 1220 Total Volume of Water purged: 3.25

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.43 | Alkalinity (g/g) | 69 drops/1380 |
| Spec. Cond.(mS/cm) | 4.82 | Carbon Dioxide (mg/L) | 661.00 |
| Turbidity (NTU) | 10.80 | Ferrous Iron (mg/L) | 6.00 |
| DO (mg/L) | 0.03 | Manganese (mg/L) | Peachy pink/0.6 |
| Temp.(°C) | 21.27 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | -284.00 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 3.08 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: OR-6SM_062112 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (11.5-7.09)*(0.16) = 0.7 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/21/12 1020

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 915 | 7.09 | 250 | 0.00 | 6.18 | 8.97 | 103.0 | 4.36 | 24.41 | 2.79 | -166 | water gray in color |
| 920 | 8.32 | 250 | 0.25 | 6.30 | 3.11 | 97.6 | 4.35 | 23.72 | 2.79 | -172 | water gray in color |
| 925 | 7.15 | 250 | 0.50 | 6.43 | 0.68 | 79.2 | 4.45 | 22.86 | 2.84 | -183 | water gray in color |
| 930 | 7.70 | 250 | 0.75 | 6.48 | 0.33 | 43.6 | 4.53 | 21.95 | 2.90 | -189 | water gray in color |
| 935 | 8.10 | 250 | 1.00 | 6.48 | 0.24 | 47.8 | 4.57 | 20.95 | 2.92 | -198 | water gray in color |
| 940 | 8.19 | 250 | 1.25 | 6.49 | 0.23 | 22.8 | 4.65 | 20.69 | 2.98 | -208 | water gray in color |
| 945 | 8.29 | 250 | 1.50 | 6.48 | 0.12 | 21.9 | 4.75 | 20.80 | 3.04 | -218 | water gray in color |
| 950 | 8.45 | 250 | 1.75 | 6.48 | 0.09 | 15.8 | 4.76 | 20.88 | 3.05 | -222 | water gray in color |
| 955 | 8.20 | 250 | 2.00 | 6.47 | 0.06 | 14.3 | 4.78 | 21.17 | 3.06 | -226 | water gray in color |
| 1000 | 8.44 | 250 | 2.25 | 6.48 | 0.06 | 14.0 | 4.81 | 21.45 | 3.08 | -231 | water gray in color |
| 1005 | 8.50 | 250 | 2.50 | 6.44 | 0.06 | 11.7 | 4.84 | 21.49 | 3.10 | -242 | water gray in color |
| 1010 | 8.80 | 250 | 2.75 | 6.45 | 0.04 | 9.4 | 4.82 | 21.48 | 3.09 | -255 | water gray in color |
| 1015 | 8.90 | 250 | 3.00 | 6.43 | 0.03 | 10.8 | 4.82 | 21.27 | 3.08 | -284 | water gray in color |

## Sampling Data

Method: low flow - geopump Date/Time: 6/21/12 1020 Total Volume of Water purged: 3 Gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.43 | Alkalinity (g/g) | 86 drops/ 1720 |
| Spec. Cond.(mS/cm) | 4.82 | Carbon Dioxide (mg/L) | 1786 |
| Turbidity (NTU) | 10.80 | Ferrous Iron (mg/L) | 5.70 |
| DO (mg/L) | 0.03 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 21.27 | Hydrogen Sulfide (mg/L) | 0.10 |
| ORP (mv) | -284 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 3.08 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 1 vial | | 1000mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Hydrogen 1 vial. Acetylene 2 voas

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: OR-5SM_062012 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (11.53-2.75)(0.16)=1.40 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/20/12 1445

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1445 | 2.75 | 250 | 0.00 | 6.90 | 0.41 | 25.50 | 3.05 | 28.64 | 1.94 | -270 | clear, slight odor |
| 1455 | 2.77 | 250 | 0.625 | 6.46 | 0.03 | 16.50 | 3.10 | 27.31 | 1.99 | -264 | clear, slight odor |
| 1505 | 2.80 | 250 | 1.35 | 6.44 | 0.00 | 7.97 | 3.23 | 25.48 | 2.06 | -273 | clear, slight odor |
| 1510 | 2.79 | 250 | 1.73 | 6.43 | 0.00 | 9.04 | 3.24 | 25.40 | 2.07 | -275 | clear, slight odor |
| 1515 | 2.80 | 250 | 2.11 | 6.45 | 0.00 | 8.51 | 3.23 | 25.26 | 2.07 | -277 | clear, slight odor |
| 1520 | 2.80 | 250 | 2.45 | 6.40 | 0.00 | 7.63 | 3.23 | 25.32 | 2.06 | -279 | clear, slight odor |
| 1525 | 2.80 | 250 | 2.82 | 6.40 | 0.00 | 9.40 | 3.27 | 25.19 | 2.10 | -279 | clear, slight odor |
| 1530 | 2.80 | 250 | 3.19 | 6.39 | 0.00 | 8.11 | 3.27 | 25.24 | 2.10 | -281 | clear, slight odor |
| 1535 | 2.80 | 250 | 3.40 | 6.38 | 0.00 | 6.66 | 3.28 | 25.39 | 2.10 | -284 | clear, slight odor |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow Date/Time: 6/20/12 1535 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.38 | Alkalinity (g/g) | 50 drops/1000 |
| Spec. Cond.(mS/cm) | 3.28 | Carbon Dioxide (mg/L) | 594 |
| Turbidity (NTU) | 6.66 | Ferrous Iron (mg/L) | 7.60 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 25.39 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | -284 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.10 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 2 filters | | 1:950mL, 2:250mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: OR-9SM_062712 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (12.21 - 7.32) *(0.16) = .64 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/27/2012 1340

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1340 | 7.32 | 200 | 0.00 | 6.54 | 1.91 | 19.50 | 3.24 | 20.98 | 2.07 | -333 | dk gray |
| 1350 | 8.01 | 200 | 0.50 | 6.42 | 1.92 | 58.30 | 3.01 | 19.52 | 1.93 | -327 | dk gray |
| 1400 | 8.04 | 200 | 1.00 | 6.40 | 0.44 | 41.60 | 3.04 | 19.37 | 1.95 | -335 | clear |
| 1405 | 8.03 | 200 | 1.25 | 6.40 | 0.47 | 23.80 | 3.08 | 19.76 | 1.97 | -335 | clear |
| 1410 | 8.00 | 200 | 1.50 | 6.39 | 0.49 | 7.98 | 3.12 | 19.32 | 2.00 | -339 | clear, odor |
| 1415 | 7.98 | 200 | 1.75 | 6.39 | 0.49 | 7.66 | 3.13 | 19.35 | 2.01 | 340 | clear, odor |
| 1420 | 7.98 | 200 | 2.00 | 6.40 | 0.50 | 7.21 | 3.16 | 19.38 | 2.03 | -340 | clear, odor |
| 1425 | 7.98 | 200 | 2.25 | 6.40 | 0.51 | 7.61 | 3.20 | 19.31 | 2.04 | -341 | clear, odor |
| 1430 | 8.00 | 200 | 2.50 | 6.40 | 0.52 | 5.95 | 3.20 | 19.22 | 2.05 | -343 | clear, odor |
| 1435 | 8.00 | 200 | 2.75 | 6.40 | 0.51 | 5.62 | 3.20 | 19.17 | 2.07 | -344 | clear, odor |
| 1440 | 8.00 | 200 | 3.00 | 6.44 | 0.52 | 5.48 | 3.21 | 19.07 | 2.08 | -345 | clear, odor |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow Date/Time: 6/27/12 1440 Total Volume of Water purged: 3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.44 | Alkalinity (g/g) | 39 drops/ 780 |
| Spec. Cond.(mS/cm) | 3.21 | Carbon Dioxide (mg/L) | 642 |
| Turbidity (NTU) | 5.48 | Ferrous Iron (mg/L) | 0.00 |
| DO (mg/L) | 0.52 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 19.07 | Hydrogen Sulfide (mg/L) | 5 + |
| ORP (mv) | -345 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.08 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: OR-10SM_062712 Well Diameter: 2 Inches

Samplers: Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 7.32 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/27/12 1510

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1510 | 7.32 | 175 | 0.00 | 6.85 | 1.17 | 27.30 | 4.49 | 20.72 | 2.90 | -114 | |
| 1520 | 7.77 | 175 | 0.40 | 6.85 | 0.00 | 15.40 | 3.74 | 19.61 | 2.40 | -203 | |
| 1530 | 7.88 | 175 | 0.75 | 6.83 | 0.00 | 11.30 | 3.60 | 19.54 | 2.30 | -209 | |
| 1540 | 7.99 | 175 | 1.25 | 6.86 | 0.00 | 7.21 | 3.77 | 19.41 | 2.41 | -216 | |
| 1550 | 8.05 | 175 | 1.60 | 6.88 | 0.00 | 5.35 | 3.86 | 19.32 | 2.47 | -228 | |
| 1555 | 8.06 | 175 | 1.75 | 6.88 | 0.00 | 5.72 | 3.93 | 19.21 | 2.51 | -240 | |
| 1600 | 8.10 | 175 | 2.00 | 6.89 | 0.00 | 5.52 | 4.08 | 19.38 | 2.59 | -256 | |
| 1605 | 8.14 | 175 | 2.25 | 6.87 | 0.00 | 5.37 | 4.10 | 19.40 | 2.62 | -267 | |
| 1610 | 8.15 | 175 | 2.50 | 6.91 | 0.00 | 10.10 | 4.17 | 19.09 | 2.60 | -274 | |
| 1615 | 8.15 | 175 | 2.70 | 6.90 | 0.00 | 7.50 | 4.18 | 19.07 | 2.68 | -275 | |
| | | | | | | | | | | | |
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## Sampling Data

Method: low flow Date/Time: 6/27/12 1615 Total Volume of Water purged: ~2.7 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.90 | Alkalinity (g/g) | water |
| Spec. Cond.(mS/cm) | 4.18 | Carbon Dioxide (mg/L) | too dark |
| Turbidity (NTU) | 7.50 | Ferrous Iron (mg/L) | to run |
| DO (mg/L) | 0.00 | Manganese (mg/L) | tests |
| Temp.(°C) | 19.07 | Hydrogen Sulfide (mg/L) | 0.30 |
| ORP (mv) | -275 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.68 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: OR-13SM_062112 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (12.80 - 7.20)(0.16) = 0.90 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/21/12 1030

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1030 | 7.20 | 250 | 0.00 | 6.81 | 3.14 | 35.7 | 4.69 | 24.42 | 3.04 | -123 | amber |
| 1040 | 7.99 | 250 | 0.67 | 6.59 | 0.05 | 49.6 | 4.59 | 20.47 | 2.94 | -180 | amber |
| 1050 | 7.99 | 250 | 1.34 | 6.54 | 0.00 | 35.0 | 4.53 | 19.91 | 2.90 | -189 | amber |
| 1055 | 8.02 | 250 | 1.67 | 6.54 | 0.00 | 25.2 | 4.54 | 19.56 | 2.90 | -192 | slight amber tint |
| 1100 | 8.03 | 250 | 2.00 | 6.55 | 0.00 | 23.6 | 4.48 | 19.58 | 2.86 | -201 | slight amber tint |
| 1105 | 8.03 | 250 | 2.34 | 6.53 | 0.00 | 30.6 | 4.43 | 19.91 | 2.83 | -203 | slight amber tint |
| 1110 | 8.04 | 250 | 2.68 | 6.50 | 0.00 | 21.4 | 4.41 | 19.95 | 2.82 | -204 | slight amber tint |
| 1115 | 8.05 | 250 | 3.02 | 6.50 | 0.00 | 23.8 | 4.39 | 19.93 | 2.81 | -205 | slight amber tint |
| 1120 | 8.04 | 250 | 3.36 | 6.49 | 0.00 | 23.8 | 4.36 | 20.06 | 2.78 | -209 | slight amber tint |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow Date/Time: 6/21/12 1120 Total Volume of Water purged: 3.36 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.49 | Alkalinity (g/g) | 123 drops/ 2460 |
| Spec. Cond.(mS/cm) | 4.36 | Carbon Dioxide (mg/L) | 810 |
| Turbidity (NTU) | 23.80 | Ferrous Iron (mg/L) | 9.20 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 20.06 | Hydrogen Sulfide (mg/L) | 0.20 |
| ORP (mv) | -209 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.78 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 2 filters | none | Filter 1: 315mL Filter 2: 313mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Microbial census: 1st filter= 315 mL, 2nd filter= 313 mL

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: OR-14SM_062512 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW: 7.39 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/25/12 1042

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1052 | 7.51 | 130 | 0.34 | 6.78 | 0.00 | 20.80 | 4.68 | 19.84 | 2.99 | -169 | clear with particles |
| 1102 | 7.50 | 130 | 0.68 | 6.75 | 0.00 | 14.20 | 4.55 | 20.44 | 2.92 | -179 | clear with particles |
| 1112 | 7.53 | 130 | 1.02 | 6.72 | 0.00 | 13.20 | 4.59 | 20.22 | 2.92 | -191 | clear with particles |
| 1122 | 7.55 | 130 | 1.36 | 6.69 | 0.00 | 11.20 | 4.51 | 20.06 | 2.89 | -196 | clear with particles |
| 1127 | 7.58 | 130 | 1.53 | 6.71 | 0.00 | 10.00 | 4.48 | 19.94 | 2.87 | -205 | clear with particles |
| 1132 | 7.59 | 130 | 1.70 | 6.69 | 0.00 | 9.10 | 4.51 | 19.93 | 2.89 | -214 | Fewer particles |
| 1137 | 7.60 | 130 | 1.87 | 6.69 | 0.00 | 8.84 | 4.48 | 19.94 | 2.86 | -217 | same with light amber color |
| 1142 | 7.60 | 130 | 2.04 | 6.68 | 0.00 | 12.80 | 4.47 | 19.78 | 2.86 | -220 | same with light amber color |
| 1147 | 7.63 | 130 | 2.21 | 6.70 | 0.00 | 8.77 | 4.36 | 19.94 | 2.79 | -224 | same with light amber color |
| 1152 | 7.63 | 130 | 2.38 | 6.69 | 0.00 | 7.82 | 4.41 | 19.80 | 2.80 | -236 | same with light amber color |
| 1157 | 7.64 | 130 | 2.55 | 6.67 | 0.00 | 8.12 | 4.41 | 19.77 | 2.82 | -240 | light amber color |
| 1202 | 7.65 | 130 | 2.72 | 6.68 | 0.00 | 9.08 | 4.42 | 19.89 | 2.83 | -242 | light amber color |
| 1207 | 7.66 | 130 | 2.89 | 6.67 | 0.00 | 9.17 | 4.47 | 19.89 | 2.80 | -240 | light amber color |

## Sampling Data

Method: peristaltic Date/Time: 6/25/12 1210 Total Volume of Water purged: 4.3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.67 | Alkalinity (g/g) | 96 drops/ 2160 |
| Spec. Cond.(mS/cm) | 4.47 | Carbon Dioxide (mg/L) | 542 |
| Turbidity (NTU) | 9.17 | Ferrous Iron (mg/L) | 3.40 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.20 |
| Temp.(°C) | 19.89 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | -240 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.80 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 2 filters | None | Filter 1: 410mL Filter 2: 400mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Duplicate sample collected for VOC, MEE, Chloride/Nitrate/Sulfate, Diss inorg., TOC (DUP_062512, time-1201)

Microbial, 1st vial= 410 mL, 2nd Vial= 400 mL. dissolved hydrogen start @ 1250, end 1315

*During sampling - VOAS effervescing

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: OR-15SM_061912 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (12-7.8)(0.16) = 0.6 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/19/12 1430

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1330 | 8.05 | 200 | 0.00 | 6.70 | 0.39 | 173.0 | 4.94 | 23.89 | 2.84 | -177 | |
| 1335 | 8.10 | 200 | 0.25 | 6.70 | 0.00 | 174.0 | 4.52 | 23.85 | 2.89 | -182 | |
| 1340 | 8.15 | 200 | 0.50 | 6.70 | 0.00 | 98.1 | 4.56 | 23.45 | 2.92 | -188 | |
| 1345 | 8.18 | 200 | 0.75 | 6.71 | 0.00 | 81.1 | 4.57 | 23.48 | 2.92 | -188 | |
| 1350 | 8.20 | 200 | 1.00 | 6.71 | 0.00 | 66.7 | 4.41 | 21.82 | 2.82 | -189 | |
| 1355 | 8.23 | 200 | 1.25 | 6.70 | 0.00 | 47.7 | 4.46 | 21.91 | 2.85 | -188 | |
| 1400 | 8.23 | 200 | 1.50 | 6.67 | 0.00 | 34.4 | 4.46 | 22.24 | 2.86 | -185 | |
| 1405 | 8.25 | 200 | 1.75 | 6.66 | 0.00 | 34.8 | 4.48 | 22.20 | 2.87 | -184 | |
| 1410 | 8.25 | 200 | 2.00 | 6.66 | 0.00 | 37.6 | 4.47 | 23.72 | 2.86 | -185 | |
| 1415 | 8.25 | 200 | 2.25 | 6.66 | 0.00 | 37.6 | 4.46 | 24.34 | 2.85 | -186 | |
| 1420 | 8.25 | 200 | 2.50 | 6.65 | 0.00 | 34.7 | 4.48 | 25.04 | 2.87 | -185 | |
| 1425 | 8.25 | 200 | 2.75 | 6.64 | 0.00 | 30.3 | 4.43 | 25.60 | 2.83 | -187 | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/19/12 1430 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.64 | Alkalinity (g/g) | 120 drops/ 2400 |
| Spec. Cond.(mS/cm) | 4.43 | Carbon Dioxide (mg/L) | 1848 |
| Turbidity (NTU) | 30.30 | Ferrous Iron (mg/L) | 8.0 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.0 |
| Temp.(°C) | 25.40 | Hydrogen Sulfide (mg/L) | 0.0 |
| ORP (mv) | -187 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.83 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: OR-18SM_061912 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (12.3-6.38)(0.16) = 0.9 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/19/12 1125

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1025 | 6.88 | 200 | 0.00 | 6.93 | 7.84 | 21.70 | 1.88 | 23.37 | 1.20 | -263 | |
| 1030 | 6.89 | 200 | 0.25 | 6.82 | 4.60 | 8.90 | 1.87 | 21.98 | 1.20 | -283 | |
| 1035 | 6.89 | 200 | 0.50 | 6.65 | 1.53 | 0.00 | 1.91 | 20.45 | 1.22 | -311 | |
| 1040 | 6.66 | 200 | 0.75 | 6.57 | 0.98 | 0.00 | 2.00 | 20.40 | 1.28 | -328 | |
| 1045 | 6.80 | 200 | 1.00 | 6.55 | 0.76 | 0.00 | 2.08 | 20.90 | 1.33 | -339 | |
| 1050 | 6.68 | 200 | 1.25 | 6.55 | 0.61 | 0.00 | 2.13 | 21.37 | 1.36 | -341 | |
| 1055 | 6.82 | 200 | 1.50 | 6.54 | 0.17 | 0.00 | 2.17 | 21.07 | 1.39 | -342 | |
| 1100 | 6.85 | 200 | 1.75 | 6.53 | 0.01 | 0.00 | 2.23 | 20.01 | 1.43 | -343 | |
| 1105 | 6.89 | 200 | 2.00 | 6.51 | 0.02 | 0.00 | 2.28 | 19.51 | 1.46 | -344 | |
| 1110 | 6.89 | 200 | 2.25 | 6.50 | 0.08 | 0.00 | 2.32 | 19.25 | 1.48 | -346 | |
| 1115 | 6.90 | 200 | 2.50 | 6.50 | 0.10 | 0.00 | 2.39 | 18.90 | 1.53 | -348 | |
| 1120 | 6.90 | 200 | 2.75 | 6.49 | 0.04 | 0.00 | 2.45 | 18.74 | 1.57 | -350 | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/19/12 1125 Total Volume of Water purged: 2.75 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.49 | Alkalinity (g/g) | 53 drops/ 1060 |
| Spec. Cond.(mS/cm) | 2.45 | Carbon Dioxide (mg/L) | 1051 |
| Turbidity (NTU) | 0.00 | Ferrous Iron (mg/L) | 0.60 |
| DO (mg/L) | 0.04 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 18.74 | Hydrogen Sulfide (mg/L) | 5.00 |
| ORP (mv) | -350 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.57 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-1S_061912 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| 4.92 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/19/12 1032

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1042 | 6.99 | 110 | 0.29 | 7.12 | 0.29 | 10.90 | 3.45 | 19.23 | 2.21 | -103 | Clear |
| 1052 | 7.08 | 110 | 0.58 | 7.10 | 0.26 | 4.36 | 3.43 | 19.15 | 2.20 | -102 | Clear |
| 1102 | 7.19 | 110 | 0.87 | 7.06 | 0.32 | 6.12 | 3.43 | 19.18 | 2.19 | -98 | Clear |
| 1112 | 7.21 | 110 | 1.16 | 7.01 | 0.23 | 3.76 | 3.45 | 19.21 | 2.21 | -92 | Clear |
| 1122 | 7.24 | 110 | 1.45 | 7.04 | 0.29 | 5.53 | 3.44 | 19.18 | 2.20 | -91 | Clear |
| 1132 | 7.29 | 110 | 1.74 | 7.01 | 0.26 | 3.10 | 3.37 | 18.86 | 2.15 | -100 | Clear |
| 1142 | 7.31 | 110 | 2.03 | 7.04 | 0.30 | 3.26 | 3.36 | 18.97 | 2.14 | -101 | Clear |
| 1152 | 7.33 | 110 | 2.32 | 7.06 | 0.25 | 3.80 | 3.31 | 19.62 | 2.12 | -105 | Clear |
| 1157 | 7.36 | 110 | 2.47 | 7.07 | 0.11 | 6.16 | 3.24 | 19.65 | 2.07 | -108 | Clear |
| 1202 | 7.38 | 110 | 2.62 | 7.08 | 0.03 | 7.35 | 3.20 | 19.66 | 2.05 | -110 | Clear |
| 1207 | 7.40 | 110 | 2.77 | 7.08 | 0.02 | 7.63 | 3.19 | 19.55 | 2.04 | -110 | Clear |
| 1212 | 7.41 | 110 | 2.92 | 7.09 | 0.00 | 6.70 | 3.17 | 19.40 | 2.03 | -111 | Clear |
| 1217 | 7.43 | 110 | 3.07 | 7.09 | 0.00 | 6.56 | 3.17 | 19.34 | 2.03 | -110 | Clear |

## Sampling Data

Method: peristaltic Date/Time: 6/19/12 1220 Total Volume of Water purged: 4 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.09 | Alkalinity (g/g) | 12 drops/240 |
| Spec. Cond.(mS/cm) | 3.17 | Carbon Dioxide (mg/L) | 140 |
| Turbidity (NTU) | 6.56 | Ferrous Iron (mg/L) | 1.50 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.10 |
| Temp.(°C) | 19.34 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | -110 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.03 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Firsts ten minutes the flow rate was 200mL per minute. Well was drawing down so flow turned down. Purged 0.5 gallons before starting parameters.

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-2S_062012 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW: 3.51 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/20/12 1031

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1041 | 5.91 | 250 | 0.60 | 6.76 | 0.51 | 14.80 | 4.50 | 23.50 | 2.88 | -107 | clear with few particles |
| 1051 | 7.61 | 150 | 0.95 | 6.73 | 0.47 | 7.45 | 4.57 | 23.52 | 2.92 | -102 | clear |
| 1101 | 7.67 | 150 | 1.34 | 6.76 | 0.49 | 6.34 | 4.51 | 24.32 | 2.89 | -94 | clear |
| 1111 | 7.67 | 150 | 1.71 | 6.78 | 0.56 | 5.94 | 4.48 | 24.71 | 2.88 | -77 | clear |
| 1121 | 7.67 | 150 | 2.10 | 6.77 | 0.48 | 5.54 | 4.44 | 24.40 | 2.84 | -70 | clear |
| 1126 | 7.68 | 150 | 2.30 | 6.74 | 0.47 | 4.68 | 4.44 | 24.39 | 2.84 | -66 | clear |
| 1131 | 7.69 | 150 | 2.50 | 6.74 | 0.45 | 4.12 | 4.44 | 24.34 | 2.85 | -64 | clear |
| 1136 | 7.70 | 150 | 2.70 | 6.69 | 0.44 | 3.10 | 4.43 | 24.49 | 2.84 | -60 | clear |
| 1141 | 7.70 | 150 | 2.90 | 6.72 | 0.43 | 2.67 | 4.41 | 24.51 | 2.82 | -59 | clear |
| 1146 | 7.72 | 150 | 3.10 | 6.73 | 0.48 | 3.73 | 4.40 | 24.42 | 2.82 | -57 | clear |
| 1151 | 7.73 | 150 | 3.30 | 6.72 | 0.44 | 2.03 | 4.42 | 24.36 | 2.83 | -58 | clear |
| 1156 | 7.74 | 150 | 3.50 | 6.73 | 0.41 | 1.87 | 4.41 | 24.32 | 2.82 | -61 | clear |
| | | | | | | | | | | | |

## Sampling Data

Method: peristaltic Date/Time: 6/20/12 1200 Total Volume of Water purged: 3.75 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.73 | Alkalinity (g/g) | 21 drops/420 |
| Spec. Cond.(mS/cm) | 4.41 | Carbon Dioxide (mg/L) | 244 |
| Turbidity (NTU) | 1.87 | Ferrous Iron (mg/L) | 4.40 |
| DO (mg/L) | 0.41 | Manganese (mg/L) | 0.05 |
| Temp.(°C) | 24.32 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | -61 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.82 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 1 filter | None | Filtered 1000mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Initial drawdown, slowed down flow and water level stabilize

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-3S_062612 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| Casing Volumes (gal/ft.): (12 - 4.9) x 0.16 = 1.1 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/26/12 1100

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 955 | 4.90 | 200 | 0.00 | 7.54 | 1.64 | 504.0 | 9.27 | 18.48 | 5.85 | -136 | water slightly turbid |
| 1000 | 6.38 | 200 | 0.25 | 7.53 | 0.99 | 331.0 | 8.41 | 18.06 | 5.33 | -167 | water slightly turbid |
| 1005 | 7.10 | 200 | 0.35 | 7.40 | 0.35 | 200.0 | 6.12 | 17.82 | 3.97 | -181 | water slightly turbid |
| 1010 | 7.56 | 200 | 0.50 | 7.63 | 0.24 | 105.0 | 3.12 | 17.79 | 2.07 | -160 | water slightly turbid |
| 1015 | 7.80 | 200 | 0.75 | 7.59 | 0.21 | 50.8 | 1.73 | 17.78 | 1.13 | -139 | water slightly turbid |
| 1020 | 7.90 | 200 | 1.00 | 7.50 | 0.24 | 32.5 | 1.42 | 18.20 | 0.907 | -119 | water slightly turbid |
| 1025 | 8.10 | 200 | 1.25 | 7.45 | 0.23 | 24.0 | 1.38 | 18.15 | 0.884 | -109 | water slightly turbid |
| 1030 | 8.25 | 200 | 1.50 | 7.43 | 0.23 | 17.1 | 1.53 | 18.31 | 0.970 | -108 | water slightly turbid |
| 1035 | 8.43 | 200 | 1.75 | 7.43 | 0.23 | 23.9 | 1.97 | 18.38 | 1.25 | -111 | water slightly turbid |
| 1040 | 8.60 | 200 | 2.00 | 7.45 | 0.22 | 24.9 | 2.19 | 18.19 | 1.40 | -113 | water slightly turbid |
| 1045 | 8.80 | 200 | 2.25 | 7.46 | 0.21 | 27.7 | 2.03 | 18.03 | 1.30 | -110 | water slightly turbid |
| 1050 | 9.10 | 200 | 2.50 | 7.49 | 0.05 | 0.00 | 2.26 | 18.08 | 1.45 | -124 | water slightly turbid |
| 1055 | 9.35 | 200 | 2.75 | 7.49 | 0.01 | 0.00 | 2.18 | 17.89 | 1.40 | -126 | water slightly turbid |

## Sampling Data

Method: low flow - geopump Date/Time: 6/26/12 1100 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.49 | Alkalinity (g/g) | 10 drops/ 200 |
| Spec. Cond.(mS/cm) | 2.18 | Carbon Dioxide (mg/L) | 158 |
| Turbidity (NTU) | 0.00 | Ferrous Iron (mg/L) | 1.30 |
| DO (mg/L) | 0.01 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 17.89 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | -126 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.40 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-4S_062712 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (13 - 7.65)(0.16) = 0.8 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/27/12 0900

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 800 | 7.65 | 200 | 0.00 | 6.70 | 7.25 | 89.4 | 5.90 | 18.20 | 3.72 | -165 | water clear |
| 805 | 7.88 | 200 | 0.25 | 6.96 | 1.44 | 15.2 | 5.72 | 18.38 | 3.60 | -171 | water clear |
| 810 | 8.15 | 200 | 0.50 | 6.99 | 0.98 | 4.3 | 5.69 | 18.35 | 3.59 | -175 | water clear |
| 815 | 8.40 | 200 | 0.75 | 7.01 | 0.54 | 3.9 | 5.75 | 18.45 | 3.62 | -186 | water clear |
| 820 | 9.60 | 200 | 1.00 | 7.04 | 0.23 | 3.3 | 5.79 | 18.59 | 3.65 | -203 | water clear |
| 825 | 9.75 | 200 | 1.25 | 7.07 | 0.09 | 2.2 | 5.84 | 18.55 | 3.68 | -217 | water clear |
| 830 | 9.94 | 200 | 1.50 | 7.09 | 0.00 | 2.6 | 5.90 | 18.43 | 3.72 | -232 | water clear |
| 835 | 10.10 | 200 | 1.75 | 7.10 | 0.22 | 1.5 | 5.95 | 18.40 | 3.75 | -240 | water clear |
| 840 | 10.26 | 200 | 2.00 | 7.11 | 0.63 | 1.4 | 5.99 | 18.38 | 3.77 | -246 | water clear |
| 845 | 10.40 | 200 | 2.25 | 7.12 | 0.53 | 1.1 | 6.03 | 18.38 | 3.80 | -251 | water clear |
| 850 | 10.55 | 200 | 2.50 | 7.13 | 0.04 | 1.5 | 6.05 | 18.34 | 3.81 | -257 | water clear |
| 855 | 10.75 | 200 | 2.75 | 7.14 | 0.00 | 1.9 | 6.07 | 18.20 | 3.82 | -260 | water clear |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/27/12 0900 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.14 | Alkalinity (g/g) | 25 drops/ 500 |
| Spec. Cond.(mS/cm) | 6.07 | Carbon Dioxide (mg/L) | 564 |
| Turbidity (NTU) | 1.90 | Ferrous Iron (mg/L) | 1.50 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 18.20 | Hydrogen Sulfide (mg/L) | 5.00 |
| ORP (mv) | -260 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 3.82 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-5S_062712 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (14.5 - 7.3) (0.16) = 1.1 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/27/12 1435

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1335 | 7.30 | 200 | 0.00 | 7.45 | 2.74 | 85.4 | 4.23 | 18.70 | 2.71 | -43 | |
| 1340 | 7.50 | 200 | 0.25 | 7.50 | 1.01 | 36.8 | 4.14 | 17.98 | 2.66 | -59 | |
| 1345 | 7.50 | 200 | 0.50 | 7.55 | 0.00 | 46.0 | 3.95 | 16.88 | 2.53 | -78 | |
| 1350 | 7.50 | 200 | 0.75 | 7.54 | 0.00 | 30.1 | 3.82 | 16.42 | 2.45 | -82 | |
| 1355 | 7.50 | 200 | 1.00 | 7.54 | 0.00 | 27.1 | 3.65 | 16.32 | 2.34 | -85 | |
| 1400 | 7.50 | 200 | 1.25 | 7.54 | 0.00 | 22.3 | 3.42 | 16.24 | 2.20 | -86 | |
| 1405 | 7.50 | 200 | 1.50 | 7.54 | 0.00 | 15.8 | 3.22 | 16.15 | 2.07 | -86 | |
| 1410 | 7.50 | 200 | 1.75 | 7.55 | 0.00 | 18.3 | 3.03 | 15.95 | 1.94 | -86 | |
| 1415 | 7.50 | 200 | 2.00 | 7.56 | 0.00 | 14.2 | 2.90 | 15.70 | 1.86 | -85 | |
| 1420 | 7.50 | 200 | 2.25 | 7.56 | 0.00 | 12.3 | 2.77 | 15.63 | 1.78 | -83 | |
| 1425 | 7.50 | 200 | 2.50 | 7.56 | 0.00 | 10.9 | 2.63 | 15.30 | 1.69 | -76 | |
| 1430 | 7.50 | 200 | 2.75 | 7.57 | 0.00 | 7.7 | 2.52 | 14.86 | 1.62 | -70 | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/27/12 1435 Total Volume of Water purged: 3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.57 | Alkalinity (g/g) | 15 drops/300 |
| Spec. Cond.(mS/cm) | 2.52 | Carbon Dioxide (mg/L) | 196 |
| Turbidity (NTU) | 7.70 | Ferrous Iron (mg/L) | 1.0 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0 |
| Temp.(°C) | 14.86 | Hydrogen Sulfide (mg/L) | 0 |
| ORP (mv) | -70 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.62 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8280 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-6S_062712 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)?

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (14.2 - 6.83)(0.16) = 1.9 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/27/12 1050

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 950 | 6.83 | 200 | 0.00 | 7.22 | 4.06 | 151.0 | 5.98 | 18.49 | 3.77 | -19 | water clear |
| 955 | 8.24 | 200 | 0.25 | 7.21 | 4.11 | 57.2 | 6.03 | 18.33 | 3.80 | -23 | water clear |
| 1000 | 8.70 | 200 | 0.50 | 7.20 | 4.00 | 30.1 | 6.08 | 18.50 | 3.83 | -24 | water clear |
| 1005 | 9.15 | 200 | 0.75 | 7.19 | 3.02 | 23.0 | 5.92 | 18.94 | 3.74 | -10 | water clear |
| 1010 | 9.50 | 200 | 1.00 | 7.19 | 2.80 | 13.0 | 5.58 | 19.06 | 3.53 | 5 | water clear |
| 1015 | 9.55 | 200 | 1.25 | 7.21 | 2.70 | 13.0 | 5.14 | 19.10 | 5.25 | 17 | water clear |
| 1020 | 9.60 | 200 | 1.50 | 7.24 | 2.39 | 11.1 | 4.60 | 19.07 | 2.96 | 26 | water clear |
| 1025 | 9.78 | 200 | 1.75 | 7.26 | 1.96 | 9.4 | 4.14 | 18.87 | 2.66 | 29 | water clear |
| 1030 | 9.85 | 200 | 2.00 | 7.26 | 1.61 | 7.7 | 3.99 | 18.72 | 2.55 | 29 | water clear |
| 1035 | 9.95 | 200 | 2.25 | 7.25 | 1.42 | 7.1 | 4.07 | 18.73 | 2.61 | 30 | water clear |
| 1040 | 10.08 | 200 | 2.50 | 7.24 | 1.16 | 6.6 | 4.15 | 18.83 | 2.66 | 31 | water clear |
| 1045 | 10.20 | 200 | 2.75 | 7.24 | 0.96 | 5.0 | 4.24 | 18.86 | 2.71 | 33 | water clear |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/27/12 1050 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.24 | Alkalinity (g/g) | 18 drops/ 360 |
| Spec. Cond.(mS/cm) | 4.24 | Carbon Dioxide (mg/L) | 250 |
| Turbidity (NTU) | 5.00 | Ferrous Iron (mg/L) | 1.00 |
| DO (mg/L) | 0.96 | Manganese (mg/L) | 0.20 |
| Temp.(°C) | 18.86 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | 33.00 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.71 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 2 Filters | Filtered | 280 mL<br>230 mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-7S_062612 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW=5.81 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: peristaltic Date/Time: 06/26/12 0812

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 822 | 7.72 | 100 | 0.26 | 6.53 | 0.23 | 31.10 | 6.75 | 16.61 | 4.25 | 39 | Clear with particles |
| 832 | 7.95 | 100 | 0.52 | 6.55 | 0.41 | 18.00 | 6.64 | 16.78 | 4.18 | 37 | Clear with particles |
| 842 | 8.25 | 100 | 0.78 | 6.52 | 0.00 | 15.20 | 6.60 | 16.63 | 4.16 | 28 | Clear with particles |
| 852 | 8.44 | 100 | 1.04 | 6.53 | 0.00 | 10.60 | 6.53 | 16.76 | 4.12 | 29 | Irony particles |
| 902 | 8.80 | 100 | 1.17 | 6.53 | 0.00 | 32.10 | 6.55 | 17.22 | 4.13 | 25 | fewer particles |
| 907 | 8.98 | 100 | 1.30 | 6.53 | 0.00 | 20.40 | 6.56 | 17.28 | 4.13 | 16 | fewer particles |
| 912 | 9.04 | 100 | 1.43 | 6.53 | 0.00 | 16.70 | 6.58 | 17.33 | 4.15 | 12 | fewer particles |
| 917 | 9.14 | 100 | 1.56 | 6.53 | 0.00 | 13.30 | 6.63 | 17.37 | 4.18 | 19 | clear |
| 922 | 9.19 | 100 | 1.69 | 6.51 | 0.00 | 10.40 | 6.62 | 17.65 | 4.17 | 24 | clear |
| 927 | 9.25 | 100 | 1.82 | 6.53 | 0.00 | 11.60 | 6.64 | 17.83 | 4.18 | 37 | clear |
| 932 | 9.38 | 100 | 1.95 | 6.52 | 0.00 | 15.60 | 6.64 | 18.06 | 4.19 | 41 | clear |
| 937 | 9.45 | 100 | 2.08 | 6.54 | 0.00 | 11.10 | 6.74 | 18.23 | 4.25 | 45 | clear |
| 942 | 9.81 | 100 | 2.21 | 6.50 | 0.00 | 11.30 | 6.78 | 17.67 | 4.27 | -37 | clear |

## Sampling Data

Method: peristaltic Date/Time: 6/26/12 1025 Total Volume of Water purged: 3.45 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.54 | Alkalinity (g/g) | 14 drops/ 280 |
| Spec. Cond.(mS/cm) | 6.83 | Carbon Dioxide (mg/L) | 298.00 |
| Turbidity (NTU) | 10.30 | Ferrous Iron (mg/L) | 1.30 |
| DO (mg/L) | 0.09 | Manganese (mg/L) | 0.05 |
| Temp.(°C) | 18.58 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | 16.00 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 4.31 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-7S_062612 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW:5.81 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: peristaltic Date/Time: 6/26/12 0812

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 947 | 9.79 | 100 | 2.34 | 6.51 | 0.00 | 12.70 | 6.76 | 17.82 | 4.26 | -33 | clear |
| 952 | 9.89 | 150 | 2.54 | 6.52 | 0.00 | 10.70 | 6.80 | 17.84 | 4.28 | -2 | clear |
| 957 | 9.99 | 150 | 2.74 | 6.55 | 0.00 | 9.06 | 6.75 | 18.36 | 4.25 | 2 | clear |
| 1002 | 10.01 | 100 | 2.87 | 6.55 | 0.00 | 9.81 | 6.76 | 18.20 | 4.26 | 11 | clear |
| 1007 | 10.02 | 100 | 3.00 | 6.53 | 0.00 | 9.71 | 6.76 | 18.39 | 4.26 | 13 | clear |
| 1012 | 10.03 | 100 | 3.13 | 6.54 | 0.00 | 10.00 | 6.78 | 18.41 | 4.27 | 14 | clear |
| 1017 | 10.04 | 100 | 3.26 | 6.55 | 0.11 | 10.40 | 6.81 | 18.50 | 4.29 | 15 | clear |
| 1022 | 10.04 | 100 | 3.39 | 6.54 | 0.09 | 10.30 | 6.83 | 18.58 | 4.31 | 16 | clear |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: peristaltic Date/Time: 6/26/12 1025 Total Volume of Water purged: 3.45 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | See | Alkalinity (g/g) | See |
| Spec. Cond.(mS/cm) | Page | Carbon Dioxide (mg/L) | Page |
| Turbidity (NTU) | One | Ferrous Iron (mg/L) | One |
| DO (mg/L) | | Manganese (mg/L) | |
| Temp.(°C) | | Hydrogen Sulfide (mg/L) | |
| ORP (mv) | | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW8S_062012 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (13.51-5.64)(0.16) = 1.26 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/20/12 1010

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1010 | 5.64 | 200 | 0.0 | 6.64 | 0.33 | overrange | 6.25 | 20.61 | 3.95 | 43 | murky |
| 1020 | 9.19 | 200 | 0.50 | 6.69 | 0.00 | 44.90 | 6.21 | 20.64 | 3.92 | -13 | clear |
| 1030 | 9.73 | 200 | 1.00 | 6.78 | 1.61 | 21.40 | 6.78 | 19.03 | 4.26 | 85 | clear |
| 1035 | 9.87 | 200 | 1.25 | 6.76 | 0.98 | 17.30 | 6.27 | 20.80 | 3.95 | 88 | clear |
| 1040 | 10.38 | 100 | 1.50 | 6.74 | 0.12 | 7.20 | 6.16 | 21.14 | 3.90 | 87 | clear |
| 1045 | 10.52 | 100 | 1.63 | 6.73 | 0.11 | 4.75 | 6.28 | 21.68 | 3.95 | 87 | clear |
| 1050 | 10.65 | 100 | 1.76 | 6.73 | 0.03 | 3.56 | 6.23 | 22.10 | 3.92 | 88 | clear |
| 1055 | 10.81 | 100 | 1.89 | 6.73 | 0.00 | 2.25 | 6.19 | 22.62 | 3.90 | 86 | clear |
| 1100 | 11.03 | 100 | 2.02 | 6.72 | 0.00 | 1.54 | 6.14 | 23.04 | 3.87 | 81 | clear |
| 1105 | 11.07 | 100 | 2.15 | 6.72 | 0.00 | 1.79 | 6.24 | 23.28 | 3.93 | 77 | clear |
| 1110 | 11.31 | 100 | 2.28 | 6.72 | 0.00 | 2.64 | 6.18 | 23.40 | 3.89 | 76 | clear |
| 1115 | 11.50 | 100 | 2.41 | 6.71 | 0.00 | 2.69 | 6.16 | 23.48 | 3.88 | 75 | clear |
| 1120 | 11.70 | 100 | 2.54 | 6.71 | 0.00 | 3.02 | 6.15 | 23.52 | 3.88 | 73 | clear |

## Sampling Data

Method: low flow Date/Time: 6/21/12 0750 Total Volume of Water purged: 2.8 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.70 | Alkalinity (g/g) | 31 drops, 620 |
| Spec. Cond.(mS/cm) | 6.01 | Carbon Dioxide (mg/L) | 378 |
| Turbidity (NTU) | 2.76 | Ferrous Iron (mg/L) | 0.80 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 22.96 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | 67.00 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 3.79 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Well ran dry, sampled the day after purging

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW8S_062112 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)?

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Peristaltic Date/Time: 6/2012 1010

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1125 | 11.95 | 100 | 2.67 | 6.69 | 0.00 | 2.87 | 6.01 | 23.26 | 3.78 | 71 | clear |
| 1130 | 12.20 | 100 | 2.80 | 6.70 | 0.00 | 2.76 | 6.01 | 22.96 | 3.79 | 67 | clear |
| 1135 | well | dry | | | | | | | | | |
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## Sampling Data

Method: Peristaltic Date/Time: 6/21/12 0750 Total Volume of Water purged: 2.8 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.70 | Alkalinity (g/g) | 31 drops, 620 |
| Spec. Cond.(mS/cm) | 6.01 | Carbon Dioxide (mg/L) | 378 |
| Turbidity (NTU) | 2.76 | Ferrous Iron (mg/L) | 0.80 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 22.96 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | 67 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 3.79 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: well ran dry, sampled the next day after purging

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-9S_062612 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (14.05 - 7.70) x 0.16 = 1.02 Casing Volumes (gal/ft.): | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow Date/Time: 6/26/12 0950

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 950 | 7.20 | 200 | 0.00 | 6.25 | 8.06 | > 1000 | 4.95 | 20.71 | 3.10 | 7 | Muddy |
| 1000 | 8.90 | 200 | 0.50 | 6.58 | 6.62 | 369 | 5.02 | 17.88 | 3.17 | -23 | Muddy |
| 1010 | 9.13 | 200 | 1.00 | 6.64 | 0.03 | 311 | 4.82 | 17.23 | 3.08 | -47 | Slightly milky |
| 1015 | 9.15 | 200 | 1.25 | 6.66 | 0.00 | 266 | 4.74 | 17.19 | 3.03 | -59 | Slightly milky |
| 1020 | 9.18 | 200 | 1.50 | 6.69 | 0.00 | 228 | 4.69 | 17.28 | 3.00 | -64 | Slightly milky |
| 1025 | 9.06 | 200 | 1.75 | 6.70 | 0.00 | 209 | 4.66 | 17.66 | 2.97 | -68 | Slightly milky |
| 1030 | 8.95 | 200 | 2.00 | 6.70 | 0.00 | 204 | 4.61 | 18.01 | 2.95 | -71 | Slightly milky |
| 1035 | 8.95 | 200 | 2.25 | 6.76 | 0.00 | 146 | 4.54 | 18.26 | 2.90 | -77 | Slightly milky |
| 1040 | 8.95 | 200 | 2.50 | 6.78 | 0.00 | 70.6 | 4.47 | 18.41 | 2.86 | -82 | clear |
| 1045 | 8.95 | 200 | 2.75 | 6.81 | 0.00 | 60.6 | 4.44 | 18.55 | 2.84 | -85 | clear |
| 1050 | 8.89 | 200 | 3.00 | 6.80 | 0.00 | 47.9 | 4.41 | 18.95 | 2.82 | -87 | clear |
| 1055 | 8.90 | 200 | 3.25 | 6.84 | 0.00 | 40.3 | 4.41 | 19.18 | 2.82 | -89 | clear |
| | | | | | | | | | | | |

## Sampling Data

Method: Low flow Date/Time: 6/26/12 1055 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.84 | Alkalinity (g/g) | 23 drops/ 460 |
| Spec. Cond.(mS/cm) | 4.41 | Carbon Dioxide (mg/L) | 370 |
| Turbidity (NTU) | 40.30 | Ferrous Iron (mg/L) | 1.3 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.2 pink |
| Temp.(°C) | 19.18 | Hydrogen Sulfide (mg/L) | 0.0 |
| ORP (mv) | -89 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.82 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-10S_061912 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (11.7-6.45)(0.16) = 1.3 Gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/19/12 0935

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 840 | 6.45 | 200 | 0.00 | 5.98 | 12.72 | 0.0 | 3.08 | 19.07 | 1.97 | -71 | |
| 845 | 6.55 | 200 | 0.25 | 6.32 | 9.72 | 0.0 | 3.14 | 18.24 | 2.01 | -109 | |
| 850 | 6.55 | 200 | 0.50 | 6.75 | 6.55 | 0.0 | 3.25 | 16.87 | 2.08 | -157 | |
| 855 | 6.56 | 200 | 0.75 | 6.86 | 2.92 | 0.0 | 3.29 | 16.14 | 2.10 | -191 | |
| 900 | 6.57 | 200 | 1.00 | 6.81 | 0.70 | 0.0 | 3.24 | 15.88 | 2.07 | -234 | |
| 905 | 6.55 | 200 | 1.25 | 6.73 | 0.15 | 0.0 | 3.11 | 15.97 | 1.99 | -270 | |
| 910 | 6.55 | 200 | 1.50 | 6.68 | 0.00 | 0.0 | 3.04 | 16.18 | 1.95 | -296 | |
| 915 | 6.55 | 200 | 1.75 | 6.67 | 0.00 | 0.0 | 2.99 | 16.27 | 1.92 | -312 | |
| 920 | 6.55 | 200 | 2.00 | 6.67 | 0.00 | 0.0 | 2.86 | 16.41 | 1.83 | -324 | |
| 925 | 6.55 | 200 | 2.25 | 6.67 | 0.00 | 0.0 | 2.80 | 16.47 | 1.79 | -334 | |
| 930 | 6.55 | 200 | 2.50 | 6.68 | 0.00 | 0.0 | 2.75 | 16.46 | 1.76 | -339 | |
| 935 | 6.55 | 200 | 2.75 | 6.69 | 0.00 | 0.0 | 2.72 | 16.42 | 1.74 | -342 | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/19/12 0935 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.69 | Alkalinity (g/g) | 37 drops/ 740 |
| Spec. Cond.(mS/cm) | 2.72 | Carbon Dioxide (mg/L) | 602 |
| Turbidity (NTU) | 0.00 | Ferrous Iron (mg/L) | 0.4 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0 |
| Temp.(°C) | 16.42 | Hydrogen Sulfide (mg/L) | 5.0 |
| ORP (mv) | -342 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.74 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-11S_062212 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)?

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (13.82-7.89)*(0.16) = 0.95 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/22/12 1515

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1515 | 7.89 | 200 | 0.00 | 7.14 | 0.12 | Overrange | 4.83 | 26.00 | 3.10 | -56 | muddy |
| 1525 | 8.05 | 200 | 0.53 | 6.76 | 0.02 | 345 | 5.04 | 22.49 | 3.18 | -24 | Suspended solids |
| 1535 | 8.06 | 200 | 1.06 | 6.74 | 0.01 | 231 | 5.10 | 22.03 | 3.21 | -58 | Suspended solids |
| 1540 | 8.06 | 200 | 1.32 | 6.71 | 0.02 | 753 | 5.05 | 21.16 | 3.18 | -94 | Suspended solids |
| 1545 | 8.06 | 200 | 1.58 | 6.83 | 0.21 | Overrange | 5.10 | 20.22 | 3.21 | -114 | Suspended solids |
| 1550 | 8.04 | 200 | 1.84 | 7.00 | 0.60 | Overrange | 5.05 | 22.01 | 3.18 | -84 | Suspended solids |
| 1555 | 8.04 | 200 | 2.10 | 6.79 | 0.01 | Overrange | 5.07 | 20.19 | 3.20 | -137 | Suspended solids |
| 1600 | 8.05 | 200 | 2.36 | 6.77 | 0.00 | 790 | 4.96 | 20.18 | 3.17 | -155 | Suspended solids |
| 1605 | 8.06 | 200 | 2.62 | 6.72 | 0.00 | 616 | 4.89 | 19.83 | 3.13 | -171 | Suspended solids |
| 1610 | 8.06 | 200 | 2.88 | 6.72 | 0.00 | 548 | 4.86 | 19.68 | 3.11 | -184 | Suspended solids |
| 1615 | 8.06 | 200 | 3.14 | 6.72 | 0.00 | 381 | 4.83 | 19.74 | 3.09 | -196 | Suspended solids |
| 1620 | 8.06 | 200 | 3.40 | 6.74 | 0.00 | 525 | 4.75 | 19.86 | 3.04 | -209 | Suspended solids |
| 1625 | 8.06 | 200 | 3.66 | 6.76 | 0.00 | 480 | 4.74 | 19.62 | 3.03 | -216 | Suspended solids |

## Sampling Data

Method: low flow Date/Time: 6/21/12 1655 Total Volume of Water purged: 4.44 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.71 | Alkalinity (g/g) | 22 drops/440 |
| Spec. Cond.(mS/cm) | 4.67 | Carbon Dioxide (mg/L) | 266 |
| Turbidity (NTU) | 49.70 | Ferrous Iron (mg/L) | 1.20 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.0 milky |
| Temp.(°C) | 22.06 | Hydrogen Sulfide (mg/L) | 2.00 |
| ORP (mv) | -240 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.99 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-11S_062212 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (13.82-7.89)*(0.16) = 0.95 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/22/12 1515

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | L | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1630 | 8.06 | 200 | 3.89 | 6.72 | 0.00 | 393.00 | 4.74 | 20.63 | 3.04 | -223 | cloudy |
| 1635 | 8.06 | 100 | 4.02 | 6.76 | 0.00 | 116.00 | 4.72 | 20.74 | 3.03 | -234 | cloudy |
| 1640 | 8.06 | 100 | 4.15 | 6.75 | 0.00 | 87.70 | 4.74 | 21.57 | 3.03 | -235 | cloudy |
| 1645 | 8.06 | 100 | 4.28 | 6.71 | 0.00 | 77.80 | 4.72 | 21.91 | 3.02 | -239 | slightly cloudy |
| 1650 | 8.03 | 100 | 4.31 | 6.74 | 0.00 | 59.10 | 4.66 | 22.10 | 2.98 | -240 | clear |
| 1655 | 8.03 | 100 | 4.44 | 6.71 | 0.00 | 49.70 | 4.67 | 22.06 | 2.99 | -240 | clear |
| | | | | | | | | | | | |
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## Sampling Data

Method: low flow Date/Time: 6/21/12 1655 Total Volume of Water purged: 4.44 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.71 | Alkalinity (g/g) | 22 drops/440 |
| Spec. Cond.(mS/cm) | 4.67 | Carbon Dioxide (mg/L) | 266.00 |
| Turbidity (NTU) | 49.70 | Ferrous Iron (mg/L) | 1.20 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.0 milky |
| Temp.(°C) | 22.06 | Hydrogen Sulfide (mg/L) | 2.00 |
| ORP (mv) | -240.00 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.99 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-12S_062712 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (13 - 7.65) (0.16) = 0.8 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow - geopump Date/Time: 6/27/12 1225

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1125 | 8.35 | 200 | 0.00 | 7.16 | 3.43 | 263.0 | 7.62 | 18.64 | 4.80 | -14 | water clear |
| 1130 | 8.60 | 200 | 0.25 | 7.23 | 1.77 | 80.1 | 7.59 | 18.36 | 4.78 | -16 | water clear |
| 1135 | 8.70 | 200 | 0.50 | 7.35 | 0.00 | 40.90 | 7.41 | 18.00 | 4.68 | -16 | water clear |
| 1140 | 8.88 | 200 | 0.75 | 7.42 | 0.00 | 25.50 | 6.89 | 17.80 | 4.36 | -27 | water clear |
| 1145 | 9.03 | 200 | 1.00 | 7.47 | 0.00 | 12.30 | 6.22 | 17.76 | 3.93 | -54 | water clear |
| 1150 | 9.20 | 200 | 1.25 | 7.45 | 0.00 | 10.80 | 5.97 | 17.75 | 3.76 | -97 | water clear |
| 1155 | 9.38 | 200 | 1.50 | 7.39 | 0.00 | 13.60 | 5.98 | 17.60 | 3.76 | -139 | water clear |
| 1200 | 9.50 | 200 | 1.75 | 7.39 | 0.00 | 16.50 | 6.05 | 17.44 | 3.81 | -180 | water clear |
| 1205 | 9.70 | 200 | 2.00 | 7.30 | 0.00 | 15.40 | 6.13 | 17.46 | 3.86 | -209 | water clear |
| 1210 | 9.85 | 200 | 2.25 | 7.26 | 0.00 | 13.40 | 6.21 | 17.50 | 3.91 | -229 | water clear |
| 1215 | 9.98 | 200 | 2.50 | 7.22 | 0.00 | 24.50 | 6.34 | 17.57 | 3.99 | -248 | water clear |
| 1220 | 10.00 | 200 | 2.75 | 7.19 | 0.00 | 25.60 | 6.57 | 17.95 | 4.13 | -255 | water clear |
| | | | | | | | | | | | |

## Sampling Data

Method: Low flow - geopump Date/Time: 6/27/12 1225 Total Volume of Water purged: 3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.19 | Alkalinity (g/g) | 18 drops/ 360 |
| Spec. Cond.(mS/cm) | 6.57 | Carbon Dioxide (mg/L) | 438 |
| Turbidity (NTU) | 25.60 | Ferrous Iron (mg/L) | 3.5 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0 |
| Temp.(°C) | 17.95 | Hydrogen Sulfide (mg/L) | 0.5 |
| ORP (mv) | -255 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 4.13 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-7D_062612 Well Diameter: 4 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| Casing Volumes (gal/ft.): DTW 7.83 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/26/12 1110

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | Gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1120 | 7.88 | 200 | 0.52 | 8.46 | 0.00 | 13.60 | 1.71 | 19.87 | 1.09 | -276 | clear with few particles |
| 1130 | 7.88 | 200 | 1.04 | 8.58 | 0.00 | 10.40 | 1.70 | 19.26 | 1.08 | -280 | clear with few particles |
| 1135 | 7.88 | 200 | 1.30 | 8.62 | 0.00 | 6.61 | 1.70 | 19.14 | 1.09 | -284 | clear |
| 1140 | 7.88 | 200 | 1.56 | 8.65 | 0.00 | 7.57 | 1.70 | 19.00 | 1.09 | -284 | clear |
| 1145 | 7.89 | 200 | 1.82 | 8.67 | 0.00 | 6.81 | 1.69 | 19.35 | 1.08 | -284 | clear |
| 1150 | 7.89 | 200 | 2.08 | 8.69 | 0.00 | 9.10 | 1.68 | 19.49 | 1.08 | -291 | clear |
| 1155 | 7.89 | 200 | 2.34 | 8.71 | 0.00 | 9.46 | 1.68 | 19.27 | 1.08 | -290 | clear |
| 1200 | 7.89 | 200 | 2.60 | 8.71 | 0:00 | 9.20 | 1.68 | 19.19 | 1.07 | -290 | clear |
| 1205 | 7.89 | 200 | 2.86 | 8.67 | 0:00 | 6.96 | 1.72 | 19.35 | 1.09 | -293 | clear |
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## Sampling Data

Method: peristaltic Date/Time: 6/26/12 1210 Total Volume of Water purged: 3.25 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 8.67 | Alkalinity (g/g) | 51 drops/ 1120 |
| Spec. Cond.(mS/cm) | 1.72 | Carbon Dioxide (mg/L) | 514 |
| Turbidity (NTU) | 6.96 | Ferrous Iron (mg/L) | 0.00 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 19.35 | Hydrogen Sulfide (mg/L) | 5.00 |
| ORP (mv) | -293 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.09 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Collected MS/MSD for VOCs only

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-10D_062512 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 7.60 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/25/12 1427

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1437 | 8.03 | 150 | 0.39 | 7.58 | 1.36 | 43.0 | 2.23 | 19.60 | 1.68 | -289 | Cloudy |
| 1447 | 8.35 | 150 | 0.78 | 6.92 | 0.20 | 34.0 | 2.29 | 17.57 | 1.47 | -301 | Clear with particles |
| 1457 | 8.49 | 150 | 1.17 | 7.11 | 0.14 | 27.1 | 2.13 | 17.51 | 1.37 | -299 | Clear with particles |
| 1502 | 8.48 | 150 | 1.36 | 7.02 | 0.03 | 15.3 | 2.04 | 17.02 | 1.31 | -297 | Fewer particles |
| 1507 | 8.46 | 150 | 1.56 | 6.97 | 0.03 | 13.6 | 1.99 | 16.84 | 1.27 | -290 | Fewer particles |
| 1512 | 8.45 | 150 | 1.75 | 7.01 | 0.09 | 13.5 | 1.87 | 17.07 | 1.20 | -286 | Fewer particles |
| 1517 | 8.44 | 150 | 1.95 | 7.03 | 0.10 | 11.1 | 1.83 | 17.17 | 1.17 | -278 | Fewer particles |
| 1522 | 8.43 | 150 | 2.14 | 6.99 | 0.11 | 8.31 | 1.81 | 16.60 | 1.16 | -278 | Fewer particles |
| 1527 | 8.41 | 150 | 2.34 | 6.95 | 0.06 | 9.42 | 1.79 | 17.09 | 1.15 | -280 | Fewer particles |
| 1532 | 8.40 | 150 | 2.53 | 6.95 | 0.09 | 11.8 | 1.75 | 17.41 | 1.12 | -279 | Fewer particles |
| 1537 | 8.40 | 150 | 2.73 | 6.96 | 0.11 | 11.4 | 1.73 | 17.18 | 1.11 | -277 | Fewer particles |
| 1542 | 8.39 | 150 | 2.92 | 6.94 | 0.12 | 8.62 | 1.72 | 17.25 | 1.10 | -278 | Fewer particles |
| 1547 | 8.38 | 150 | 3.12 | 6.95 | 0.06 | 8.32 | 1.72 | 17.29 | 1.10 | -277 | Fewer particles |

## Sampling Data

Method: peristaltic Date/Time: 6/25/12 1550 Total Volume of Water purged: 3.5 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.95 | Alkalinity (g/g) | 11 drops/250 |
| Spec. Cond.(mS/cm) | 1.72 | Carbon Dioxide (mg/L) | 192 |
| Turbidity (NTU) | 8.32 | Ferrous Iron (mg/L) | 0 |
| DO (mg/L) | 0.06 | Manganese (mg/L) | 0 |
| Temp.(°C) | 17.29 | Hydrogen Sulfide (mg/L) | 2.0 |
| ORP (mv) | -277 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.10 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-11D_062012 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 10.38 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/20/12 1554

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1604 | 10.54 | 280 | 0.70 | 7.30 | 0.11 | 2.41 | 3.27 | 18.71 | 2.09 | -311 | clear |
| 1614 | 10.59 | 280 | 1.40 | 7.28 | 0.00 | 2.14 | 2.70 | 18.72 | 1.72 | -323 | clear |
| 1619 | 10.59 | 280 | 1.75 | 7.28 | 0.00 | 2.36 | 2.71 | 18.58 | 1.73 | -323 | clear |
| 1624 | 10.59 | 280 | 2.10 | 7.30 | 0.00 | 2.59 | 2.70 | 18.03 | 1.72 | -321 | clear |
| 1629 | 10.59 | 280 | 2.45 | 7.31 | 0.00 | 2.34 | 2.69 | 17.91 | 1.72 | -322 | clear |
| 1634 | 10.60 | 280 | 2.80 | 7.31 | 0.00 | 2.11 | 2.68 | 17.79 | 1.71 | -322 | clear |
| | | | | | | | | | | | |
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## Sampling Data

Method: peristaltic Date/Time: 6/20/12 1635 Total Volume of Water purged: 3.0 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.31 | Alkalinity (g/g) | 14 drops/ 280 |
| Spec. Cond.(mS/cm) | 2.68 | Carbon Dioxide (mg/L) | 176 |
| Turbidity (NTU) | 2.11 | Ferrous Iron (mg/L) | 0.4 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.0 |
| Temp.(°C) | 17.79 | Hydrogen Sulfide (mg/L) | 4.0 |
| ORP (mv) | -322 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.71 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-12D_061912 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 7.87 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow - peristaltic Date/Time: 6/19/12 1311

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1321 | 7.90 | 225 | 0.60 | 7.00 | 0.49 | 11.70 | 2.24 | 18.20 | 1.40 | -293 | clear |
| 1331 | 7.89 | 225 | 1.20 | 6.85 | 0.15 | 8.08 | 2.80 | 17.63 | 1.79 | -314 | clear |
| 1341 | 7.90 | 225 | 1.80 | 6.84 | 0.10 | 6.94 | 2.87 | 17.58 | 1.83 | -318 | clear |
| 1346 | 7.90 | 225 | 2.10 | 6.86 | 0.06 | 9.22 | 2.85 | 17.51 | 1.82 | -319 | clear |
| 1351 | 7.90 | 225 | 2.40 | 6.86 | 0.05 | 3.03 | 2.85 | 17.45 | 1.82 | -320 | clear |
| 1356 | 7.90 | 225 | 2.70 | 6.85 | 0.04 | 2.84 | 2.83 | 17.50 | 1.81 | -320 | clear |
| 1401 | 7.90 | 225 | 3.00 | 6.83 | 0.05 | 2.22 | 2.84 | 17.42 | 1.82 | -321 | clear |
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## Sampling Data

Method: Peristaltic Date/Time: 6/19/12 1405 Total Volume of Water purged: 3.5 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.83 | Alkalinity (g/g) | 11 drops/220 |
| Spec. Cond.(mS/cm) | 2.84 | Carbon Dioxide (mg/L) | 122 |
| Turbidity (NTU) | 2.22 | Ferrous Iron (mg/L) | 0.2 |
| DO (mg/L) | 0.05 | Manganese (mg/L) | 0 |
| Temp.(°C) | 17.42 | Hydrogen Sulfide (mg/L) | 5.0 |
| ORP (mv) | -321 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.82 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Collected duplicate MW-120D_061912 @ 1201( VOC, MEE, Chloride/nitrate/sulfate, Dissolved inorganics, TOC. 10 extra bottles)

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-13D_062512 Well Diameter: 2 Inches

Samplers: Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| dtw: 11.40 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/25/12 1410

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1410 | 11.40 | 200 | 0.0 | 7.81 | 3.13 | 22.40 | 2.71 | 21.95 | 1.74 | -278 | clear |
| 1420 | 11.70 | 200 | 0.50 | 6.97 | 0.00 | 14.40 | 3.28 | 18.15 | 2.07 | -341 | clear |
| 1430 | 11.70 | 200 | 1.20 | 6.90 | 0.00 | 7.44 | 3.22 | 18.47 | 2.06 | -327 | clear |
| 1440 | 11.72 | 200 | 2.00 | 6.83 | 0.00 | 3.79 | 2.73 | 18.13 | 1.75 | -299 | clear |
| 1445 | 11.72 | 200 | 2.20 | 6.91 | 0.00 | 1.96 | 2.66 | 18.33 | 1.70 | -308 | clear |
| 1450 | 11.72 | 200 | 2.50 | 6.89 | 0.00 | 1.51 | 2.66 | 17.91 | 1.70 | -300 | clear |
| 1455 | 11.72 | 200 | 2.80 | 6.88 | 0.00 | 1.21 | 2.69 | 17.48 | 1.72 | -301 | clear |
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## Sampling Data

Method: low flow Date/Time: 6/25/12 1500 Total Volume of Water purged: ~3.0 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.88 | Alkalinity (g/g) | 16 drops/ 320 |
| Spec. Cond.(mS/cm) | 2.69 | Carbon Dioxide (mg/L) | 288 |
| Turbidity (NTU) | 1.21 | Ferrous Iron (mg/L) | 0.50 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.30 |
| Temp.(°C) | 17.48 | Hydrogen Sulfide (mg/L) | 2.00 |
| ORP (mv) | -301 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.72 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-14D_062712 Well Diameter: 2 Inches

Samplers: Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW : 9.54 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow Date/Time: 6/27/12 1150

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1150 | 9.54 | 200 | 0.00 | 7.58 | 9.94 | 4.39 | 1.53 | 20.68 | 0.978 | -340 | clear |
| 1200 | 9.56 | 200 | 0.50 | 6.96 | 0.00 | 3.33 | 2.28 | 16.18 | 1.45 | -335 | clear |
| 1210 | 9.56 | 200 | 1.20 | 6.99 | 0.00 | 2.12 | 2.20 | 16.06 | 1.40 | -333 | clear |
| 1220 | 9.56 | 200 | 1.75 | 7.00 | 0.00 | 1.67 | 2.18 | 15.86 | 1.39 | -330 | clear |
| 1225 | 9.56 | 200 | 2.10 | 7.00 | 0.00 | 0.53 | 2.16 | 15.97 | 1.38 | -330 | clear |
| 1230 | 9.56 | 200 | 2.40 | 7.00 | 0.00 | 0.64 | 2.20 | 15.38 | 1.41 | -330 | clear |
| 1235 | 9.56 | 200 | 2.75 | 6.99 | 0.00 | 0.67 | 2.20 | 15.16 | 1.41 | -331 | clear |
| | | | | | | | | | | | |
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## Sampling Data

Method: Low flow Date/Time: 6/27/12 1240 Total Volume of Water purged: ~3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.99 | Alkalinity (g/g) | 12 drops/ 240 |
| Spec. Cond.(mS/cm) | 2.20 | Carbon Dioxide (mg/L) | 228 |
| Turbidity (NTU) | 0.67 | Ferrous Iron (mg/L) | 0.40 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.10 |
| Temp.(°C) | 15.16 | Hydrogen Sulfide (mg/L) | 3.00 |
| ORP (mv) | -331 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.41 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-15D_061912 Well Diameter: 2 Inches

Samplers: Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 9.12 DTB = 29.44 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow Date/Time: 6/19/12 1525

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1525 | 9.12 | 300 | 0.00 | 7.95 | 0.00 | 59.00 | 0.844 | 19.07 | 0.540 | -124 | |
| 1535 | 9.45 | 200 | 0.50 | 7.37 | 8.79 | 43.60 | 0.928 | 19.42 | 0.594 | -126 | |
| 1545 | 9.46 | 200 | 1.20 | 7.29 | 8.07 | 28.10 | 0.960 | 18.63 | 0.613 | -130 | |
| 1555 | 9.47 | 200 | 1.50 | 7.27 | 8.49 | 15.60 | 0.979 | 18.87 | 0.625 | -132 | |
| 1605 | 9.50 | 200 | 2.10 | 7.21 | 3.51 | 13.00 | 0.974 | 18.50 | 0.626 | -136 | |
| 1610 | 9.50 | 200 | 2.40 | 7.21 | 3.09 | 9.85 | 0.981 | 18.81 | 0.618 | -136 | |
| 1615 | 9.50 | 200 | 2.75 | 7.24 | 3.03 | 9.26 | 0.953 | 18.54 | 0.613 | -140 | |
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## Sampling Data

Method: Low flow Date/Time: 6/19/12 1620 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.24 | Alkalinity (g/g) | 8 drops/ 160 |
| Spec. Cond.(mS/cm) | 0.953 | Carbon Dioxide (mg/L) | 96.00 |
| Turbidity (NTU) | 9.26 | Ferrous Iron (mg/L) | 0.60 |
| DO (mg/L) | 3.03 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 18.40 | Hydrogen Sulfide (mg/L) | 0.50 |
| ORP (mv) | -140 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 0.613 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-16D_062212 Well Diameter: 2 Inches

Samplers: Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)? Yes

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW=12.51 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/22/12 1410

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1410 | 12.51 | 200 | 0.00 | 8.02 | 0.23 | 6.90 | 3.15 | 25.09 | 2.00 | -288 | clear |
| 1420 | 12.95 | 200 | 0.60 | 7.13 | 0.00 | 4.16 | 3.57 | 15.37 | 2.32 | -347 | clear |
| 1430 | 12.98 | 200 | 1.20 | 7.27 | 0.00 | 1.28 | 2.29 | 15.52 | 1.47 | -317 | clear |
| 1440 | 12.98 | 200 | 1.75 | 7.27 | 0.00 | 0.82 | 2.24 | 15.00 | 1.43 | -306 | clear |
| 1445 | 12.97 | 200 | 2..2 | 7.27 | 0.00 | 0.51 | 2.21 | 14.84 | 1.42 | -304 | clear |
| 1450 | 12.97 | 200 | 2.75 | 7.27 | 0.00 | 0.55 | 2.17 | 14.92 | 1.36 | -301 | clear |
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## Sampling Data

Method: low flow Date/Time: 6/22/12 1455 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.27 | Alkalinity (g/g) | 15 drops (300) |
| Spec. Cond.(mS/cm) | 2.17 | Carbon Dioxide (mg/L) | 256 |
| Turbidity (NTU) | 0.55 | Ferrous Iron (mg/L) | 0.60 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 14.92 | Hydrogen Sulfide (mg/L) | 0.40 |
| ORP (mv) | -301 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.36 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-17D_062212 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (34.42-9.27)*(0.16) = 4.02 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/22/12 1410

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1410 | 9.27 | 200 | 0.00 | 7.56 | 1.87 | 12.00 | 1.62 | 23.91 | 1.04 | -183 | clear, sulfur odor |
| 1420 | 9.41 | 200 | 0.58 | 7.11 | 0.25 | 6.07 | 2.15 | 19.06 | 1.38 | -234 | clear, sulfur odor |
| 1430 | 9.41 | 200 | 1.06 | 7.00 | 0.00 | 1.84 | 2.41 | 18.80 | 1.54 | -269 | clear, sulfur odor |
| 1435 | 9.42 | 200 | 1.33 | 6.97 | 0.00 | 1.56 | 2.44 | 18.09 | 1.56 | -278 | clear,odor |
| 1440 | 9.42 | 200 | 1.59 | 6.95 | 0.00 | 0.72 | 2.45 | 18.10 | 1.57 | -281 | clear, odor |
| 1445 | 9.42 | 200 | 1.86 | 6.94 | 0.00 | 0.81 | 2.46 | 18.00 | 1.58 | -285 | clear, odor |
| 1450 | 9.43 | 200 | 2.12 | 6.93 | 0.00 | 0.82 | 2.49 | 17.73 | 1.59 | -288 | clear, odor |
| 1455 | 9.43 | 200 | 2.38 | 6.93 | 0.00 | 0.85 | 2.56 | 16.95 | 1.64 | -287 | clear, odor |
| 1500 | 9.42 | 200 | 2.64 | 6.93 | 0.00 | 2.51 | 2.58 | 16.90 | 1.65 | -290 | clear, odor |
| 1505 | 9.43 | 200 | 2.90 | 6.92 | 0.00 | 1.46 | 2.59 | 16.78 | 1.66 | -289 | clear, odor |
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## Sampling Data

Method: low flow Date/Time: 6/22/12 1505 Total Volume of Water purged: 2.90 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.92 | Alkalinity (g/g) | 15 drops/ 300 |
| Spec. Cond.(mS/cm) | 2.59 | Carbon Dioxide (mg/L) | 168 |
| Turbidity (NTU) | 1.46 | Ferrous Iron (mg/L) | 0.00 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 16.75 | Hydrogen Sulfide (mg/L) | 1.50 |
| ORP (mv) | -289 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.66 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-18D_061912 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 8.75 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow/peristaltic Date/Time: 6/19/12 1455

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1505 | 8.83 | 225 | 0.60 | 7.19 | 0.76 | 7.64 | 2.69 | 17.25 | 1.73 | -198 | clear |
| 1515 | 8.85 | 225 | 1.20 | 7.11 | 0.66 | 4.74 | 2.69 | 16.70 | 1.73 | -210 | clear |
| 1525 | 8.86 | 225 | 1.80 | 7.08 | 0.73 | 2.40 | 2.71 | 16.19 | 1.73 | -220 | clear |
| 1530 | 8.86 | 225 | 2.10 | 7.04 | 0.61 | 1.87 | 2.71 | 16.37 | 1.74 | -233 | clear |
| 1535 | 8.86 | 225 | 2.40 | 7.03 | 0.69 | 0.67 | 2.73 | 16.65 | 1.75 | -236 | clear |
| 1540 | 8.86 | 225 | 2.70 | 7.01 | 0.62 | 4.40 | 2.73 | 16.18 | 1.75 | -240 | clear |
| 1545 | 8.87 | 225 | 3.00 | 7.01 | 0.61 | 2.72 | 2.73 | 16.03 | 1.76 | -242 | clear |
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## Sampling Data

Method: Peristaltic Date/Time: 6/19/12 1550 Total Volume of Water purged: 3.25 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.01 | Alkalinity (g/g) | 13 drops/ 260 |
| Spec. Cond.(mS/cm) | 2.75 | Carbon Dioxide (mg/L) | 144 |
| Turbidity (NTU) | 2.72 | Ferrous Iron (mg/L) | 0.1 |
| DO (mg/L) | 0.61 | Manganese (mg/L) | 0.0 |
| Temp.(°C) | 16.03 | Hydrogen Sulfide (mg/L) | 0.5 |
| ORP (mv) | -242 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.76 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-19D_061912 Well Diameter: 2 Inches

Samplers: Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 7.68 DTB = 27.19 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/19/12 1205

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1205 | 7.68 | 300 | 0.00 | 7.36 | 2.67 | 347.00 | 5.50 | 20.01 | 3.48 | -206 | cloudy |
| 1215 | 7.90 | 200 | 0.50 | 6.86 | 0.86 | 146.00 | 5.61 | 19.74 | 3.54 | -216 | cloudy |
| 1225 | 7.92 | 200 | 1.10 | 6.72 | 0.07 | 88.70 | 5.58 | 19.59 | 3.51 | -223 | cloudy |
| 1230 | 7.92 | 200 | 1.50 | 6.69 | 0.00 | 18.20 | 5.53 | 19.42 | 3.48 | -224 | clear |
| 1235 | 7.92 | 200 | 1.75 | 6.66 | 0.00 | 16.40 | 5.53 | 19.29 | 3.49 | -226 | clear |
| 1240 | 7.93 | 200 | 2.00 | 6.63 | 0.00 | 11.70 | 5.55 | 19.18 | 3.49 | -227 | clear |
| 1245 | 7.93 | 200 | 2.25 | 6.61 | 0.00 | 11.80 | 5.56 | 18.96 | 3.50 | -228 | clear |
| 1250 | 7.93 | 200 | 2.60 | 6.59 | 0.00 | 11.60 | 5.59 | 18.83 | 3.52 | -229 | clear |
| 1255 | 7.93 | 200 | 3.00 | 6.58 | 0.00 | 8.34 | 5.60 | 19.01 | 3.53 | -230 | clear |
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## Sampling Data

Method: low flow Date/Time: 6/19/12 1300 Total Volume of Water purged: 3.2 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.58 | Alkalinity (g/g) | 30 drops (600) |
| Spec. Cond.(mS/cm) | 5.60 | Carbon Dioxide (mg/L) | 540 |
| Turbidity (NTU) | 8.34 | Ferrous Iron (mg/L) | 2.00 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.20 |
| Temp.(°C) | 19.01 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | -230 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 3.53 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 2 Filters | Filtered | 280 mL<br>230 mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Nam *Ekonol Facility* Well ID: MW-20D_062012 Well Diameter: 2 Inches

Sampler: Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 8.48 TD = 29.45 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/20/12 1535

| Time | DTW | ump Rat | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1535 | 8.48 | 200 | 0.00 | 7.76 | 0.98 | 9.28 | 1.43 | 37.56 | 0.92 | -343 | clear |
| 1545 | 8.71 | 200 | 0.50 | 7.09 | 0.27 | 4.00 | 1.68 | 25.51 | 1.08 | -372 | clear |
| 1555 | 8.71 | 200 | 1.00 | 7.06 | 0.08 | 3.47 | 1.69 | 24.78 | 1.08 | -369 | clear |
| 1605 | 8.72 | 200 | 1.50 | 7.07 | 0.00 | 3.63 | 1.68 | 24.22 | 1.07 | -372 | clear |
| 1610 | 8.72 | 200 | 1.75 | 7.07 | 0.00 | 3.16 | 1.68 | 24.02 | 1.08 | -372 | clear |
| 1615 | 8.71 | 200 | 2.00 | 7.08 | 0.00 | 3.65 | 1.74 | 22.79 | 1.12 | -370 | clear |
| 1620 | 8.71 | 200 | 2.25 | 7.07 | 0.00 | 2.25 | 1.68 | 24.02 | 1.08 | -371 | clear |
| 1625 | 8.70 | 200 | 2.50 | 7.07 | 0.00 | 2.62 | 1.69 | 24.18 | 1.08 | -370 | clear |
| 1630 | 8.70 | 200 | 2.75 | 7.06 | 0.00 | 1.91 | 1.70 | 23.99 | 1.09 | -365 | clear |
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## Sampling Data

Method: low flow Date/Time: 6/20/12 1630 Total Volume of Water purged: ~2.9 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.06 | Alkalinity (g/g) | 19 drops/ 380 |
| pec. Cond.(mS/cm | 1.70 | Carbon Dioxide (mg/L) | 254 |
| Turbidity (NTU) | 1.91 | Ferrous Iron (mg/L | 0.30 |
| DO (mg/L) | 0.00 | Manganese (mg/L | 0.00 |
| Temp.(°C) | 23.99 | Hydrogen Sulfide (mg/L) | 5.00 |
| ORP (mv) | -365 | | |
| TDS (g/L) | 1.09 | | |

* NOTE * HACH test kits are only required for MNA analysis wells.

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Commer MS/MSD collected (MW-20D_062012 MS + MW-20D_062012 MSD for VOC only

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-20D_062612 Well Diameter: 2 Inches

Samplers: Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)?

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 8.52 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow Date/Time: 6/26/12 1520

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1520 | 8.52 | 200 | 0.00 | 8.25 | 0.49 | 24.40 | 1.56 | 27.16 | 0.989 | -348 | clear |
| 1530 | 8.78 | 200 | 0.50 | 7.50 | 0.00 | 4.84 | 1.55 | 22.35 | 0.991 | -363 | clear |
| 1540 | 8.79 | 200 | 1.20 | 7.42 | 0.00 | 3.14 | 1.56 | 21.43 | 1.000 | -364 | clear |
| 1550 | 8.79 | 200 | 1.60 | 7.41 | 0.00 | 2.71 | 1.57 | 21.11 | 1.000 | -363 | clear |
| 1555 | 8.79 | 200 | 2.10 | 7.41 | 0.00 | 1.62 | 1.56 | 21.13 | 1.000 | -364 | clear |
| 1600 | 8.79 | 200 | 2.50 | 7.41 | 0.00 | 2.68 | 1.56 | 21.10 | 0.998 | -364 | clear |
| 1605 | 8.79 | 200 | 2.75 | 7.41 | 0.00 | 1.61 | 1.56 | 20.99 | 1.000 | -364 | clear |
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## Sampling Data

Method: Low flow Date/Time: 6/26/12 1610 Total Volume of Water purged: ~2.75 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.41 | Alkalinity (g/g) | na |
| Spec. Cond.(mS/cm) | 1.56 | Carbon Dioxide (mg/L) | na |
| Turbidity (NTU) | 1.61 | Ferrous Iron (mg/L) | na |
| DO (mg/L) | 0.00 | Manganese (mg/L) | na |
| Temp.(°C) | 20.99 | Hydrogen Sulfide (mg/L) | na |
| ORP (mv) | -364 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.00 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Re-purged to sample for MEE only

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: MW-21D_062212 Well Diameter: 4 Inches

Samplers: Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW=8.07 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/22/12 1210

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1210 | 8.07 | 210 | 0.00 | 7.64 | 2.25 | 21.5 | 1.57 | 27.91 | 1.01 | -178 | |
| 1220 | 8.07 | 210 | 0.75 | 6.92 | 0.20 | 12.9 | 1.70 | 20.76 | 1.09 | -274 | |
| 1230 | 8.07 | 210 | 1.25 | 6.84 | 0.10 | 9.12 | 1.72 | 20.11 | 1.10 | -297 | |
| 1240 | 8.07 | 210 | 2.10 | 6.79 | 0.05 | 8.75 | 1.72 | 19.93 | 1.10 | -309 | |
| 1245 | 8.07 | 210 | 2.50 | 6.80 | 0.04 | 6.57 | 1.73 | 19.97 | 1.10 | -312 | |
| 1250 | 8.07 | 210 | 2.75 | 6.80 | 0.02 | 6.21 | 1.72 | 19.94 | 1.10 | -311 | |
| | | | | | | | | | | | |
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## Sampling Data

Method: low flow Date/Time: 6/22/12 1255 Total Volume of Water purged: ~2.8 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.80 | Alkalinity (g/g) | 15 drops/ 300 |
| Spec. Cond.(mS/cm) | 1.72 | Carbon Dioxide (mg/L) | 244 |
| Turbidity (NTU) | 6.21 | Ferrous Iron (mg/L) | 1.00 |
| DO (mg/L) | 0.02 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 19.94 | Hydrogen Sulfide (mg/L) | 2.00 |
| ORP (mv) | -311 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.10 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 2 Filters | Filtered | 280 mL 230 mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-1S_062512 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (11.18-2.95)(0.16) = 1.4 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/25/12 1255

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1155 | 3.45 | 250 | 0.00 | 6.57 | 6.42 | 73.1 | 2.56 | 18.63 | 1.64 | -222 | |
| 1200 | 3.35 | 250 | 0.25 | 6.64 | 2.63 | 21.7 | 2.54 | 18.64 | 1.63 | -244 | |
| 1205 | 3.30 | 250 | 0.50 | 6.67 | 0.52 | 12.2 | 2.51 | 18.67 | 1.61 | -273 | |
| 1210 | 3.30 | 250 | 0.75 | 6.64 | 0.26 | 10.1 | 2.50 | 18.75 | 1.60 | -292 | |
| 1215 | 3.30 | 250 | 1.00 | 6.62 | 0.17 | 7.9 | 2.50 | 19.00 | 1.60 | -305 | |
| 1220 | 3.30 | 250 | 1.25 | 6.60 | 0.13 | 7.5 | 2.50 | 19.36 | 1.60 | -314 | |
| 1225 | 3.30 | 250 | 1.50 | 6.59 | 0.10 | 7.3 | 2.47 | 19.31 | 1.58 | -322 | |
| 1230 | 3.30 | 250 | 1.75 | 6.61 | 0.08 | 6.4 | 2.45 | 19.12 | 1.57 | -325 | |
| 1235 | 3.30 | 250 | 2.00 | 6.60 | 0.05 | 5.6 | 2.46 | 19.12 | 1.57 | -325 | |
| 1240 | 3.35 | 250 | 2.25 | 6.59 | 0.03 | 6.4 | 2.47 | 19.11 | 1.58 | -323 | |
| 1245 | 3.35 | 250 | 2.50 | 6.58 | 0.02 | 6.5 | 2.49 | 19.12 | 1.59 | -322 | |
| 1250 | 3.35 | 250 | 2.75 | 6.57 | 0.01 | 10.5 | 2.50 | 19.29 | 1.60 | -321 | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/25/12 1255 Total Volume of Water purged: 3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.57 | Alkalinity (g/g) | 29 drops/ 580 |
| Spec. Cond.(mS/cm) | 2.50 | Carbon Dioxide (mg/L) | 464 |
| Turbidity (NTU) | 10.50 | Ferrous Iron (mg/L) | 1.20 |
| DO (mg/L) | 0.01 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 19.29 | Hydrogen Sulfide (mg/L) | 0.10 |
| ORP (mv) | -321 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.60 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Microbial: first vial 845 mL, second vial: 155 mL

1 vial - hydrogen, 2 vials - acetylene

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-2S_062012 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW: 3.58 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/20/12 1308

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1318 | 6.53 | 200 | 0.53 | 6.74 | 0.96 | 80.2 | 4.26 | 24.14 | 2.72 | -147 | Black Particles |
| 1328 | 6.53 | 125 | 0.83 | 6.69 | 0.00 | 57.4 | 4.27 | 23.65 | 2.73 | -123 | Black Particles |
| 1338 | 6.39 | 125 | 1.13 | 6.63 | 0.00 | 38.7 | 4.25 | 22.95 | 2.72 | -141 | Fewer particles |
| 1348 | 6.54 | 125 | 1.43 | 6.62 | 0.00 | 29.8 | 4.22 | 22.20 | 2.70 | -153 | Fewer particles |
| 1358 | 6.58 | 125 | 1.73 | 6.60 | 0.00 | 28.0 | 4.18 | 22.44 | 2.68 | -148 | Fewer particles |
| 1408 | 6.59 | 125 | 2.03 | 6.58 | 0.00 | 27.5 | 4.21 | 22.28 | 2.70 | -149 | Fewer particles |
| 1418 | 6.71 | 125 | 2.33 | 6.57 | 0.00 | 18.0 | 4.19 | 22.09 | 2.68 | -160 | Fewer particles |
| 1423 | 6.71 | 125 | 2.48 | 6.55 | 0.00 | 17.3 | 4.18 | 21.86 | 2.67 | -166 | clearer |
| 1428 | 6.73 | 125 | 2.63 | 6.54 | 0.00 | 15.9 | 4.15 | 21.57 | 2.66 | -170 | clearer |
| 1433 | 6.75 | 125 | 2.78 | 6.56 | 0.00 | 20.10 | 4.12 | 22.02 | 2.63 | -166 | clearer |
| 1438 | 6.76 | 125 | 2.93 | 6.55 | 0.00 | 10.10 | 4.12 | 22.32 | 2.64 | -170 | clear |
| 1443 | 6.77 | 125 | 3.08 | 6.53 | 0.00 | 10.70 | 4.11 | 22.08 | 2.64 | -169 | clear |
| 1448 | 6.78 | 125 | 3.23 | 6.54 | 0.00 | 10.60 | 4.13 | 22.26 | 2.64 | -173 | clear |

## Sampling Data

Method: peristaltic Date/Time: 6/20/12 1450 Total Volume of Water purged: 5.5 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.54 | Alkalinity (g/g) | 36 drops/ 720 |
| Spec. Cond.(mS/cm) | 4.13 | Carbon Dioxide (mg/L) | 650 |
| Turbidity (NTU) | 10.60 | Ferrous Iron (mg/L) | 4.80 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.30 |
| Temp.(°C) | 22.26 | Hydrogen Sulfide (mg/L) | 0.10 |
| ORP (mv) | -173 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.64 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | Filter | None | 1000mL |
| Hydrogen, Acetylene | 1-20mL Voas 2-40mL Jars | Triosodium | Phosphate |
| | | | |

Comments: Initial drawdown, slowed down flow and water level stabilized. Dissolved hydrogen bubbler: start 1516, stop 1546, sample 1546. flow at 125mL

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-3S_062512 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (11.7 - 7.05) x 0.16 = 0.7 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/25/12 1030

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 930 | 8.20 | 250 | 0.00 | 5.60 | 4.80 | 114.0 | 4.72 | 19.71 | 3.02 | -85 | water clear |
| 935 | 8.50 | 250 | 0.25 | 5.75 | 2.13 | 30.5 | 4.73 | 19.44 | 3.03 | -95 | water clear |
| 940 | 8.60 | 250 | 0.50 | 5.92 | 0.40 | 23.2 | 4.76 | 19.06 | 3.05 | -113 | water clear |
| 945 | 8.75 | 250 | 0.75 | 6.06 | 0.21 | 12.2 | 4.77 | 18.71 | 3.05 | -137 | water clear |
| 950 | 8.90 | 250 | 1.00 | 6.07 | 0.18 | 11.0 | 4.76 | 18.63 | 3.05 | -140 | water clear |
| 955 | 8.95 | 250 | 1.25 | 6.11 | 0.13 | 8.8 | 4.74 | 18.48 | 3.03 | -150 | water clear |
| 1000 | 9.05 | 250 | 1.50 | 6.15 | 0.10 | 7.7 | 4.71 | 18.38 | 3.02 | -160 | water clear |
| 1005 | 9.10 | 250 | 1.75 | 6.18 | 0.08 | 7.1 | 4.67 | 18.32 | 2.99 | -169 | water clear |
| 1010 | 9.20 | 250 | 2.00 | 6.20 | 0.07 | 8.6 | 4.62 | 18.24 | 2.96 | -177 | water clear |
| 1015 | 9.25 | 250 | 2.25 | 6.21 | 0.03 | 9.2 | 4.57 | 18.17 | 2.93 | -184 | water clear |
| 1020 | 9.30 | 250 | 2.50 | 6.23 | 0.00 | 7.5 | 4.51 | 18.09 | 2.89 | -193 | water clear |
| 1025 | 9.35 | 250 | 2.75 | 6.25 | 0.00 | 5.5 | 4.46 | 18.04 | 2.85 | -200 | water clear |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/25/12 1030 Total Volume of Water purged: ~2.75 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.25 | Alkalinity (g/g) | 38 drops/ 760 |
| Spec. Cond.(mS/cm) | 4.46 | Carbon Dioxide (mg/L) | 960 |
| Turbidity (NTU) | 5.50 | Ferrous Iron (mg/L) | 2.60 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.70 |
| Temp.(°C) | 18.04 | Hydrogen Sulfide (mg/L) | 5.00 |
| ORP (mv) | -200 | | |
| TDS (g/L) | 2.85 | | |

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET

| Parameter | Bottle | Pres. | Method |
|---|---|---|---|
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 1 vial | None | 1000mL filtered |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: 1 vial - 1000 mL for microbial
1 vial for hydrogen
2 voas for acetylene

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-4S_062012 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (11.75 - 5.61)(0.16) = 0.982 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low Flow Date/Time: 6/19/12 1335

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1335 | 5.61 | 300 | 0.00 | 7.25 | 2.79 | 35.50 | 6.66 | 26.46 | 4.23 | -168 | clear |
| 1345 | 7.75 | 300 | 0.75 | 6.99 | 0.57 | 12.40 | 6.06 | 19.23 | 3.82 | -180 | clear |
| 1355 | 8.20 | 300 | 1.50 | 6.84 | 0.03 | 5.88 | 6.22 | 19.14 | 3.92 | -171 | clear |
| 1400 | 8.55 | 300 | 1.87 | 6.77 | 0.00 | 5.06 | 6.47 | 19.15 | 4.08 | -171 | clear |
| 1405 | 8.87 | 150 | 2.25 | 6.74 | 0.00 | 7.12 | 6.62 | 19.06 | 4.16 | -171 | clear |
| 1410 | 8.95 | 150 | 2.43 | 6.72 | 0.00 | 3.12 | 6.70 | 19.62 | 4.22 | -171 | clear |
| 1415 | 9.10 | 150 | 2.61 | 6.70 | 0.00 | 1.74 | 6.85 | 20.07 | 4.31 | -170 | clear |
| 1420 | 9.30 | 150 | 2.79 | 6.69 | 0.00 | 2.16 | 6.86 | 20.17 | 4.32 | -170 | clear |
| 1425 | 9.50 | 100 | 2.92 | 6.68 | 0.00 | 2.56 | 6.86 | 20.81 | 4.32 | -170 | clear |
| 1430 | 9.60 | 100 | 3.04 | 6.68 | 0.00 | 0.80 | 6.88 | 20.73 | 4.34 | -169 | clear |
| 1435 | 9.77 | 100 | 3.17 | 6.67 | 0.00 | 0.71 | 6.86 | 20.67 | 4.32 | -167 | clear |
| 1440 | 9.95 | 300 | 3.30 | 6.67 | 0.00 | 0.93 | 6.94 | 19.89 | 4.32 | -166 | clear |
| 1445 | 10.55 | 300 | 3.68 | 6.68 | 0.00 | 20.30 | 6.98 | 18.11 | 4.39 | -163 | clear |

## Sampling Data

Method: Low Flow Date/Time: 6/20/12 0800 Total Volume of Water purged: 4 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.66 | Alkalinity (g/g) | 21 drops, 420 |
| Spec. Cond.(mS/cm) | 7.06 | Carbon Dioxide (mg/L) | 210 |
| Turbidity (NTU) | 15.00 | Ferrous Iron (mg/L) | 0 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0 |
| Temp.(°C) | 17.68 | Hydrogen Sulfide (mg/L) | 0 |
| ORP (mv) | -148 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 4.45 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Well ran dry, sampled the day after purging

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-4S_062012 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low Flow Date/Time: 6/19/12 1335

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1450 | 10.80 | 300 | 6.66 | 6.66 | 0.00 | 17.40 | 6.94 | 17.77 | 4.43 | -163 | clear |
| 1455 | 11.65 | 300 | | 6.66 | 0.00 | 15.00 | 7.06 | 17.68 | 4.45 | -148 | Dry |
| | | | | | | | | | | | |
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## Sampling Data

Method: Low Flow Date/Time: 6/20/12 0800 Total Volume of Water purged: 4 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.66 | Alkalinity (g/g) | 21 drops, 420 |
| Spec. Cond.(mS/cm) | 7.06 | Carbon Dioxide (mg/L) | 210 |
| Turbidity (NTU) | 15.00 | Ferrous Iron (mg/L) | 0 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0 |
| Temp.(°C) | 17.68 | Hydrogen Sulfide (mg/L) | 0 |
| ORP (mv) | -148 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 4.45 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Well ran dry, sampled the day after purging

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-5S_062012 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (11.07 - 3.91)(0.16) = 1.15 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/19/12 1525

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1525 | 3.91 | 200 | 0.00 | 6.71 | 0.00 | 147 | 4.61 | 22.20 | 2.93 | -70 | milky |
| 1535 | 7.01 | 200 | 0.50 | 6.67 | 0.00 | 128 | 3.31 | 21.54 | 2.08 | -62 | milky |
| 1540 | 8.80 | 100 | 1.00 | 6.74 | 0.00 | 61.6 | 2.54 | 21.94 | 1.63 | -37 | milky |
| 1550 | 9.05 | 100 | 1.12 | 6.67 | 0.00 | 107 | 2.93 | 22.31 | 1.92 | -36 | milky |
| 1555 | 9.30 | 100 | 1.25 | 6.64 | 0.00 | 162 | 3.46 | 22.20 | 2.23 | -35 | milky |
| 1600 | 9.68 | 100 | | 6.62 | 0.00 | 115 | 3.85 | 22.17 | 2.46 | -34 | opaque |
| 1605 | 10.05 | 100 | | 6.61 | 0.00 | 135 | 4.06 | 22.06 | 2.60 | -33 | opaque |
| 1610 | 10.55 | 100 | | 6.60 | 0.00 | 145 | 4.24 | 21.94 | 2.72 | -28 | opaque |
| 1615 | 10.87 | 100 | | 6.61 | 0.00 | 168 | 4.37 | 21.62 | 2.80 | -27 | opaque |
| 1620 | well | ran | dry | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow Date/Time: 6/20/12 0900 Total Volume of Water purged: 1.8 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | | Alkalinity (g/g) | 25 drops/ 500 |
| Spec. Cond.(mS/cm) | | Carbon Dioxide (mg/L) | 228 |
| Turbidity (NTU) | | Ferrous Iron (mg/L) | 0.0 |
| DO (mg/L) | | Manganese (mg/L) | 0.0, milky |
| Temp.(°C) | | Hydrogen Sulfide (mg/L) | 0 |
| ORP (mv) | | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Well ran dry, sample collected the day after purging

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-6S_062212 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)?

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (12-6.15)(0.16) = 0.9 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/22/12 0900

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 800 | 6.15 | 200 | 0.00 | 5.66 | 5.95 | 21.5 | 2.08 | 23.65 | 1.33 | -107 | slight yellow color |
| 805 | 7.50 | 150 | 0.20 | 5.85 | 4.60 | 22.2 | 2.07 | 22.88 | 1.33 | -114 | slight yellow color |
| 810 | 8.00 | 150 | 0.50 | 6.06 | 2.34 | 31.2 | 2.10 | 21.84 | 1.34 | -122 | slight yellow color |
| 815 | 8.19 | 150 | 0.75 | 6.14 | 0.38 | 51.9 | 2.14 | 21.55 | 1.37 | -122 | slight yellow color |
| 820 | 8.28 | 150 | 0.90 | 6.19 | 0.28 | 48.4 | 2.16 | 21.53 | 1.38 | -121 | slight yellow color |
| 825 | 8.35 | 150 | 1.25 | 6.20 | 0.21 | 41.6 | 2.20 | 21.63 | 1.40 | -121 | slight yellow color |
| 830 | 8.49 | 150 | 1.50 | 6.21 | 0.28 | 37.6 | 2.23 | 21.69 | 1.42 | -122 | slight yellow color |
| 835 | 8.55 | 150 | 1.75 | 6.22 | 0.33 | 30.1 | 2.27 | 21.46 | 1.45 | -124 | slight yellow color |
| 840 | 8.70 | 150 | 2.00 | 6.22 | 0.30 | 23.4 | 2.31 | 21.14 | 1.48 | -125 | slight yellow color |
| 845 | 8.80 | 150 | 2.75 | 6.21 | 0.28 | 19.7 | 2.35 | 21.08 | 1.50 | -126 | slight yellow color |
| 850 | 9.00 | 150 | 2.5 | 6.20 | 0.26 | 15.1 | 2.40 | 20.69 | 1.53 | -127 | slight yellow color |
| 855 | 9.20 | 150 | 2.75 | 6.18 | 0.25 | 9.9 | 2.43 | 20.20 | 1.56 | -128 | slight yellow color |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/22/12 0900 Total Volume of Water purged: 3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.18 | Alkalinity (g/g) | 57 drops/1140 |
| Spec. Cond.(mS/cm) | 2.43 | Carbon Dioxide (mg/L) | 1042 |
| Turbidity (NTU) | 9.90 | Ferrous Iron (mg/L) | 4.40 |
| DO (mg/L) | 0.25 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 20.20 | Hydrogen Sulfide (mg/L) | 0.50 |
| ORP (mv) | -128 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.56 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-7S_062212 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (11.5-6.9)*(0.16)= 0.736 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/22/12 1100

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1000 | 7.50 | 250 | 0.00 | 6.54 | 2.41 | 32.60 | 2.41 | 23.16 | 3.44 | 24 | slight yellow color |
| 1005 | 7.95 | 200 | 0.25 | 6.49 | 2.09 | 30.4 | 5.51 | 21.99 | 3.47 | 39 | slight yellow color |
| 1010 | 8.30 | 200 | 0.50 | 6.43 | 1.87 | 27.8 | 5.82 | 20.62 | 3.66 | 64 | slight yellow color |
| 1015 | 8.50 | 200 | 0.75 | 6.43 | 1.69 | 20.0 | 5.87 | 20.77 | 3.70 | 67 | slight yellow color |
| 1020 | 8.80 | 200 | 1.00 | 6.43 | 1.64 | 21.9 | 5.88 | 20.81 | 3.71 | 70 | slight yellow color |
| 1025 | 9.00 | 200 | 1.25 | 6.44 | 1.46 | 20.4 | 5.90 | 20.89 | 3.71 | 68 | slight yellow color |
| 1030 | 9.40 | 200 | 1.50 | 6.44 | 1.15 | 15.6 | 5.88 | 20.87 | 3.70 | 63 | slight yellow color |
| 1035 | 9.60 | 200 | 1.75 | 6.45 | 0.66 | 12.5 | 5.85 | 20.71 | 3.69 | 27 | slight yellow color |
| 1040 | 9.80 | 200 | 2.00 | 6.45 | 0.61 | 10.9 | 5.85 | 20.67 | 3.69 | 31 | slight yellow color |
| 1045 | 10.10 | 200 | 2.25 | 6.45 | 0.53 | 8.1 | 5.85 | 20.55 | 3.68 | 41 | slight yellow color |
| 1050 | 10.25 | 200 | 2.50 | 6.46 | 0.44 | 7.10 | 5.84 | 20.42 | 3.68 | 52 | slight yellow color |
| 1055 | 10.50 | 200 | 2.75 | 6.46 | 0.35 | 7.60 | 5.82 | 20.26 | 3.67 | 54 | slight yellow color |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/22/12 1100 Total Volume of Water purged: 3.5 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.46 | Alkalinity (g/g) | 30drops/ 600 |
| Spec. Cond.(mS/cm) | 5.82 | Carbon Dioxide (mg/L) | 674 |
| Turbidity (NTU) | 7.60 | Ferrous Iron (mg/L) | 4.2 |
| DO (mg/L) | 0.35 | Manganese (mg/L) | 0.0 |
| Temp.(°C) | 20.26 | Hydrogen Sulfide (mg/L) | 0.0 |
| ORP (mv) | 54 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 3.67 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-8S_062212 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)?

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (11.5-7.1)*(0.16) = 0.70 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow - geopump Date/Time: 6/22/12 1415

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1315 | 7.10 | 200 | 0.00 | 6.61 | 10.23 | 98.0 | 4.57 | 25.48 | 2.92 | -279 | water clear |
| 1320 | 7.80 | 200 | 0.25 | 6.54 | 3.33 | 31.2 | 4.51 | 24.21 | 2.88 | -296 | water clear |
| 1325 | 8.20 | 200 | 0.50 | 6.46 | 0.31 | 18.4 | 4.46 | 22.66 | 2.86 | -305 | water clear |
| 1330 | 8.50 | 200 | 0.75 | 6.44 | 0.23 | 11.8 | 4.46 | 22.13 | 2.85 | -286 | water clear |
| 1335 | 8.65 | 200 | 1.00 | 6.43 | 0.20 | 9.7 | 4.52 | 22.49 | 2.89 | -277 | water clear |
| 1340 | 8.78 | 200 | 1.25 | 6.43 | 0.17 | 7.6 | 4.59 | 22.95 | 2.93 | -277 | water clear |
| 1345 | 8.95 | 200 | 1.50 | 6.44 | 0.16 | 6.1 | 4.63 | 23.12 | 2.96 | -278 | water clear |
| 1350 | 9.15 | 200 | 1.75 | 6.45 | 0.15 | 5.1 | 4.64 | 23.06 | 2.97 | -278 | water clear |
| 1355 | 9.30 | 200 | 2.00 | 6.44 | 0.12 | 4.4 | 4.64 | 22.80 | 2.97 | -278 | water clear |
| 1400 | 9.40 | 200 | 2.25 | 6.43 | 0.10 | 4.1 | 4.65 | 22.39 | 2.98 | -279 | water clear |
| 1405 | 9.52 | 200 | 2.50 | 6.43 | 0.10 | 3.6 | 4.70 | 22.11 | 3.01 | -283 | water clear |
| 1410 | 9.60 | 200 | 2.75 | 6.43 | 0.08 | 3.7 | 4.76 | 22.15 | 3.04 | -290 | water clear |
| | | | | | | | | | | | |

## Sampling Data

Method: Low flow - geopump Date/Time: 6/22/12 1415 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.43 | Alkalinity (g/g) | 35 drops/ 700 |
| Spec. Cond.(mS/cm) | 4.76 | Carbon Dioxide (mg/L) | 584 |
| Turbidity (NTU) | 3.70 | Ferrous Iron (mg/L) | 0.6 |
| DO (mg/L) | 0.08 | Manganese (mg/L) | 0 |
| Temp.(°C) | 22.15 | Hydrogen Sulfide (mg/L) | 5.0 |
| ORP (mv) | -290 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 3.04 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-9S_062112 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (12.2-7.5)(0.16) = 0.7 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/21/12 1405

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1305 | 7.50 | 250 | 0.00 | 6.82 | 4.54 | 17.6 | 4.74 | 21.11 | 3.03 | 1 | |
| 1310 | 8.25 | 250 | 0.25 | 6.78 | 0.99 | 6.5 | 4.71 | 20.80 | 3.01 | 24 | |
| 1315 | 8.20 | 250 | 0.50 | 6.74 | 0.00 | 3.5 | 4.72 | 21.11 | 3.02 | 54 | |
| 1320 | 8.20 | 250 | 0.75 | 6.74 | 0.00 | 2.6 | 4.73 | 21.62 | 3.03 | 61 | |
| 1325 | 8.30 | 250 | 1.00 | 6.74 | 0.00 | 1.4 | 4.70 | 21.72 | 3.01 | 66 | |
| 1330 | 8.50 | 250 | 1.25 | 6.73 | 0.00 | 1.4 | 4.70 | 21.74 | 3.01 | 67 | |
| 1335 | 8.70 | 250 | 1.50 | 6.73 | 0.00 | 1.3 | 4.70 | 21.70 | 3.01 | 64 | |
| 1340 | 8.90 | 250 | 1.75 | 6.74 | 0.00 | 1.3 | 4.70 | 21.45 | 3.01 | 29 | |
| 1345 | 9.20 | 250 | 2.00 | 6.75 | 0.00 | 42.6 | 4.70 | 21.17 | 3.01 | 6 | |
| 1350 | 9.40 | 250 | 2.25 | 6.74 | 0.00 | 14.3 | 4.67 | 21.23 | 2.99 | 39 | |
| 1355 | 9.58 | 250 | 2.50 | 6.74 | 0.00 | 14.3 | 4.66 | 21.20 | 2.98 | 45 | |
| 1400 | 9.75 | 250 | 2.75 | 6.75 | 0.00 | 4.4 | 4.65 | 21.04 | 2.98 | 48 | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/21/12 1405 Total Volume of Water purged: 3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.75 | Alkalinity (g/g) | 20 drops/ 400 |
| Spec. Cond.(mS/cm) | 4.65 | Carbon Dioxide (mg/L) | 394 |
| Turbidity (NTU) | 4.40 | Ferrous Iron (mg/L) | 0.40 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 21.04 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | 48.00 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.98 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 1 Filter | None | 1000mL filtered |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: 1 vial for hydrogen, 2 voas for acetylene

Microbial vial: 1 filter=1000 mL.

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-10S_062512 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (11.95- 6.47)*(0.16) = 0.88 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/25/12 0905

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 905 | 6.47 | 300 | 0.00 | 6.00 | 4.92 | 8.17 | 3.78 | 20.61 | 2.43 | 129 | clear |
| 915 | 8.07 | 300 | | 6.43 | 2.13 | 7.06 | 4.04 | 17.80 | 2.59 | 113 | clear |
| 925 | 9.34 | 300 | | 6.68 | 2.22 | 20.00 | 4.09 | 17.42 | 2.62 | 115 | clear |
| 935 | 10.45 | 300 | | 6.83 | 2.37 | 10.30 | 4.08 | 16.86 | 2.61 | 113 | clear |
| 940 | 11.16 | 300 | | 6.87 | 1.32 | 10.60 | 4.07 | 16.54 | 2.60 | 112 | clear |
| 945 | dry | | | | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |

## Sampling Data

Method: low flow Date/Time: 6/25/12 1615 Total Volume of Water purged: 3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.87 | Alkalinity (g/g) | 22 drops/440 |
| Spec. Cond.(mS/cm) | 4.07 | Carbon Dioxide (mg/L) | 256 |
| Turbidity (NTU) | 10.60 | Ferrous Iron (mg/L) | 0.00 |
| DO (mg/L) | 1.32 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 16.54 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | 112 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.60 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Purged dry at 0945, sample collected at 1615. Hydrogen + acetylene samples collected 6/26/12 0839

Dissolved Hydrogen: start @ 1449/stop @ 1509. Ran 20 min @170 mL/min.

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-11S_062012 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (12-6.48)*(0.16) = 0.88 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/20/12 0920

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 815 | 6.48 | 250 | 0.00 | 6.41 | 19.12 | 0.00 | 3.78 | 22.45 | 2.42 | 29 | water clear |
| 820 | 7.89 | 200 | 0.50 | 6.65 | 3.10 | 0.00 | 3.34 | 20.66 | 2.34 | 5 | water clear |
| 825 | 8.05 | 200 | 0.75 | 6.69 | 2.39 | 0.00 | 3.63 | 20.63 | 2.32 | 5 | water clear |
| 830 | 8.20 | 200 | 1.00 | 6.75 | 0.97 | 8.10 | 3.61 | 20.55 | 2.31 | 10 | water clear |
| 835 | 8.35 | 200 | 1.25 | 6.79 | 0.28 | 6.70 | 3.74 | 20.52 | 2.39 | 13 | water clear |
| 840 | 8.40 | 200 | 1.50 | 6.82 | 0.00 | 4.50 | 3.86 | 20.55 | 2.47 | 14 | water clear |
| 845 | 8.50 | 200 | 1.75 | 6.85 | 0.00 | 3.00 | 3.92 | 20.71 | 2.51 | 14 | water clear |
| 850 | 8.60 | 200 | 2.00 | 6.86 | 0.37 | 0.00 | 4.00 | 20.92 | 2.56 | 12 | water clear |
| 855 | 8.70 | 200 | 2.25 | 6.89 | 0.37 | 0.00 | 4.04 | 20.98 | 2.58 | 10 | water clear |
| 900 | 8.80 | 200 | 2.50 | 6.91 | 0.15 | 0.00 | 4.05 | 20.87 | 2.59 | 11 | water clear |
| 905 | 8.90 | 200 | 2.75 | 6.93 | 0.02 | 0.00 | 4.06 | 20.74 | 2.60 | 11 | water clear |
| 910 | 9.10 | 200 | 3.00 | 6.94 | 0.00 | 0.00 | 4.06 | 20.47 | 2.60 | 9 | water clear |
| 915 | 9.20 | 200 | 3.25 | 6.95 | 0.00 | 0.00 | 4.08 | 20.25 | 2.61 | 7 | water clear |

## Sampling Data

Method: low flow - geopump Date/Time: 6/20/12 0920 Total Volume of Water purged: 3.25 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.95 | Alkalinity (g/g) | 19 drops/ 380 |
| Spec. Cond.(mS/cm) | 4.08 | Carbon Dioxide (mg/L) | 256 |
| Turbidity (NTU) | 0.00 | Ferrous Iron (mg/L) | 0.70 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 20.23 | Hydrogen Sulfide (mg/L) | 0.00 |
| ORP (mv) | 7.00 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.61 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-1D_062612 Well Diameter: 4 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| 23.7-7.55 (0.62) = 9.8 Casing Volumes (gal/ft.): | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/26/12 0905

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 800 | 7.55 | 250 | 0.00 | 6.23 | 2.24 | 3.9 | 1.85 | 17.77 | 1.18 | -223 | water clear |
| 805 | 7.90 | 250 | 0.25 | 6.56 | 1.35 | 3.8 | 1.88 | 17.32 | 1.20 | -252 | water clear |
| 810 | 8.00 | 250 | 0.50 | 6.90 | 0.46 | 2.7 | 1.98 | 16.55 | 1.26 | -283 | water clear |
| 815 | 8.05 | 250 | 0.75 | 6.95 | 0.25 | 2.0 | 2.20 | 16.36 | 1.40 | -292 | water clear |
| 820 | 8.10 | 250 | 1.00 | 6.94 | 0.19 | 1.5 | 2.35 | 16.28 | 1.50 | -297 | water clear |
| 825 | 8.12 | 250 | 1.25 | 6.93 | 0.14 | 1.6 | 2.47 | 16.22 | 1.58 | -301 | water clear |
| 830 | 8.10 | 250 | 1.50 | 6.93 | 0.11 | 1.3 | 2.62 | 16.30 | 1.67 | -304 | water clear |
| 835 | 8.10 | 250 | 1.75 | 6.93 | 0.11 | 1.7 | 2.75 | 16.45 | 1.76 | -308 | water clear |
| 840 | 8.05 | 250 | 2.00 | 6.94 | 0.09 | 1.1 | 2.80 | 16.50 | 1.79 | -309 | water clear |
| 845 | 8.10 | 250 | 2.25 | 6.95 | 0.08 | 0.7 | 2.80 | 16.50 | 1.79 | -310 | water clear |
| 850 | 8.10 | 250 | 2.50 | 6.95 | 0.08 | 0.6 | 2.79 | 16.49 | 1.79 | -311 | water clear |
| 855 | 8.10 | 250 | 2.75 | 6.96 | 0.05 | 0.8 | 2.77 | 16.48 | 1.77 | -312 | water clear |
| 900 | 8.10 | 250 | 3.0 | 6.97 | 0.03 | 1.1 | 2.75 | 16.46 | 1.76 | -312 | water clear |

## Sampling Data

Method: low flow - geopump Date/Time: 6/26/12 0905 Total Volume of Water purged: 3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.97 | Alkalinity (g/g) | 20 drops/ 400 |
| Spec. Cond.(mS/cm) | 2.75 | Carbon Dioxide (mg/L) | 348 |
| Turbidity (NTU) | 1.10 | Ferrous Iron (mg/L) | 0.5 |
| DO (mg/L) | 0.03 | Manganese (mg/L) | 0 |
| Temp.(°C) | 16.46 | Hydrogen Sulfide (mg/L) | 5.0 |
| ORP (mv) | -312 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.76 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-2D_062112 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (24.70 - 7.47)(0.16) = 2.76 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/20/12 1240

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1240 | 7.47 | 200 | 0.00 | 6.67 | 1.09 | 19.40 | 3.12 | 27.17 | 2.00 | -341 | Clear |
| 1250 | 12.50 | 200 | 0.50 | 6.67 | 0.21 | 26.70 | 3.12 | 23.99 | 2.00 | -347 | Clear |
| 1300 | 14.17 | 200 | 1.00 | 6.68 | 0.15 | 11.00 | 3.14 | 23.80 | 2.02 | -347 | Light gray tint |
| 1305 | 15.50 | 200 | 1.25 | 6.69 | 0.15 | 14.00 | 3.17 | 23.68 | 2.03 | -346 | Light gray tint |
| 1310 | 16.45 | 200 | 1.50 | 6.69 | 0.14 | 9.81 | 3.60 | 23.72 | 2.02 | -346 | Light gray tint |
| 1315 | 17.73 | 200 | 1.75 | 6.69 | 0.16 | 13.80 | 3.15 | 23.67 | 2.02 | -345 | clear |
| 1320 | 18.40 | 200 | 2.00 | 6.69 | 0.17 | 15.10 | 3.15 | 23.68 | 2.01 | -345 | clear |
| 1325 | 19.00 | 200 | 2.25 | 6.69 | 0.20 | 16.00 | 3.10 | 23.66 | 1.98 | -342 | clear |
| 1330 | 19.26 | 200 | 2.50 | 6.69 | 0.21 | 8.68 | 3.10 | 23.66 | 1.98 | -341 | clear |
| 1340 | 20.20 | 200 | 3.00 | 6.67 | 0.95 | 12.80 | 3.06 | 23.41 | 1.96 | -334 | clear |
| 1345 | 20.93 | 200 | 3.25 | 6.71 | 0.99 | 17.50 | 3.04 | 23.34 | 1.94 | -327 | clear |
| 1350 | 21.61 | 200 | 3.50 | 6.71 | 0.17 | 8.59 | 3.03 | 23.53 | 1.94 | -333 | clear |
| 1355 | 22.60 | 200 | 3.75 | 6.70 | 0.09 | 12.80 | 2.95 | 23.49 | 1.89 | -339 | clear |
| 1400 | dry | 200 | 4.00 | 6.68 | 0.15 | | 2.61 | 24.15 | 1.59 | -300 | clear |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow Date/Time: 6/21/2012 0850 Total Volume of Water purged: 4 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.68 | Alkalinity (g/g) | 41 |
| Spec. Cond.(mS/cm) | 2.61 | Carbon Dioxide (mg/L) | 464 |
| Turbidity (NTU) | _ | Ferrous Iron (mg/L) | 0.60 |
| DO (mg/L) | 0.15 | Manganese (mg/L) | |
| Temp.(°C) | 24.15 | Hydrogen Sulfide (mg/L) | >5 |
| ORP (mv) | -300 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.59 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 1 filter | | 1000mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Well ran dry, sampled the day after purging

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-3D_062712 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (24.82-7.74)*(0.16) = 2.73 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/27/2012 0805

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 805 | 7.74 | 200 | 0.00 | 6.53 | 0.75 | 85.40 | 2.42 | 19.98 | 1.55 | -366 | dark gray, odor |
| 815 | 9.82 | 200 | 0.50 | 6.72 | 1..03 | 23.60 | 2.72 | 19.09 | 1.74 | -354 | dark gray, odor |
| 825 | 10.89 | 200 | 1.00 | 6.68 | 1.04 | 10.00 | 2.82 | 18.34 | 1.81 | -349 | dark gray, odor |
| 830 | 11.14 | 200 | 1.25 | 6.69 | 1.18 | 9.26 | 2.79 | 18.28 | 1.79 | -348 | dark gray, odor, suspended solids |
| 835 | 11.05 | 200 | 1.50 | 6.70 | 1.08 | 6.90 | 2.77 | 18.52 | 1.77 | -347 | dark gray, odor, suspended solids |
| 840 | 10.91 | 200 | 1.75 | 6.71 | 1.33 | 6.62 | 2.75 | 18.66 | 1.76 | -346 | dark gray, odor, suspended solids |
| 845 | 10.89 | 200 | 2.00 | 6.72 | 1.75 | 5.91 | 2.73 | 18.71 | 1.75 | -345 | clear, slight odor |
| 850 | 10.90 | 200 | 2.25 | 6.73 | 1.68 | 6.63 | 2.71 | 18.65 | 1.73 | -345 | clear, slight odor |
| 855 | 10.97 | 200 | 2.50 | 6.72 | 1.59 | 6.92 | 2.67 | 18.32 | 1.71 | -345 | clear, slight odor |
| 900 | 11.02 | 200 | 2.75 | 6.69 | 1.61 | 6.37 | 2.66 | 18.24 | 1.70 | -342 | clear, slight odor |
| 905 | 11.03 | 200 | 3.00 | 6.68 | 1.65 | 6.81 | 2.67 | 17.93 | 1.71 | -341 | clear, slight odor |
| 910 | 11.05 | 200 | 3.25 | 6.67 | 1.68 | 7.37 | 2.68 | 17.79 | 1.72 | -341 | clear, slight odor |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow Date/Time: 6/2712 0910 Total Volume of Water purged: 3.25

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.67 | Alkalinity (g/g) | 35 drops |
| Spec. Cond.(mS/cm) | 2.68 | Carbon Dioxide (mg/L) | 314 |
| Turbidity (NTU) | 7.37 | Ferrous Iron (mg/L) | 0.10 |
| DO (mg/L) | 1.68 | Manganese (mg/L) | 0.0 orange |
| Temp.(°C) | 17.79 | Hydrogen Sulfide (mg/L) | 5 + |
| ORP (mv) | -341 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.72 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-4D_062712 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW: 7.26 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow-peristaltic Date/Time: 6/27/12 0800

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 810 | 8.83 | 110 | 0.29 | 7.09 | 1.80 | 5.34 | 2.59 | 18.57 | 1.66 | -375 | clear |
| 820 | 8.91 | 110 | 0.58 | 7.10 | 1.30 | 5.86 | 2.58 | 18.42 | 1.65 | -382 | clear |
| 830 | 8.80 | 110 | 0.87 | 7.09 | 0.50 | 6.87 | 2.59 | 18.18 | 1.66 | -355 | clear with few particles |
| 835 | 8.99 | 150 | 1.07 | 6.92 | 0.00 | 5.25 | 2.58 | 16.96 | 1.65 | -366 | clear with few particles |
| 840 | 9.29 | 150 | 1.27 | 6.89 | 0.00 | 4.10 | 2.56 | 16.88 | 1.64 | -372 | clear with few particles |
| 845 | 9.30 | 150 | 1.47 | 6.89 | 0.00 | 3.63 | 2.56 | 16.89 | 1.64 | -373 | clear with few particles |
| 850 | 9.31 | 150 | 1.67 | 6.88 | 0.00 | 3.47 | 2.56 | 16.90 | 1.64 | -375 | clear with few particles |
| 855 | 9.31 | 150 | 1.87 | 6.88 | 0.00 | 3.46 | 2.57 | 16.84 | 1.65 | -375 | clear with few particles |
| 900 | 9.31 | 150 | 2.07 | 6.87 | 0.00 | 3.62 | 2.56 | 16.87 | 1.64 | -376 | clear with few particles |
| 905 | 9.30 | 150 | 2.27 | 6.93 | 0.00 | 2.99 | 2.56 | 16.86 | 1.64 | -375 | clear |
| 910 | 9.31 | 150 | 2.47 | 6.86 | 0.00 | 4.08 | 2.54 | 16.78 | 1.63 | -377 | clear |
| 915 | 9.32 | 150 | 2.67 | 6.87 | 0.00 | 2.95 | 2.55 | 16.45 | 1.63 | -379 | clear |
| 920 | 9.32 | 150 | 2.87 | 6.86 | 0.00 | 3.42 | 2.53 | 16.27 | 1.62 | -380 | clear |
| 925 | 9.32 | 150 | 3.07 | 6.87 | 0.00 | 2.96 | | 16.29 | 1.66 | -379 | clear |

## Sampling Data

Method: peristaltic Date/Time: 6/27/12 0930 Total Volume of Water purged: 3.25 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.87 | Alkalinity (g/g) | 41 drops, 820 |
| Spec. Cond.(mS/cm) | 2.53 | Carbon Dioxide (mg/L) | 248 |
| Turbidity (NTU) | 2.96 | Ferrous Iron (mg/L) | 0.10 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 16.29 | Hydrogen Sulfide (mg/L) | 2.00 |
| ORP (mv) | -379 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.66 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-5D_062212 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (25.14 - 7.32)(0.16) = 2.85 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow Date/Time: 6/22/12 0805

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 805 | 7.32 | 200 | 0.00 | 7.25 | 9.22 | 6.94 | 3.05 | 18.57 | 1.96 | -351 | clear, organic odor |
| 815 | 8.14 | 200 | 0.53 | 7.12 | 1.42 | 15.80 | 3.21 | 17.04 | 1.16 | -364 | clear, organic odor |
| 825 | 8.31 | 200 | 1.06 | 6.98 | 0.21 | 9.12 | 2.96 | 15.96 | 1.89 | -372 | clear, organic odor |
| 830 | 8.35 | 200 | 1.32 | 6.92 | 0.21 | 9.44 | 2.78 | 15.86 | 1.77 | -370 | clear, organic odor |
| 835 | 8.37 | 200 | 1.58 | 6.92 | 0.32 | 7.38 | 2.72 | 15.78 | 1.74 | -370 | clear, organic odor |
| 840 | 8.40 | 200 | 1.84 | 6.90 | 0.59 | 9.68 | 2.70 | 15.78 | 1.73 | -369 | clear, organic odor |
| 845 | 8.40 | 200 | 2.10 | 6.89 | 0.72 | 5.84 | 2.66 | 15.77 | 1.70 | -369 | clear, organic odor |
| 850 | 8.41 | 200 | 2.36 | 6.87 | 0.78 | 5.67 | 2.54 | 16.01 | 1.62 | -369 | clear, organic odor |
| 855 | 8.41 | 200 | 2.62 | 6.85 | 0.88 | 3.38 | 2.52 | 15.76 | 1.61 | -369 | clear, organic odor |
| 905 | 8.42 | 200 | 2.88 | 6.86 | 0.93 | 3.16 | 2.48 | 15.65 | 1.59 | -369 | clear, organic odor |
| 910 | 8.43 | 200 | 3.14 | 6.86 | 0.98 | 3.04 | 2.45 | 15.88 | 1.56 | -369 | clear, slight sulfur odor |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: Low flow Date/Time: 6/22/12 0905 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.86 | Alkalinity (g/g) | 43 drops/ 860 |
| Spec. Cond.(mS/cm) | 2.45 | Carbon Dioxide (mg/L) | 366 |
| Turbidity (NTU) | 3.04 | Ferrous Iron (mg/L) | 0.0 |
| DO (mg/L) | 0.98 | Manganese (mg/L) | 0.0 peach orange |
| Temp.(°C) | 15.88 | Hydrogen Sulfide (mg/L) | 5.0 |
| ORP (mv) | -369 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.56 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-6D_062012 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (25-7.9)(0.16) = 2.7 ft | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/20/12 1025

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1025 | 9.70 | 200 | 0.00 | 7.01 | 6.65 | 26.10 | 3.49 | 23.30 | 2.23 | -288 | |
| 1030 | 10.20 | 200 | 0.25 | 6.97 | 3.67 | 26.00 | 3.42 | 22.73 | 2.19 | -305 | |
| 1035 | 11.10 | 200 | 0.50 | 6.92 | 1.46 | 20.80 | 3.39 | 21.82 | 2.17 | -333 | |
| 1040 | 1.80 | 200 | 0.75 | 6.87 | 0.77 | 13.90 | 3.47 | 21.87 | 2.22 | -344 | |
| 1045 | 12.80 | 200 | 1.00 | 6.88 | 0.45 | 18.70 | 3.46 | 21.93 | 2.21 | -345 | |
| 1050 | 13.40 | 200 | 1.25 | 6.90 | 0.00 | 15.00 | 3.45 | 22.01 | 2.21 | -345 | |
| 1055 | 14.10 | 200 | 1.50 | 6.91 | 0.00 | 11.30 | 3.45 | 22.08 | 2.21 | -345 | |
| 1100 | 14.80 | 200 | 1.75 | 6.92 | 0.00 | 12.10 | 3.43 | 22.19 | 2.20 | -346 | |
| 1105 | 15.70 | 200 | 2.00 | 6.92 | 0.00 | 11.10 | 3.42 | 22.33 | 2.19 | -347 | |
| 1110 | 16.45 | 200 | 2.25 | 6.93 | 0.00 | 12.10 | 3.43 | 22.50 | 2.19 | -347 | |
| 1115 | 17.30 | 200 | 2.50 | 6.93 | 0.00 | 12.80 | 3.42 | 22.65 | 2.19 | -347 | |
| 1120 | 18.10 | 200 | 2.75 | 6.93 | 0.00 | 14.50 | 3.40 | 22.64 | 2.18 | -347 | |
| 1125 | 18.85 | 200 | 3.00 | 6.94 | 0.00 | 18.70 | 3.39 | 22.31 | 2.17 | -348 | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/21/12 0800 Total Volume of Water purged: 4 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.99 | Alkalinity (g/g) | 45 drops/ 900 |
| Spec. Cond.(mS/cm) | 3.45 | Carbon Dioxide (mg/L) | 480 |
| Turbidity (NTU) | 24.50 | Ferrous Iron (mg/L) | 0.20 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 23.93 | Hydrogen Sulfide (mg/L) | 2.00 |
| ORP (mv) | -336 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.20 | | |

VOAS Effervescing

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 2 Filters | Filtered | 295 mL<br>270 mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: First vial - 295 ml, 2nd vial - 270ml

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-6D_062012 Well Diameter: 2 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/20/12 1025

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1130 | 19.50 | 100 | 3.15 | 6.94 | 0.00 | 20.40 | 3.43 | 22.46 | 2.20 | -349 | |
| 1135 | 20.15 | 100 | 3.25 | 6.95 | 0.00 | 19.80 | 3.43 | 22.95 | 2.20 | -343 | |
| 1140 | 20.95 | 100 | 3.35 | 6.96 | 0.00 | 22.80 | 3.40 | 23.21 | 2.18 | -351 | |
| 1145 | 21.50 | 100 | 3.45 | 6.96 | 0.00 | 25.80 | 3.39 | 23.38 | 2.17 | -352 | |
| 1150 | 22.25 | 100 | 3.50 | 6.96 | 0.00 | 21.80 | 3.40 | 23.62 | 2.18 | -353 | |
| 1155 | 22.80 | 100 | 3.65 | 6.96 | 0.00 | 18.20 | 3.41 | 23.90 | 2.18 | -354 | |
| 1200 | 23.45 | 100 | 3.75 | 6.96 | 0.00 | 19.50 | 3.41 | 24.12 | 2.18 | -354 | |
| 1205 | 23.70 | 100 | 3.85 | 6.97 | 0.00 | 22.00 | 3.41 | 23.79 | 2.18 | -350 | |
| 1210 | 23.80 | 100 | 3.90 | 6.99 | 0.00 | 24.50 | 3.45 | 23.93 | 2.21 | -336 | |
| 1215 | well | dry | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - geopump Date/Time: 6/21/12 0800 Total Volume of Water purged: 3.25 gal.

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.99 | Alkalinity (g/g) | 45 drops, 900 |
| Spec. Cond.(mS/cm) | 3.45 | Carbon Dioxide (mg/L) | 480 |
| Turbidity (NTU) | 24.50 | Ferrous Iron (mg/L) | 0.20 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 23.93 | Hydrogen Sulfide (mg/L) | 2.00 |
| ORP (mv) | -336 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.21 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 2 Filters | Filtered | 280 mL<br>230 mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-7D_062612 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| Casing Volumes (gal/ft.): DTW=7.82 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/26/12 1330

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1340 | 8.24 | 150 | 0.39 | 8.11 | 0.00 | 9.11 | 3.48 | 20.91 | 2.23 | -362 | clear |
| 1350 | 8.26 | 150 | 0.78 | 7.46 | 0.00 | 4.82 | 3.19 | 20.17 | 2.05 | -366 | clear |
| 1400 | 8.39 | 150 | 1.17 | 7.38 | 0.00 | 4.78 | 3.00 | 19.71 | 1.96 | -367 | clear |
| 1405 | 8.47 | 150 | 1.36 | 7.36 | 0.00 | 4.70 | 2.87 | 19.45 | 1.85 | -368 | clear |
| 1410 | 8.38 | 150 | 1.56 | 7.35 | 0.00 | 7.44 | 2.82 | 19.98 | 1.80 | -369 | clear |
| 1415 | 8.37 | 150 | 1.75 | 7.34 | 0.00 | 5.16 | 2.78 | 19.94 | 1.78 | -370 | clear |
| 1420 | 8.36 | 150 | 1.95 | 7.33 | 0.00 | 3.93 | 2.72 | 19.94 | 1.74 | -371 | clear |
| 1425 | 8.35 | 150 | 2.14 | 7.33 | 0.00 | 3.08 | 2.70 | 20.15 | 1.72 | -372 | clear |
| 1430 | 8.35 | 150 | 2.34 | 7.32 | 0.00 | 3.80 | 2.68 | 20.13 | 1.71 | -372 | clear |
| 1435 | 8.35 | 150 | 2.53 | 7.32 | 0.00 | 4.25 | 2.67 | 20.27 | 1.71 | -371 | clear |
| 1440 | 8.35 | 150 | 2.73 | 7.31 | 0.00 | 3.19 | 2.69 | 20.02 | 1.72 | -370 | clear |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: peristaltic Date/Time: 6/26/12 1445 Total Volume of Water purged: 3.25 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.31 | Alkalinity (g/g) | 35 drops/ 700 |
| Spec. Cond.(mS/cm) | 2.69 | Carbon Dioxide (mg/L) | 454 |
| Turbidity (NTU) | 3.19 | Ferrous Iron (mg/L) | 0.00 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 20.02 | Hydrogen Sulfide (mg/L) | 2.0 |
| ORP (mv) | -370 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.72 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-8D_062212 Well Diameter: 2 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (24.32 - 7.30)(0.16) = 2.72 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/22/12 1005

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1005 | 7.30 | 200 | 0.00 | 7.15 | 7.82 | 16.30 | 3.64 | 17.67 | 2.33 | -383 | clear |
| 1015 | 7.90 | 200 | 0.53 | 7.07 | 0.35 | 6.71 | 3.70 | 17.31 | 2.37 | -387 | clear |
| 1025 | 7.85 | 200 | 1.06 | 6.98 | 0.36 | 5.36 | 3.72 | 17.38 | 2.38 | -382 | clear |
| 1030 | 7.80 | 200 | 1.32 | 6.94 | 0.37 | 2.16 | 3.72 | 17.17 | 2.38 | -378 | clear, sulfur odor |
| 1035 | 7.80 | 200 | 1.58 | 6.92 | 0.40 | 2.00 | 3.72 | 17.21 | 2.38 | -376 | clear, sulfur odor |
| 1040 | 7.80 | 200 | 1.84 | 6.91 | 0.42 | 1.91 | 3.73 | 17.12 | 2.39 | -375 | clear, sulfur odor |
| 1045 | 7.80 | 200 | 2.10 | 6.91 | 0.30 | 1.57 | 3.73 | 17.17 | 2.39 | -373 | clear, sulfur odor |
| 1050 | 7.80 | 200 | 2.36 | 6.90 | 0.24 | 1.68 | 3.73 | 17.03 | 2.39 | -371 | clear, sulfur odor |
| 1055 | 7.80 | 200 | 2.64 | 6.86 | 0.21 | 1.62 | 3.74 | 16.83 | 2.39 | -370 | clear, sulfur odor |
| 1100 | 7.80 | 200 | 2.90 | 6.87 | 0.22 | 1.62 | 3.73 | 17.10 | 2.39 | -369 | clear, sulfur odor |
| 1105 | 7.80 | 200 | 3.16 | 6.95 | 0.24 | 2.35 | 3.76 | 17.18 | 2.40 | -368 | clear |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow Date/Time: 6/22/12 1105 Total Volume of Water purged: 3.16 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.95 | Alkalinity (g/g) | 43 drops/ 860 |
| Spec. Cond.(mS/cm) | 3.76 | Carbon Dioxide (mg/L) | 300 |
| Turbidity (NTU) | 2.35 | Ferrous Iron (mg/L) | 0 |
| DO (mg/L) | 0.29 | Manganese (mg/L) | 0 |
| Temp.(°C) | 17.18 | Hydrogen Sulfide (mg/L) | 5 + |
| ORP (mv) | -368 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 2.40 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-9D_062212 Well Diameter: 4 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (22.01-7.69)*(0.64)= 9.16 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/22/12 1215

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1215 | 7.69 | 250 | 0.00 | 7.27 | 3.19 | 62.6 | 1.82 | 18.82 | 1.16 | -364 | clear |
| 1225 | 8.27 | 250 | 0.66 | 7.23 | 0.09 | 62.4 | 1.74 | 17.93 | 1.11 | -367 | slight sulfur/sweet odor |
| 1235 | 8.31 | 250 | 1.32 | 7.12 | 0.15 | 98.3 | 1.74 | 17.71 | 1.11 | -364 | slight sulfur/sweet odor |
| 1240 | 8.36 | 250 | 1.65 | 7.24 | 0.10 | 45.6 | 1.75 | 17.78 | 1.12 | -364 | trace vegetable odor |
| 1245 | 8.37 | 250 | 1.98 | 7.25 | 0.00 | 31.6 | 1.76 | 17.54 | 1.13 | -364 | trace vegetable odor |
| 1250 | 8.36 | 250 | 2.31 | 6.87 | 0.00 | 43.7 | 1.80 | 17.20 | 1.16 | -357 | trace vegetable odor |
| 1255 | 8.36 | 250 | 2.64 | 6.78 | 0.00 | 46.8 | 1.87 | 17.23 | 1.26 | -356 | trace vegetable odor |
| 1300 | 8.37 | 250 | 2.97 | 6.79 | 0.00 | 24.0 | 1.85 | 17.44 | 1.25 | -357 | trace vegetable odor |
| 1305 | 8.36 | 250 | 3.30 | 6.80 | 0.00 | 18.2 | 1.84 | 17.47 | 1.24 | -376 | clear |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow Date/Time: 6/22/12 1305 Total Volume of Water purged: 3.3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.80 | Alkalinity (g/g) | 33 drops. 660 |
| Spec. Cond.(mS/cm) | 1.84 | Carbon Dioxide (mg/L) | 256 |
| Turbidity (NTU) | 18.00 | Ferrous Iron (mg/L) | 0 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.0 orange |
| Temp.(°C) | 17.47 | Hydrogen Sulfide (mg/L) | 5 + |
| ORP (mv) | -356 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.25 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-10D_062612 Well Diameter: 4 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| Casing Volumes (gal/ft.):(22.5 - 7.6) x .64 = 9.5 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - geopump Date/Time: 6/26/12 1420

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1315 | 7.60 | 200 | 0.00 | 6.09 | 5.95 | 605 | 2.04 | 23.07 | 1.31 | -135 | Water Gray |
| 1320 | 7.70 | 200 | 0.25 | 6.08 | 1.99 | 577 | 2.01 | 22.44 | 1.29 | -141 | Water Gray |
| 1325 | 7.70 | 200 | 0.50 | 6.06 | 0.00 | 117 | 1.99 | 21.70 | 1.27 | -152 | Water Gray |
| 1330 | 7.70 | 200 | 0.75 | 6.05 | 0.00 | 90.7 | 1.99 | 21.42 | 1.27 | -160 | Water Gray |
| 1335 | 7.70 | 200 | 1.00 | 6.06 | 0.00 | 79.9 | 1.99 | 21.23 | 1.27 | -161 | Water Gray |
| 1340 | 7.70 | 200 | 1.25 | 6.07 | 0.00 | 75.7 | 2.00 | 21.00 | 1.28 | -164 | Water Gray |
| 1345 | 7.70 | 200 | 1.50 | 6.07 | 0.00 | 70.6 | 2.00 | 20.97 | 1.28 | -167 | Water Gray |
| 1350 | 7.70 | 200 | 1.75 | 6.07 | 0.00 | 61.6 | 2.00 | 20.79 | 1.28 | -173 | Water Gray |
| 1355 | 7.70 | 200 | 2.00 | 6.07 | 0.00 | 68.4 | 2.01 | 20.67 | 1.28 | -185 | Water Gray |
| 1400 | 7.70 | 200 | 2.25 | 6.08 | 0.00 | 93.7 | 2.01 | 20.65 | 1.29 | -208 | Water Gray |
| 1405 | 7.70 | 200 | 2.50 | 6.08 | 0.00 | 115 | 2.02 | 20.68 | 1.29 | -236 | Water Gray |
| 1410 | 7.70 | 200 | 2.75 | 6.08 | 0.00 | 139 | 2.01 | 20.86 | 1.29 | -279 | Water Gray |
| 1415 | 7.70 | 200 | 3.00 | 6.09 | 0.00 | 140 | 1.98 | 20.97 | 1.27 | -324 | Water Gray |

## Sampling Data

Method: low flow - geopump Date/Time: 6/26/12 1420 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.09 | Alkalinity (g/g) | 34 drops/ 680 |
| Spec. Cond.(mS/cm) | 1.98 | Carbon Dioxide (mg/L) | 1384 |
| Turbidity (NTU) | 140 | Ferrous Iron (mg/L) | 4.6 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0 |
| Temp.(°C) | 20.97 | Hydrogen Sulfide (mg/L) | 0.7 |
| ORP (mv) | -324 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.27 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-11D_062112 Well Diameter: 4 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| Could not get accurate water levels due to vegetable oil biomass in well | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/21/12 0808

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 818 | 7.01 | 200 | 0.52 | 6.19 | 1.87 | 172 | 1.44 | 24.52 | 0.922 | -173 | black biomass particles |
| 828 | 7.05 | 200 | 1.04 | 6.22 | 0.81 | 150 | 1.41 | 24.59 | 0.905 | -198 | black biomass particles |
| 838 | 7.05 | 200 | 1.56 | 6.24 | 0.51 | 67.5 | 1.40 | 24.58 | 0.897 | -187 | black biomass particles |
| 843 | 7.05 | 200 | 1.82 | 6.26 | 0.37 | 66.4 | 1.39 | 24.70 | 0.892 | -188 | clear with black particles |
| 848 | 7.05 | 200 | 2.08 | 6.27 | 0.29 | 62.1 | 1.39 | 24.72 | 0.890 | -210 | clear with black particles |
| 853 | 7.05 | 200 | 2.34 | 6.28 | 0.20 | 44.7 | 1.39 | 24.72 | 0.888 | -202 | clear with black particles |
| 858 | 7.05 | 200 | 2.60 | 6.28 | 0.14 | 50.8 | 1.38 | 24.72 | 0.886 | -206 | clear with black particles |
| 903 | 7.10 | 200 | 2.86 | 6.29 | 0.08 | 47.6 | 1.37 | 25.01 | 0.879 | -211 | clear with black particles |
| 908 | 7.10 | 200 | 3.12 | 6.31 | 0.01 | 48.2 | 1.37 | 24.92 | 0.880 | -213 | clear with black particles |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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## Sampling Data

Method: low flow - peristaltic Date/Time: 6/21/12 0910 Total Volume of Water purged: 4.25 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.31 | Alkalinity (g/g) | water oxidized |
| Spec. Cond.(mS/cm) | 1.37 | Carbon Dioxide (mg/L) | could not |
| Turbidity (NTU) | 48.20 | Ferrous Iron (mg/L) | run these |
| DO (mg/L) | 0.01 | Manganese (mg/L) | tests |
| Temp.(°C) | 24.92 | Hydrogen Sulfide (mg/L) | 3.00 |
| ORP (mv) | -213 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 0.88 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 1 filter | | Filtered 1000mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: collected duplicate PMW-110D_062112@1201 (VOC, MEE, Chloride/Sulfate/Nitrate, Diss Inorganics, TOC) Diss Hydrogen start 0942, stop 1002, sample 1002

VOAs effervescing during sample collection, gas bubbles coming through tubing

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-12D_062612 Well Diameter: 4 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| Casing Volumes (gal/ft.): (23.27 - 7.79) x 0.16 = 2.48 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/26/12 1205

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1205 | 7.79 | 200 | 0.00 | 7.21 | 10.31 | 62.5 | 2.41 | 22.72 | 1.54 | -217 | Suspended solids |
| 1215 | 7.90 | 200 | 0.50 | 7.27 | 0.23 | 29.3 | 2.58 | 21.97 | 1.65 | -203 | clear |
| 1225 | 7.88 | 200 | 1.00 | 7.24 | 0.19 | 32.6 | 2.61 | 21.67 | 1.67 | -204 | clear |
| 1230 | 7.86 | 200 | 1.25 | 7.23 | 0.16 | 48.8 | 2.63 | 21.72 | 1.68 | -202 | clear |
| 1235 | 7.86 | 200 | 1.50 | 7.24 | 0.15 | 42.6 | 2.63 | 27.70 | 1.68 | -203 | clear |
| 1240 | 7.99 | 200 | 1.75 | 7.20 | 0.15 | 22.3 | 2.64 | 21.76 | 1.69 | -200 | clear |
| 1245 | 7.85 | 200 | 2.00 | 7.21 | 0.13 | 15.9 | 2.61 | 21.84 | 1.67 | -197 | clear |
| 1250 | 7.86 | 200 | 2.25 | 7.20 | 0.13 | 24.4 | 2.65 | 21.53 | 1.70 | -196 | clear |
| 1255 | 7.85 | 200 | 2.50 | 7.18 | 0.12 | 19.3 | 2.60 | 21.77 | 1.68 | -193 | clear |
| 1300 | 7.86 | 200 | 2.75 | 7.17 | 0.11 | 27.6 | 2.58 | 21.96 | 1.65 | -189 | clear |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow Date/Time: 6/26/12 1300 Total Volume of Water purged: 2.75 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.17 | Alkalinity (g/g) | 27 drops/ 540 |
| Spec. Cond.(mS/cm) | 2.58 | Carbon Dioxide (mg/L) | 448 |
| Turbidity (NTU) | 27.60 | Ferrous Iron (mg/L) | 8.40 |
| DO (mg/L) | 0.11 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 12.96 | Hydrogen Sulfide (mg/L) | 0.40 |
| ORP (mv) | -189 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.65 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-13D_02612 Well Diameter: 4 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| Casing Volumes (gal/ft.): DTW = 7.64 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow Date/Time: 6/26/2012 0:00

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | Gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1430 | 7.64 | 200 | 0.00 | 6.53 | 3.20 | 262 | 2.05 | 24.11 | 1.32 | -95 | Nasty |
| 1440 | 7.92 | 200 | 0.50 | 6.18 | 0.12 | 155 | 2.18 | 22.20 | 1.39 | -111 | Gray with suspended solids |
| 1450 | 7.92 | 200 | 1.00 | 6.18 | 0.09 | 211 | 2.16 | 22.06 | 1.38 | -121 | Gray with suspended solids |
| 1455 | 7.92 | 200 | 1.25 | 6.18 | 0.06 | 331 | 2.17 | 22.10 | 1.39 | -144 | Gray with suspended solids |
| 1500 | 7.92 | 200 | 1.50 | 6.07 | 0.05 | 301 | 2.17 | 23.26 | 1.39 | -158 | black, suspended solids |
| 1505 | 7.93 | 200 | 1.75 | 6.04 | 0.05 | 290 | 2.17 | 24.01 | 1.39 | -166 | black, suspended solids |
| 1510 | 7.95 | 200 | 2.00 | 6.12 | 0.06 | 267 | 2.18 | 24.60 | 1.39 | -189 | black, suspended solids |
| 1515 | 7.93 | 200 | 2.25 | 6.15 | 0.05 | 281 | 2.16 | 24.71 | 1.38 | -200 | black, suspended solids |
| 1520 | 7.93 | 200 | 2.50 | 6.17 | 0.05 | 294 | 2.14 | 24.87 | 1.37 | -216 | black, suspended solids |
| 1525 | 7.94 | 200 | 2.75 | 6.17 | 0.04 | 306 | 2.10 | 24.66 | 1.35 | -221 | black, suspended solids |
| 1530 | 7.94 | 200 | 3.00 | 6.17 | 0.00 | 315 | 2.01 | 24.42 | 1.33 | -255 | black, suspended solids |
| 1535 | 8.01 | 200 | 3.25 | 6.14 | 0.00 | 305 | 2.01 | 21.32 | 1.29 | -337 | black, suspended solids |
| 1540 | 8.02 | 200 | 3.50 | 6.15 | 0.00 | 331 | 2.01 | 21.38 | 1.29 | -354 | black, suspended solids |

## Sampling Data

Method: Low Flow Date/Time: 6/26/12 1615 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.12 | Alkalinity (g/g) | Black |
| Spec. Cond.(mS/cm) | 7.02 | Carbon Dioxide (mg/L) | Black |
| Turbidity (NTU) | 225 | Ferrous Iron (mg/L) | Black |
| DO (mg/L) | 0.00 | Manganese (mg/L) | Black |
| Temp.(°C) | 23.61 | Hydrogen Sulfide (mg/L) | 5.00 |
| ORP (mv) | -413 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.29 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-13D_062612 Well Diameter: 4 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| Casing Volumes (gal/ft.): | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/26/2012 1430

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | Gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1545 | 8.05 | 200 | 3.75 | 6.15 | 0.00 | 282 | 2.02 | 21.59 | 1.29 | -357 | Black, suspended solids |
| 1550 | 8.08 | 200 | 4.00 | 6.14 | 0.00 | 280 | 2.03 | 21.57 | 1.30 | -367 | Black, suspended solids |
| 1555 | 8.09 | 200 | 4.25 | 6.12 | 0.00 | 285 | 2.02 | 12.62 | 1.29 | -386 | Black, suspended solids |
| 1600 | 8.10 | 100 | 4.50 | 6.12 | 0.00 | 288 | 2.01 | 22.05 | 1.29 | -399 | Black, suspended solids |
| 1605 | 8.03 | 100 | 4.675 | 6.13 | 0.00 | 232 | 2.04 | 23.24 | 1.33 | -403 | Black, suspended solids |
| 1610 | 8.01 | 100 | 4.75 | 6.12 | 0.00 | 230 | 2.02 | 23.58 | 1.29 | -412 | Black, suspended solids |
| 1615 | 8.00 | 100 | 4.825 | 6.12 | 0.00 | 225 | 2.02 | 23.61 | 1.29 | -413 | Black, suspended solids |
| | | | | | | | | | | | |
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## Sampling Data

Method: low flow Date/Time: 6/26/12 1615 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | | Alkalinity (g/g) | |
| Spec. Cond.(mS/cm) | | Carbon Dioxide (mg/L) | |
| Turbidity (NTU) | | Ferrous Iron (mg/L) | |
| DO (mg/L) | | Manganese (mg/L) | |
| Temp.(°C) | | Hydrogen Sulfide (mg/L) | |
| ORP (mv) | | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: (1) The water was too black to read Hach kits.

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-14D_062712 Well Diameter: 4 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 7.80 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow - Peristaltic Date/Time: 6/27/12 1409

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1419 | 8.21 | 200 | 0.52 | 5.77 | 0.55 | 42.20 | 2.44 | 18.76 | 1.56 | -220 | Slightly cloudy with particles |
| 1429 | 8.39 | 200 | 1.04 | 5.73 | 0.08 | 39.10 | 2.44 | 19.44 | 1.57 | -244 | Slightly cloudy with particles |
| 1434 | 8.39 | 200 | 1.30 | 5.72 | 0.03 | 33.20 | 2.44 | 19.34 | 1.56 | -257 | Clear with particles |
| 1439 | 8.40 | 200 | 1.56 | 5.72 | 0.00 | 29.60 | 2.43 | 19.34 | 1.56 | -272 | Clear with particles |
| 1444 | 8.40 | 200 | 1.82 | 5.67 | 0.00 | 28.90 | 2.42 | 19.52 | 1.55 | -369 | Clear with particles |
| 1449 | 8.40 | 200 | 2.08 | 5.65 | 0.00 | 30.80 | 2.41 | 19.39 | 1.54 | -430 | Clear with particles |
| 1454 | 8.42 | 200 | 2.34 | 5.66 | 0.00 | 66.50 | 2.41 | 19.03 | 1.54 | -431 | Slightly black |
| 1459 | 8.43 | 200 | 2.60 | 5.66 | 0.00 | 67.60 | 2.42 | 19.35 | 1.55 | -435 | Slightly black |
| 1504 | 8.42 | 200 | 2.86 | 5.66 | 0.00 | 69.10 | 2.43 | 19.27 | 1.56 | -447 | Slightly black |
| 1509 | 8.42 | 200 | 3.12 | 5.67 | 0.00 | 69.90 | 2.42 | 19.37 | 1.55 | -451 | Slightly black |
| 1514 | 8.42 | 200 | 3.38 | 5.63 | 0.00 | 70.40 | 2.45 | 19.31 | 1.56 | -454 | Slightly black |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: Low flow - Peristaltic Date/Time: 6/27/12 1515 Total Volume of Water purged: 3.8 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 5.63 | Alkalinity (g/g) | * |
| Spec. Cond.(mS/cm) | 2.45 | Carbon Dioxide (mg/L) | * |
| Turbidity (NTU) | 70.40 | Ferrous Iron (mg/L) | * |
| DO (mg/L) | 0.00 | Manganese (mg/L) | * |
| Temp.(°C) | 19.31 | Hydrogen Sulfide (mg/L) | 2.00 |
| ORP (mv) | -454 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.56 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: * Groundwater in this well oxidizing (turns black) in Ambient Air.

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-15D_062112 Well Diameter: 4 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (23.08 - 7.52) x 0.64 = 7.52 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/21/12 1027

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1037 | 8.16 | 180 | 0.47 | 6.99 | 1.08 | overrange | 1.66 | 21.88 | 1.06 | -418 | Black |
| 1047 | 8.20 | 180 | 0.94 | 7.16 | 0.26 | 656 | 1.67 | 22.98 | 1.06 | -366 | Black |
| 1057 | 8.21 | 180 | 1.41 | 7.28 | 0.00 | 47.6 | 1.67 | 24.13 | 1.07 | -323 | clear with black particles |
| 1102 | 8.22 | 180 | 1.64 | 6.85 | 0.00 | overrange | 1.64 | 23.30 | 1.04 | -469 | black |
| 1107 | 8.23 | 180 | 1.88 | 6.92 | 0.00 | 326 | 1.72 | 23.41 | 1.10 | -493 | light black |
| 1112 | 8.25 | 180 | 2.11 | 6.97 | 0.00 | 221 | 1.69 | 23.29 | 1.08 | -478 | light black |
| 1117 | 8.25 | 180 | 2.35 | 7.13 | 0.00 | 116 | 1.70 | 23.31 | 1.09 | -444 | light black |
| 1122 | 8.26 | 180 | 2.58 | 6.85 | 0.00 | 284 | 1.73 | 23.29 | 1.10 | -502 | light black |
| 1127 | 8.26 | 180 | 2.82 | 6.86 | 0.00 | 130 | 1.71 | 23.49 | 1.09 | -471 | light black |
| 1132 | 8.27 | 180 | 3.05 | 6.92 | 0.00 | 48.1 | 1.71 | 23.99 | 1.10 | -467 | sllightly clearer |
| 1137 | 8.28 | 180 | 3.29 | 6.90 | 0.00 | 46.4 | 1.71 | 22.63 | 1.09 | -461 | slightly clearer |
| 1142 | 8.28 | 180 | 3.52 | 6.93 | 0.00 | 45.9 | 1.74 | 22.68 | 1.11 | -463 | slightly clearer |
| 1147 | 8.28 | 180.00 | 3.76 | 6.94 | 0.00 | 44.8 | 1.70 | 22.74 | 1.09 | -461 | slightly clearer |

## Sampling Data

Method: peristaltic Date/Time: 6/21/12 1150 Total Volume of Water purged: 4.25 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.94 | Alkalinity (g/g) | too dark |
| Spec. Cond.(mS/cm) | 1.70 | Carbon Dioxide (mg/L) | to run |
| Turbidity (NTU) | 44.80 | Ferrous Iron (mg/L) | these |
| DO (mg/L) | 0.00 | Manganese (mg/L) | tests |
| Temp.(°C) | 22.74 | Hydrogen Sulfide (mg/L) | 5 + |
| ORP (mv) | -461 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.09 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 1 filter | None | Filtered 1000mL |
| Hydrogen, Acetylene | 1-20ml Vial 2-40ml Vials | None Trisodium phosphate | |
| | | | |

Comments: Dissolved Hydrogen: start 1212/ end 1232/ sample 1233 (180mL/min)

Purge water oxidizing when discharged from tube (turning black)

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-16D_062712 Well Diameter: 4 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (22.17-7.43)*(0.64) = 2.76 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/27/2012 0:00

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1025 | 7.43 | 200 | 0.00 | 10.57 | 9.23 | 188.0 | 0.541 | 18.01 | 0.347 | -404 | clear, slight odor |
| 1035 | 7.67 | 200 | 0.50 | 11.51 | 0.25 | 89.6 | 0.558 | 17.23 | 0.357 | -397 | clear |
| 1045 | 7.52 | 200 | 1.00 | 11.61 | 0.06 | 80.2 | 0.568 | 17.34 | 0.364 | -401 | clear |
| 1050 | 7.54 | 200 | 1.25 | 11.63 | 0.02 | 60.9 | 0.577 | 17.36 | 0.369 | -397 | clear |
| 1055 | 7.55 | 200 | 1.50 | 11.64 | 0.00 | 59.1 | 0.584 | 17.40 | 0.374 | -394 | clear |
| 1100 | 7.55 | 200 | 1.75 | 11.65 | 0.00 | 54.6 | 0.587 | 17.41 | 0.376 | -393 | clear |
| 1105 | 7.55 | 200 | 2.00 | 11.63 | 0.00 | 48.8 | 0.588 | 17.41 | 0.377 | -396 | clear |
| 1110 | 7.53 | 200 | 2.25 | 11.62 | 0.00 | 46.4 | 0.590 | 17.41 | 0.377 | -345 | clear |
| 1115 | 7.54 | 200 | 2.50 | 11.60 | 0.00 | 42.4 | 0.585 | 17.59 | 0.374 | -392 | clear |
| 1120 | 7.53 | 200 | 2.75 | 11.59 | 0.00 | 38.6 | 0.581 | 17.67 | 0.372 | -395 | clear |
| 1125 | 7.54 | 200 | 3.00 | 11.54 | 0.00 | 34.8 | 0.577 | 17.72 | 0.369 | -395 | clear |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow Date/Time: 6/27/12 1125 Total Volume of Water purged: 3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 11.59 | Alkalinity (g/g) | 9 drops |
| Spec. Cond.(mS/cm) | 0.577 | Carbon Dioxide (mg/L) | 0 |
| Turbidity (NTU) | 34.80 | Ferrous Iron (mg/L) | 0 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0 clear |
| Temp.(°C) | 17.72 | Hydrogen Sulfide (mg/L) | 1.5 |
| ORP (mv) | -395 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 0.369 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

Minimum purge = 3 gal (11.36 liters)

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: PMW-17D_062012 Well Diameter: 4 Inches

Samplers: R. Piurek Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 7.45 DTB = 23.50 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/20/12 1155

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1155 | 7.45 | 300 | 0.00 | 6.78 | 0.00 | 118 | 1.44 | 25.66 | 0.922 | -184 | black turbid |
| 1205 | 8.00 | 275 | 0.80 | 6.70 | 0.00 | 116 | 1.62 | 19.35 | 1.04 | -221 | black turbid |
| 1215 | 7.97 | 275 | 1.60 | 6.57 | 0.00 | 153 | 1.60 | 19.25 | 1.02 | -333 | black turbid |
| 1225 | 7.95 | 275 | 2.50 | 6.46 | 0.00 | 149 | 1.59 | 19.51 | 1.02 | -409 | black turbid |
| 1230 | 7.95 | 275 | 2.90 | 6.41 | 0.16 | 94.6 | 1.94 | 19.72 | 1.25 | -512 | black turbid |
| 1235 | 7.95 | 275 | 3.25 | 6.50 | 0.24 | 32.3 | 2.01 | 19.68 | 1.29 | -460 | black turbid |
| 1240 | 7.95 | 275 | 3.50 | 6.51 | 0.18 | 27.0 | 2.00 | 19.74 | 1.28 | -417 | black turbid |
| 1245 | 7.95 | 275 | 3.80 | 6.55 | 0.13 | 16.1 | 2.00 | 19.64 | 1.28 | -372 | black turbid |
| 1250 | 7.95 | 275 | 4.10 | 6.57 | 0.10 | 21.4 | 1.99 | 19.15 | 1.28 | -378 | black turbid |
| 1255 | 7.95 | 275 | 4.50 | 6.55 | 0.30 | 13.9 | 2.02 | 19.45 | 1.29 | -380 | black turbid |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow Date/Time: 6/20/12 1300 Total Volume of Water purged: ~4.8 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.55 | Alkalinity (g/g) | 35 drops/700 |
| Spec. Cond.(mS/cm) | 2.02 | Carbon Dioxide (mg/L) | 416 |
| Turbidity (NTU) | 13.90 | Ferrous Iron (mg/L) | 0.4 |
| DO (mg/L) | 0.30 | Manganese (mg/L) | 0.7 orange color |
| Temp.(°C) | 19.45 | Hydrogen Sulfide (mg/L) | 5+ |
| ORP (mv) | -380 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.29 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 2 filters | | Filter 1: 765mL. Filter 2: 235mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: RMW-1D_061912 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 7.32 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow peristaltic Date/Time: 6/19/12 0840

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 850 | 7.35 | 250 | 0.66 | 7.02 | 8.73 | 15.00 | 2.35 | 15.98 | 1.50 | -242 | clear |
| 900 | 7.35 | 250 | 1.32 | 6.91 | 8.42 | 9.87 | 2.37 | 15.85 | 1.52 | -251 | clear |
| 910 | 7.35 | 250 | 1.98 | 6.89 | 8.32 | 6.62 | 2.26 | 15.77 | 1.45 | -263 | clear |
| 915 | 7.35 | 250 | 2.31 | 6.92 | 6.18 | 7.22 | 2.04 | 16.09 | 1.30 | -266 | clear |
| 920 | 7.35 | 250 | 2.64 | 6.93 | 4.02 | 3.83 | 2.11 | 15.89 | 1.35 | -275 | clear |
| 925 | 7.35 | 250 | 2.97 | 6.95 | 4.02 | 1.84 | 2.05 | 16.05 | 1.31 | -275 | clear |
| 930 | 7.35 | 250 | 3.30 | 6.95 | 3.89 | 3.03 | 2.03 | 15.71 | 1.30 | -275 | clear |
| 935 | 7.35 | 250 | 3.63 | 6.96 | 3.86 | 3.70 | 2.02 | 15.70 | 1.29 | -272 | clear |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: peristaltic Date/Time: 6/19/12 0940 Total Volume of Water purged: 4.0 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.96 | Alkalinity (g/g) | 13 drops/ 260 |
| Spec. Cond.(mS/cm) | 2.02 | Carbon Dioxide (mg/L) | 188 |
| Turbidity (NTU) | 3.70 | Ferrous Iron (mg/L) | 0.2 |
| DO (mg/L) | 3.86 | Manganese (mg/L) | 0 |
| Temp.(°C) | 15.70 | Hydrogen Sulfide (mg/L) | 2.0 |
| ORP (mv) | -272 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.29 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: collected MS/MSD (RMW-1D_061912 MS/MSD) for VOC only, 6 bottles

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: RMW-2D_062012 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW=7.37 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/20/12 0810

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 820 | 7.76 | 100 | 0.26 | 6.79 | 0.62 | 10.60 | 2.48 | 22.30 | 1.58 | -304 | clear |
| 830 | 7.78 | 100 | 0.52 | 6.81 | 0.17 | 5.63 | 2.34 | 22.01 | 1.50 | -309 | clear |
| 840 | 7.78 | 125 | 0.85 | 6.81 | 0.12 | 2.90 | 2.09 | 22.00 | 1.34 | -313 | clear |
| 850 | 7.81 | 125 | 1.18 | 6.83 | 0.05 | 2.28 | 1.88 | 21.56 | 1.20 | 317 | clear |
| 855 | 7.81 | 125 | 1.35 | 6.82 | 0.06 | 2.19 | 1.84 | 21.78 | 1.18 | -318 | clear |
| 900 | 7.81 | 125 | 1.52 | 6.83 | 0.01 | 2.34 | 1.81 | 21.59 | 1.16 | -319 | clear |
| 905 | 7.81 | 125 | 1.69 | 6.83 | 0.01 | 2.67 | 1.81 | 21.63 | 1.15 | -320 | clear |
| 910 | 7.82 | 125 | 1.86 | 6.84 | 0.02 | 1.90 | 1.74 | 21.20 | 1.12 | -323 | clear |
| 915 | 7.83 | 125 | 2.03 | 6.82 | 0.04 | 3.13 | 1.74 | 21.11 | 1.11 | -322 | clear |
| 920 | 7.84 | 125 | 2.20 | 6.82 | 0.05 | 3.59 | 1.72 | 20.80 | 1.10 | -324 | clear |
| 925 | 7.84 | 125 | 2.37 | 6.82 | 0.07 | 3.72 | 1.71 | 20.78 | 1.09 | -325 | clear |
| 930 | 7.84 | 125 | 2.54 | 6.82 | 0.09 | 2.15 | 1.72 | 20.76 | 1.10 | -323 | clear |
| 935 | 7.84 | 125 | 2.71 | 6.82 | 0.03 | 2.13 | 1.72 | 20.78 | 1.10 | -322 | clear |

## Sampling Data

Method: peristaltic Date/Time: 6/20/12 0940 Total Volume of Water purged: 2.9 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.82 | Alkalinity (g/g) | 23 drops/ 460 |
| Spec. Cond.(mS/cm) | 1.72 | Carbon Dioxide (mg/L) | 268 |
| Turbidity (NTU) | 2.13 | Ferrous Iron (mg/L) | 0.10 |
| DO (mg/L) | 0.03 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 20.78 | Hydrogen Sulfide (mg/L) | 5.00 |
| ORP (mv) | -322 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.10 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 1 filter | None | Filtered 1000mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Gas bubbles in tubing during purging/sampling

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: RMW-3D_062612 Well Diameter: 2 Inches

Samplers: Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW 7.51 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/26/12 1025

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1025 | 7.51 | 200 | 0.0 | 6.95 | 0.00 | 165.00 | 2.23 | 18.05 | 1.43 | -331 | clear |
| 1035 | 7.92 | 200 | 0.4 | 6.98 | 0.00 | 81.00 | 2.25 | 17.38 | 1.44 | -324 | clear |
| 1045 | 7.93 | 200 | 0.8 | 7.05 | 0.00 | 67.20 | 2.25 | 17.27 | 1.44 | -331 | clear |
| 1055 | 7.93 | 200 | 1.4 | 6.98 | 0.00 | 18.80 | 1.89 | 17.41 | 1.21 | -319 | clear |
| 1100 | 7.93 | 200 | 1.6 | 6.97 | 0.00 | 7.14 | 1.83 | 17.08 | 1.17 | -316 | clear |
| 1105 | 7.93 | 200 | 1.9 | 6.97 | 0.00 | 9.67 | 1.79 | 16.99 | 1.15 | -318 | clear |
| 1110 | 7.94 | 200 | 2.2 | 6.97 | 0.00 | 12.00 | 1.78 | 16.85 | 1.14 | -318 | clear |
| 1115 | 7.94 | 200 | 2.6 | 6.97 | 0.00 | 7.27 | 1.76 | 16.92 | 1.13 | -318 | clear |
| 1120 | 7.94 | 200 | 2.9 | 6.96 | 0.00 | 5.66 | 1.76 | 16.80 | 1.12 | -318 | clear |
| | | | | | | | | | | | |
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## Sampling Data

Method: low flow Date/Time: 6/26/12 1120 Total Volume of Water purged: ~3.0 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.96 | Alkalinity (g/g) | 16 drops/ 320 |
| Spec. Cond.(mS/cm) | 1.76 | Carbon Dioxide (mg/L) | 212 |
| Turbidity (NTU) | 5.99 | Ferrous Iron (mg/L) | 0.3 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0 |
| Temp.(°C) | 16.80 | Hydrogen Sulfide (mg/L) | 5.0 |
| ORP (mv) | -318 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.12 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: RMW-4D_062712 Well Diameter: 2 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| Casing Volumes (gal/ft.): DTW= 8.18 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/27/12 1010

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1020 | 9.86 | 200 | 0.52 | 7.24 | 0.50 | 12.60 | 2.79 | 16.36 | 1.80 | -385 | clear with particles |
| 1030 | 10.10 | 200 | 1.04 | 7.00 | 0.20 | 4.69 | 2.08 | 16.41 | 1.34 | -380 | clear |
| 1035 | 9.98 | 200 | 1.30 | 6.91 | 0.03 | 3.68 | 1.94 | 16.66 | 1.24 | -374 | clear |
| 1040 | 9.98 | 200 | 1.56 | 6.94 | 0.01 | 3.92 | 2.06 | 16.66 | 1.32 | -377 | clear |
| 1045 | 9.97 | 200 | 1.82 | 6.94 | 0.02 | 3.66 | 2.07 | 16.63 | 1.33 | -377 | clear |
| 1050 | 9.97 | 200 | 2.08 | 6.94 | 0.00 | 4.29 | 2.11 | 16.74 | 1.35 | -378 | clear |
| 1055 | 9.97 | 200 | 2.34 | 6.96 | 0.00 | 3.78 | 2.20 | 16.62 | 1.41 | -380 | clear |
| 1100 | 9.97 | 200 | 2.60 | 6.96 | 0.00 | 2.89 | 2.23 | 16.57 | 1.43 | -382 | clear |
| 1105 | 9.97 | 200 | 2.86 | 6.97 | 0.00 | 2.97 | 2.26 | 16.70 | 1.44 | -383 | clear |
| 1110 | 9.96 | 200 | 3.12 | 6.96 | 0.00 | 2.90 | 2.28 | 16.74 | 1.46 | -382 | clear |
| | | | | | | | | | | | |
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## Sampling Data

Method: peristaltic Date/Time: 6/27/12 1115 Total Volume of Water purged: 3.3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.96 | Alkalinity (g/g) | 37 drops/ 740 |
| Spec. Cond.(mS/cm) | 2.28 | Carbon Dioxide (mg/L) | 432 |
| Turbidity (NTU) | 2.90 | Ferrous Iron (mg/L) | 0.20 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 16.74 | Hydrogen Sulfide (mg/L) | 2.00 |
| ORP (mv) | -382 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.46 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: VOAs effervescing. Gas bubbles coming up through tubing during purging and sampling.

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: INJ-7D_062812 Well Diameter: 4 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW: 7.87 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/28/12 0756

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 806 | 7.96 | 150 | 0.39 | 6.60 | 0.00 | 5.17 | 1.60 | 18.02 | 1.03 | -316 | clear, very few particles |
| 816 | 7.99 | 200 | 0.92 | 6.61 | 0.00 | 4.42 | 1.62 | 17.03 | 1.04 | -340 | clear, very few particles |
| 821 | 8.00 | 200 | 1.18 | 6.55 | 0.00 | 3.86 | 1.65 | 16.72 | 1.05 | -358 | clear, very few particles |
| 826 | 8.00 | 200 | 1.44 | 6.57 | 0.00 | 3.73 | 1.66 | 16.64 | 1.06 | -366 | clear, very few particles |
| 831 | 8.00 | 200 | 1.70 | 6.56 | 0.00 | 4.36 | 1.65 | 16.60 | 1.06 | -364 | clear, very few particles |
| 836 | 8.00 | 200 | 1.96 | 6.56 | 0.00 | 4.12 | 1.65 | 16.73 | 1.06 | -364 | clear, very few particles |
| 841 | 8.00 | 200 | 2.22 | 6.56 | 0.00 | 4.01 | 1.66 | 16.79 | 1.06 | -363 | clear, very few particles |
| 846 | 8.00 | 200 | 2.48 | 6.56 | 0.00 | 3.96 | 1.66 | 16.92 | 1.06 | -363 | clear, very few particles |
| 851 | 8.00 | 200 | 2.74 | 6.56 | 0.00 | 3.97 | 1.66 | 17.07 | 1.06 | -363 | clear, very few particles |
| | | | | | | | | | | | |
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## Sampling Data

Method: low flow - peristaltic Date/Time: 6/28/12 0855 Total Volume of Water purged: 5.0 Gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.56 | Alkalinity (g/g) | 21 drops/ 420 |
| Spec. Cond.(mS/cm) | 1.66 | Carbon Dioxide (mg/L) | 306 |
| Turbidity (NTU) | 3.97 | Ferrous Iron (mg/L) | 0.00 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 17.07 | Hydrogen Sulfide (mg/L) | 2.00 |
| ORP (mv) | -363 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.06 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 1 filter | none | filtered |
| Hydrogen, Acetylene | 1-20mL, 2-40mL | trisodium Phosphate | |
| | | | |

Comments: Microbial- 1 filter= 1000mL. Dissolved hydrogen start 0916, stop 0936, collect sample at 0937

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: INJ-8D_062512 Well Diameter: 4 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| Casing Volumes (gal/ft.): 9.26 Gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 6/25/12 1355

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1355 | 7.68 | | | 7.95 | 3.05 | 145 | 0.763 | 21.25 | 0.488 | -182 | Suspended solids |
| Pumping issues | | | | 7.18 | | | | | | | |
| 1405 | 7.90 | | | 7.18 | 0.52 | 115 | 0.469 | 18.27 | 0.622 | -304 | gray |
| 1415 | | | | | | | | | | | |
| 1430 | Change Tubing | | | | | | | | | | |
| 1435 | 7.90 | 200 | 0.00 | 7.95 | 0.00 | 92.0 | 0.745 | 18.78 | 0.475 | -241 | Gray, suspended solids |
| 1445 | 7.82 | 200 | 0.53 | 7.78 | 0.00 | 57.5 | 0.738 | 18.15 | 0.472 | -253 | Gray, suspended solids |
| 1455 | 7.84 | 200 | 1.06 | 7.76 | 0.00 | 50.4 | 0.745 | 18.16 | 0.477 | -248 | Gray, suspended solids |
| 1500 | 7.84 | 200 | 1.32 | 7.75 | 0.00 | 48.3 | 0.757 | 17.99 | 0.482 | -246 | Gray, suspended solids |
| 1505 | 7.84 | 200 | 1.58 | 7.71 | 0.00 | 44.7 | 0.763 | 17.89 | 0.484 | -243 | Gray, suspended solids |
| 1510 | 7.84 | 200 | 1.84 | 7.71 | 0.00 | 43.2 | 0.771 | 17.70 | 0.493 | -239 | Gray, suspended solids |
| 1515 | 7.84 | 200 | 2.00 | 7.67 | 0.00 | 39.6 | 0.784 | 17.42 | 0.501 | -240 | Gray, suspended solids |
| 1520 | 7.84 | 200 | 2.26 | 7.66 | 0.00 | 39.3 | 0.783 | 17.56 | 0.501 | -242 | Gray, suspended solids |

## Sampling Data

Method: low flow Date/Time: 6/26/12 1535 Total Volume of Water purged:

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.62 | Alkalinity (g/g) | 6 drops/ 120 |
| Spec. Cond.(mS/cm) | 0.79 | Carbon Dioxide (mg/L) | 202 |
| Turbidity (NTU) | 41.60 | Ferrous Iron (mg/L) | 2.80 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 17.62 | Hydrogen Sulfide (mg/L) | 0.10 |
| ORP (mv) | -242 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 0.51 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Nam: *Ekonol Facility* Well ID: INJ-8D_062512 Well Diameter: 4 Inches

Sampler: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| 9.26 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow Date/Time: 06/25/12 1345

| Time | DTW | ump Rat | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1525 | 7.84 | 200 | 2.52 | 7.63 | 0.00 | 37.3 | 0.788 | 17.71 | 0.504 | -240 | Gray, suspended solids |
| 1530 | 7.85 | 200 | 2.78 | 7.63 | 0.00 | 36.1 | 0.789 | 17.64 | 0.506 | -240 | Gray, suspended solids |
| 1535 | 7.83 | 200 | 3.04 | 7.62 | 0.00 | 41.6 | 0.791 | 17.62 | 0.508 | -242 | Gray, suspended solids |
| | | | | | | | | | | | |
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## Sampling Data

Method: low flow Date/Time: 6/25/12 1535 Total Volume of Water purged: 3.04 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.62 | Alkalinity (g/g) | 6 drops/120 |
| pec. Cond.(mS/cm | 0.79 | Carbon Dioxide | 202 |
| Turbidity (NTU) | 41.60 | Ferrous Iron (mg/L | 2.80 |
| DO (mg/L) | 0.00 | Manganese (mg/L | 0.00 |
| Temp.(°C) | 17.62 | Hydrogen Sulfide | 0.10 |
| ORP (mv) | -242 | * NOTE * HACH test kits are only required | |
| TDS (g/L) | 0.51 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / | 2-40mL glass vial | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic | None | EPA 365.1 |
| Sulfide | 1-250mL glass | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic | 2-40mL amber glass | H3PO4 | SW9060 |
| Total Inorganic | 1-120 mL glass | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: INJ-9D_062212 Well Diameter: 4 Inches

Samplers: Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 7.55 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow Date/Time: 6/22/12 1425

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1425 | 7.55 | 250 | 0.00 | 8.16 | 2.27 | 107.0 | 0.280 | 23.32 | 0.180 | -208 | |
| 1435 | 7.61 | 250 | 0.70 | 8.12 | 0.00 | 61.3 | 0.227 | 19.93 | 0.147 | -243 | |
| 1445 | 7.61 | 250 | 1.30 | 8.04 | 0.00 | 34.8 | 0.224 | 19.70 | 0.145 | -233 | |
| 1455 | 7.62 | 250 | 2.20 | 7.92 | 0.00 | 27.9 | 0.233 | 19.38 | 0.151 | -232 | |
| 1500 | 7.62 | 250 | 2.60 | 7.89 | 0.00 | 27.0 | 0.237 | 18.92 | 0.154 | -233 | |
| 1505 | 7.62 | 250 | 2.75 | 7.70 | 0.00 | 24.9 | 0.239 | 18.99 | 0.156 | -239 | |
| 1510 | 7.62 | 250 | 3.10 | 7.69 | 0.00 | 27.5 | 0.245 | 18.84 | 0.159 | -238 | |
| 1515 | 7.62 | 250 | 3.50 | 7.67 | 0.00 | 24.5 | 0.250 | 18.80 | 0.163 | -247 | |
| | | | | | | | | | | | |
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## Sampling Data

Method: Low flow Date/Time: 6/21/12 1515 Total Volume of Water purged: ~3.5 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | | Alkalinity (g/g) | 24 drops/ 480 |
| Spec. Cond.(mS/cm) | | Carbon Dioxide (mg/L) | 350 |
| Turbidity (NTU) | | Ferrous Iron (mg/L) | 0.4 |
| DO (mg/L) | | Manganese (mg/L) | 0.6 orange |
| Temp.(°C) | | Hydrogen Sulfide (mg/L) | 5+ |
| ORP (mv) | | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 1 - Filter | Filtered | 415 mL |
| Hydrogen, Acetylene | 1 - 20 ml Vial<br>2 - 40 ml VOAS | Trisodium | Phosphate |
| | | | |

Comments: Microbial - 2 filters. Vial 1:210 mL

Vial 2: 205 mL

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: INJ-10D_062112 Well Diameter: 4 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW: 6.89 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow - Peristaltic Date/Time: 6/21/12 1336

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | L | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1346 | 8.11 | 200 | 0.52 | 10.69 | 0.12 | 41.7 | 1.70 | 25.97 | 1.07 | -391 | Clear with particles |
| 1356 | 8.38 | 200 | 1.04 | 10.15 | 0.00 | 34.3 | 1.75 | 25.55 | 1.12 | -379 | Clear with particles |
| 1406 | 8.47 | 200 | 1.56 | 9.49 | 0.00 | 28.0 | 1.89 | 26.05 | 1.21 | -362 | Clear with particles |
| 1411 | 8.60 | 175 | 1.79 | 8.29 | 0.00 | 15.3 | 2.03 | 25.38 | 1.30 | -367 | Fewer particles |
| 1416 | 8.62 | 175 | 2.02 | 7.92 | 0.00 | 11.0 | 1.98 | 25.55 | 1.27 | -369 | Fewer particles |
| 1421 | 8.64 | 175 | 2.25 | 7.81 | 0.00 | 14.9 | 1.94 | 25.34 | 1.24 | -366 | Fewer particles |
| 1426 | 8.65 | 175 | 2.48 | 7.75 | 0.00 | 20.2 | 1.91 | 25.36 | 1.22 | -362 | Fewer particles |
| 1431 | 8.66 | 175 | 2.71 | 7.69 | 0.00 | 14.5 | 1.89 | 25.40 | 1.21 | -359 | Fewer particles |
| 1436 | 8.67 | 175 | 2.94 | 7.65 | 0.00 | 11.0 | 1.87 | 25.46 | 1.20 | -358 | Fewer particles |
| 1441 | 8.68 | 175 | 3.17 | 7.61 | 0.00 | 6.71 | 1.83 | 25.13 | 1.17 | -356 | Clear |
| 1446 | 8.70 | 175 | 3.40 | 7.60 | 0.00 | 7.54 | 1.83 | 25.01 | 1.17 | -355 | clear |
| 1451 | 8.70 | 175 | 3.63 | 7.57 | 0.00 | 5.49 | 1.81 | 24.73 | 1.60 | -354 | clear |
| 1456 | 8.71 | 175 | 3.86 | 7.57 | 0.00 | 3.14 | 1.80 | 24.75 | 1.15 | -353 | clear |
| 1501 | 8.71 | 175 | 4.19 | 7.54 | 0.00 | 3.61 | 1.80 | 24.64 | 1.15 | -352 | clear |

## Sampling Data

Method: Peristaltic Date/Time: 6/21/12 1505 Total Volume of Water purged: 5.5 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.54 | Alkalinity (g/g) | 16 drops/320 |
| Spec. Cond.(mS/cm) | 1.80 | Carbon Dioxide (mg/L) | 256 |
| Turbidity (NTU) | 3.61 | Ferrous Iron (mg/L) | 0.1 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.0 |
| Temp.(°C) | 24.64 | Hydrogen Sulfide (mg/L) | 5+ |
| ORP (mv) | -352 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.15 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 1 filter | | 1000 mL |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Dissolved hydrogen : Start at 1530/ stop at 1550, sample at 1551

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: INJ-11D_062112 Well Diameter: 4 Inches

Samplers: Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW: 7.38 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow Date/Time: 6/21/12 1000

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1000 | 7.38 | 250 | 0.00 | 6.01 | 1.59 | 12.1 | 0.252 | 30.19 | 0.160 | -15 | clear, yellow |
| 1010 | 7.59 | 250 | 0.60 | 7.09 | 0.35 | 36.2 | 1.72 | 20.37 | 1.08 | -283 | clear |
| 1020 | 7.59 | 250 | 1.50 | 6.89 | 0.77 | 20.3 | 2.11 | 18.95 | 1.35 | -317 | clear |
| 1030 | 7.59 | 250 | 2.10 | 6.87 | 0.74 | 12.9 | 2.18 | 18.84 | 1.40 | -327 | clear |
| 1035 | 7.59 | 250 | 2.50 | 6.88 | 0.69 | 7.49 | 2.21 | 18.77 | 1.41 | -330 | clear |
| 1040 | 7.59 | 250 | 2.80 | 6.88 | 0.60 | 6.73 | 2.23 | 18.88 | 1.43 | -333 | clear |
| 1045 | 7.59 | 250 | 3.25 | 6.87 | 0.59 | 5.48 | 2.26 | 18.78 | 1.45 | -334 | clear |
| | | | | | | | | | | | |
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## Sampling Data

Method: Low flow Date/Time: 6/21/12 1045 Total Volume of Water purged: ~3.3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.87 | Alkalinity (g/g) | 18 drops/ 360 |
| Spec. Cond.(mS/cm) | 2.26 | Carbon Dioxide (mg/L) | 278 |
| Turbidity (NTU) | 5.48 | Ferrous Iron (mg/L) | 0.50 |
| DO (mg/L) | 0.59 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 18.78 | Hydrogen Sulfide (mg/L) | 2.50 |
| ORP (mv) | -334 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.45 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | 1 Filter = 1000mL | | |
| | | | |
| | | | |

Comments: Microbial Sample - 1 Filter - Vol = 1,000mL

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: INJ-12D_062812 Well Diameter: 4 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (22.23-7.61)*(0.64) = 9.36 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow Date/Time: 6/27/12 0925

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 800 | 7.61 | 200 | 0.00 | 6.90 | 14.18 | 78.1 | 0.349 | 17.53 | 0.225 | -119 | clear |
| 810 | 7.85 | 200 | 0.50 | 9.37 | 0.74 | 54.5 | 0.349 | 16.72 | 0.225 | -245 | clear |
| 820 | 7.84 | 200 | 1.00 | 9.68 | 0.35 | 34.0 | 0.360 | 16.54 | 0.234 | -271 | clear |
| 825 | 7.85 | 200 | 1.25 | 9.69 | 1.87 | 31.4 | 0.360 | 16.61 | 0.234 | -264 | clear |
| 830 | 7.84 | 200 | 1.50 | 9.69 | 0.75 | 27.5 | 0.353 | 17.57 | 0.229 | -261 | clear |
| 835 | 7.85 | 200 | 1.75 | 9.70 | 1.13 | 22.1 | 0.352 | 17.63 | 0.229 | -266 | clear |
| 840 | 7.85 | 200 | 2.00 | 9.71 | 1.85 | 27.5 | 0.352 | 17.81 | 0.229 | -271 | clear |
| 845 | 7.86 | 200 | 2.25 | 9.71 | 1.56 | 25.0 | 0.351 | 17.88 | 0.228 | -273 | clear |
| 850 | 7.85 | 200 | 2.50 | 9.67 | 0.00 | 23.0 | 0.357 | 17.99 | 0.233 | -275 | clear |
| 855 | 7.85 | 200 | 2.75 | 9.47 | 0.00 | 20.0 | 0.368 | 18.15 | 0.239 | -282 | clear |
| 900 | 7.84 | 200 | 3.00 | 8.60 | 0.00 | 19.5 | 0.486 | 18.14 | 0.323 | -280 | clear |
| 905 | 7.84 | 200 | 3.25 | 7.64 | 0.00 | 17.9 | 0.771 | 18.84 | 0.512 | -302 | clear |
| 910 | 7.85 | 100 | 3.50 | 7.35 | 0.00 | 9.93 | 1.710 | 19.46 | 1.100 | -332 | clear |

## Sampling Data

Method: Low flow Date/Time: 6/28/12 0925 Total Volume of Water purged: 3.875 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.38 | Alkalinity (g/g) | 32 drops |
| Spec. Cond.(mS/cm) | 1.79 | Carbon Dioxide (mg/L) | 402 |
| Turbidity (NTU) | 4.35 | Ferrous Iron (mg/L) | 0.10 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.0, orange |
| Temp.(°C) | 20.17 | Hydrogen Sulfide (mg/L) | 5.00 |
| ORP (mv) | -345 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.15 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: INJ-12D_062812 Well Diameter: 4 Inches

Samplers: Dan Chamberland Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (22.23-7.61)*(0.64) = 9.36 gal | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow Date/Time: 6/27/12 0925

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 915 | 7.86 | 100 | 3.63 | 7.36 | 0.00 | 8.03 | 1.77 | 19.64 | 1.14 | -339 | clear, slight odor |
| 920 | 7.81 | 100 | 3.75 | 7.37 | 0.00 | 5.59 | 1.78 | 20.07 | 1.14 | -341 | clear, slight odor |
| 925 | 7.80 | 100 | 3.875 | 7.38 | 0.00 | 4.35 | 1.79 | 20.17 | 1.15 | -345 | clear, slight odor |
| | | | | | | | | | | | |
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## Sampling Data

Method: Low flow Date/Time: 6/28/12 0925 Total Volume of Water purged: 3.875 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.38 | Alkalinity (g/g) | 32 drops |
| Spec. Cond.(mS/cm) | 1.79 | Carbon Dioxide (mg/L) | 402 |
| Turbidity (NTU) | 4.35 | Ferrous Iron (mg/L) | 0.10 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.0, orange |
| Temp.(°C) | 20.17 | Hydrogen Sulfide (mg/L) | 5.00 |
| ORP (mv) | -345 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.15 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments:

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: INJ-13D_062812 Well Diameter: 4 Inches

Samplers: Allison Menges Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| (22-7.75)*(0.64) = 9.1 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Geopump/low flow Date/Time: 6/26/12 0900

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 755 | 7.80 | 250 | 0.00 | 6.73 | 1.81 | 102.0 | 1.46 | 18.80 | 0.936 | -292 | |
| 800 | 7.80 | 250 | 0.50 | 6.83 | 1.17 | 50.7 | 1.49 | 18.55 | 0.950 | -314 | |
| 805 | 7.80 | 250 | 0.75 | 6.97 | 0.39 | 32.4 | 1.53 | 18.39 | 0.979 | -345 | |
| 810 | 7.80 | 250 | 1.00 | 7.02 | 0.24 | 27.9 | 1.56 | 18.35 | 0.997 | -352 | |
| 815 | 7.80 | 250 | 1.25 | 7.04 | 0.20 | 24.0 | 1.58 | 18.18 | 1.01 | -354 | |
| 820 | 7.80 | 250 | 1.50 | 7.03 | 0.17 | 18.9 | 1.61 | 18.16 | 1.03 | -354 | |
| 825 | 7.80 | 250 | 1.75 | 6.94 | 0.15 | 11.2 | 1.64 | 18.12 | 1.05 | -355 | |
| 830 | 7.80 | 250 | 2.00 | 6.84 | 0.12 | 9.3 | 1.67 | 18.07 | 1.07 | -358 | |
| 835 | 7.80 | 250 | 2.25 | 6.83 | 0.10 | 7.90 | 1.69 | 18.16 | 1.08 | -350 | |
| 840 | 7.80 | 250 | 2.50 | 6.82 | 0.08 | 7.90 | 1.69 | 18.26 | 1.08 | -345 | |
| 845 | 7.80 | 250 | 2.75 | 6.81 | 0.08 | 6.60 | 1.70 | 18.28 | 1.09 | -351 | |
| 850 | 7.80 | 250 | 3.00 | 6.80 | 0.07 | 5.70 | 1.72 | 18.31 | 1.10 | -352 | |
| | | | | | | | | | | | |

## Sampling Data

Method: Geopump/low flow Date/Time: 6/28/12 0900 Total Volume of Water purged: 3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.80 | Alkalinity (g/g) | 24 drops/ 480 |
| Spec. Cond.(mS/cm) | 1.72 | Carbon Dioxide (mg/L) | 324 |
| Turbidity (NTU) | 5.70 | Ferrous Iron (mg/L) | 0.40 |
| DO (mg/L) | 0.07 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 18.31 | Hydrogen Sulfide (mg/L) | 5.00 |
| ORP (mv) | -352 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.10 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: INJ-01_06/27/12 Well Diameter: 4 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW : 7.82 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/27/12 1221

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | Gal | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1231 | 7.89 | 200 | 0.52 | 6.96 | 0.00 | 71.90 | 1.96 | 17.75 | 1.25 | -383 | Slightly black |
| 1241 | 7.89 | 200 | 1.04 | 6.95 | 0.00 | 51.30 | 1.92 | 17.95 | 1.23 | -393 | Slightly black |
| 1246 | 7.90 | 200 | 1.30 | 6.95 | 0.00 | 53.50 | 1.92 | 17.72 | 1.23 | -395 | Slightly black |
| 1251 | 7.90 | 200 | 1.56 | 6.93 | 0.00 | 47.80 | 1.90 | 17.31 | 1.22 | -394 | Slightly black |
| 1256 | 7.90 | 200 | 1.82 | 6.93 | 0.00 | 36.10 | 1.90 | 17.26 | 1.22 | -394 | clear with black particles |
| 1301 | 7.91 | 200 | 2.08 | 6.93 | 0.00 | 33.50 | 1.90 | 17.23 | 1.22 | -395 | clear with black particles |
| 1306 | 7.91 | 200 | 2.34 | 6.94 | 0.00 | 28.20 | 1.90 | 17.22 | 1.22 | -393 | clear with black particles |
| 1311 | 7.91 | 200 | 2.60 | 6.94 | 0.00 | 15.50 | 1.91 | 17.13 | 1.22 | -393 | fewer particles |
| 1316 | 7.91 | 200 | 2.86 | 6.94 | 0.00 | 16.30 | 1.91 | 17.19 | 1.22 | -394 | fewer particles |
| 1321 | 7.91 | 200 | 3.12 | 6.94 | 0.00 | 16.10 | 1.91 | 17.25 | 1.22 | -392 | fewer particles |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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## Sampling Data

Method: low flow - peristaltic Date/Time: 6/27/12 1325 Total Volume of Water purged: 3.5 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 6.94 | Alkalinity (g/g) | 32 drops/ 720 |
| Spec. Cond.(mS/cm) | 1.91 | Carbon Dioxide (mg/L) | 334 |
| Turbidity (NTU) | 16.10 | Ferrous Iron (mg/L) | 0.00 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0.00 |
| Temp.(°C) | 17.25 | Hydrogen Sulfide (mg/L) | 3.00 |
| ORP (mv) | -392 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.22 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: INJ-02_062212 Well Diameter: 4 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW:7.37 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: low flow - peristaltic Date/Time: 6/22/12 0955

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | L | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1005 | 7.41 | 200 | 0.52 | 8.02 | 0.00 | 5.68 | 0.638 | 19.73 | 0.408 | -244 | clear |
| 1015 | 7.44 | 200 | 1.04 | 7.91 | 0.00 | 3.93 | 0.651 | 19.12 | 0.417 | -242 | clear |
| 1021 | 7.47 | 200 | 1.30 | 7.89 | 0.00 | 3.65 | 0.651 | 19.65 | 0.417 | -247 | clear |
| 1026 | 7.47 | 200 | 1.56 | 7.87 | 0.00 | 3.14 | 0.653 | 20.12 | 0.418 | -246 | clear |
| 1031 | 7.47 | 200 | 1.80 | 7.84 | 0.00 | 3.43 | 0.652 | 20.36 | 0.417 | -241 | clear |
| 1036 | 7.47 | 200 | 2.06 | 7.85 | 0.00 | 3.22 | 0.643 | 20.42 | 0.412 | -245 | clear |
| 1041 | 7.48 | 200 | 2.32 | 7.85 | 0.00 | 3.13 | 0.644 | 20.49 | 0.412 | -246 | clear |
| 1046 | 7.54 | 200 | 2.58 | 7.85 | 0.00 | 3.20 | 0.631 | 20.94 | 0.404 | -245 | clear |
| 1051 | 7.55 | 200 | 2.84 | 7.87 | 0.00 | 3.31 | 0.638 | 20.29 | 0.408 | -247 | clear |
| 1056 | 7.55 | 200 | 3.10 | 7.88 | 0.00 | 3.54 | 0.645 | 20.15 | 0.413 | -252 | clear |
| 1101 | 7.55 | 200 | 3.36 | 7.89 | 0.00 | 3.76 | 0.643 | 19.94 | 0.412 | -255 | clear |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: low flow - peristaltic Date/Time: 6/22/12 1105 Total Volume of Water purged: 3.75 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.89 | Alkalinity (g/g) | 28 drops/ 560 |
| Spec. Cond.(mS/cm) | 0.643 | Carbon Dioxide (mg/L) | 402 |
| Turbidity (NTU) | 3.76 | Ferrous Iron (mg/L) | 0.1 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0 |
| Temp.(°C) | 19.94 | Hydrogen Sulfide (mg/L) | 4.0 |
| ORP (mv) | -255 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 0.412 | | |

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Collected Duplicate at 1201 for VOC, MEE, chloride/Sulfate/Nitrate, Diss Inorganics, TOC

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: INJ-04_062212 Well Diameter: 4 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW = 7.43 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow - peristaltic Date/Time: 6/22/12 1224

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 1234 | 7.50 | 240 | 0.63 | 7.38 | 2.43 | 344.0 | 1.61 | 24.97 | 1.02 | -264 | black |
| 1244 | 7.50 | 240 | 1.26 | 7.21 | 0.00 | 277.0 | 1.88 | 20.93 | 1.19 | -379 | cloudy |
| 1249 | 7.50 | 240 | 1.57 | 7.20 | 0.00 | 257.0 | 1.88 | 20.82 | 1.20 | -379 | cloudy |
| 1254 | 7.50 | 240 | 1.88 | 7.21 | 0.00 | 167.0 | 1.93 | 20.64 | 1.24 | -382 | cloudy |
| 1259 | 7.50 | 240 | 2.20 | 7.21 | 0.00 | 97.7 | 2.00 | 20.45 | 1.28 | -385 | cloudy |
| 1304 | 7.50 | 240 | 2.51 | 7.20 | 0.00 | 72.8 | 2.05 | 20.25 | 1.31 | -385 | clearer with particles |
| 1309 | 7.51 | 240 | 2.82 | 7.17 | 0.00 | 43.3 | 2.12 | 20.18 | 1.36 | -385 | clearer with particles |
| 1314 | 7.51 | 240 | 3.14 | 7.18 | 0.00 | 31.2 | 2.16 | 19.64 | 1.38 | -386 | clearer with particles |
| 1319 | 7.51 | 240 | 3.45 | 7.19 | 0.00 | 31.0 | 2.18 | 19.51 | 1.42 | -383 | clearer with particles |
| 1324 | 7.51 | 240 | 3.76 | 7.19 | 0.00 | 31.3 | 2.19 | 19.44 | 1.43 | -384 | clearer with particles |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: Peristaltic Date/Time: 6/22/12 1325 Total Volume of Water purged: 4.0 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.19 | Alkalinity (g/g) | 24 drops/ 480 |
| Spec. Cond.(mS/cm) | 2.19 | Carbon Dioxide (mg/L) | 474 |
| Turbidity (NTU) | 31.30 | Ferrous Iron (mg/L) | 0.1 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0 |
| Temp.(°C) | 19.44 | Hydrogen Sulfide (mg/L) | 5 + |
| ORP (mv) | -384 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.43 | | |

VOAS effervescing

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: Collected MS/MSD (voc only). Tubing was clogged (substrate black biomass), flushed out tubing with DI water, well now pumping

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Ekonol Facility* Well ID: INJ-05_062212 Well Diameter: 4 Inches

Samplers: Cheryl Huey Monitored Natural Attenuation Sample Set (Y/N)? Y

## Purging Data

| *WATER VOLUME CALCULATION* | | | | |
|---|---|---|---|---|
| = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot | | | | |
| DTW=7.46 | | | | |
| 1-inch=0.041 | 1.5-inch=0.092 | 2-inch=0.16 | 3-inch=0.36 | |
| 4-inch=0.64 | 6-inch=1.4 | 8-inch=2.5 | 10-inch=4 | |

Method: Low flow - peristaltic Date/Time: 6/22/12 0811

| Time | DTW | Pump Rate | Vol. | pH | DO | Turbidity | Spec. Cond. | Temp. | TDS | ORP | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 hr. | ft. | ml/min. | gal. | | mg/L | NTU | mS/cm | °C | g/L | mv | |
| 821 | 7.58 | 200 | 0.52 | 6.39 | 0.00 | 425.0 | 2.02 | 18.78 | 1.29 | -282 | black |
| 831 | 7.58 | 200 | 1.04 | 6.72 | 0.00 | 296.0 | 1.96 | 18.70 | 1.25 | -319 | black |
| 836 | 7.58 | 200 | 1.30 | 7.04 | 0.00 | 143.0 | 1.87 | 17.96 | 1.21 | -356 | Light Black |
| 841 | 7.58 | 200 | 1.56 | 7.07 | 0.00 | 74.8 | 1.85 | 17.50 | 1.18 | -381 | slightly black with few particles |
| 846 | 7.58 | 200 | 1.82 | 7.10 | 0.00 | 41.3 | 1.85 | 17.41 | 1.18 | -382 | clear with particles |
| 851 | 7.58 | 200 | 2.08 | 7.11 | 0.00 | 30.4 | 1.85 | 17.35 | 1.18 | -383 | clear with particles |
| 856 | 7.58 | 200 | 2.34 | 7.10 | 0.00 | 17.0 | 1.86 | 17.29 | 1.19 | -380 | clear with particles |
| 901 | 7.58 | 200 | 2.60 | 7.18 | 0.00 | 14.5 | 1.89 | 17.22 | 1.21 | -383 | clear with particles |
| 906 | 7.58 | 200 | 2.86 | 7.18 | 0.00 | 14.0 | 1.89 | 17.22 | 1.21 | -383 | clear with particles |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

## Sampling Data

Method: Peristaltic Date/Time: 6/22/12 0910 Total Volume of Water purged: 3 gal

Field Parameters

| HORRIBA | | HACH TEST KITS | |
|---|---|---|---|
| pH | 7.18 | Alkalinity (g/g) | 36 drops/ 720 |
| Spec. Cond.(mS/cm) | 1.89 | Carbon Dioxide (mg/L) | 422 |
| Turbidity (NTU) | 14.00 | Ferrous Iron (mg/L) | 0.1 |
| DO (mg/L) | 0.00 | Manganese (mg/L) | 0 |
| Temp.(°C) | 17.22 | Hydrogen Sulfide (mg/L) | 5+ |
| ORP (mv) | -383 | * NOTE * HACH test kits are only required for MNA analysis wells. | |
| TDS (g/L) | 1.21 | | |

VOAS effervescing

| SAMPLE SET | | | |
|---|---|---|---|
| **Parameter** | **Bottle** | **Pres.** | **Method** |
| Select VOCs | 3-40mL glass vial | HCl | EPA 8260 |
| MEE | 2-40mL glass vial | HCl | Lab SOP |
| Choride / Nitrate / Sulfate | 2-40mL glass vial (Field filtered) | None | lab specified |
| Dissolved Inorganics | 1-250mL plastic (Field filtered) | HNO3 | SW6010B |
| Ortho-Phosphate | 1-250mL plastic (Field filtered) | None | EPA 365.1 |
| Sulfide | 1-250mL glass (Field filtered) | NaOH/Zn Acetate | MS-4500-S2-F |
| Total Organic Carbon | 2-40mL amber glass vial | H3PO4 | SW9060 |
| Total Inorganic Carbon | 1-120 mL glass amber | None | SW9060 |
| Microbial Census | | | |
| Hydrogen, Acetylene | | | |
| | | | |

Comments: _____

PARSONS

# ATTACHEMENT B
# DATA USABILITY REPORT

# DATA USABILITY SUMMARY REPORT

# EKONOL FACILITY

*Prepared For:*

## Atlantic Richfield Company

4850 East 49th Street
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Cuyahoga Heights, Ohio 44125

*Prepared By:*

PARSONS

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Buffalo, New York 14202
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**SEPTEMBER 2012**

# SECTION 1

# DATA USABILITY SUMMARY

Groundwater samples were collected for the 2nd Quarter Monitoring from the Ekonol Facility site in Wheatfield, New York from June 19, 2012 through June 28, 2012. Analytical results from these samples were reviewed by Parsons for usability with respect to the following requirements:

- Work Plan,
- NYSDEC Analytical Services Protocol (ASP), and
- USEPA Region II Standard Operating Procedures (SOPs).

The analytical laboratory for this project was Lancaster Laboratories, Inc. (LLI). LLI is approved to conduct project analyses through the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP).

## 1.1 LABORATORY DATA PACKAGES

The laboratory data package turnaround time, defined as the time from sample receipt by the laboratory to receipt of the analytical data packages by Parsons, was 33-44 days for the Ekonol samples. Comments on specific quality control (QC) and other requirements are discussed in detail in the attached data validation report.

## 1.2 SAMPLING AND CHAIN-OF-CUSTODY

The samples were collected, shipped under a COC record, and received at the laboratory within one day of sampling. All samples were received intact and in good condition at LLI. It was noted that volatile samples OR-6SM, OR-10SM, OR-14SM, OR-140SM, and OR-15SM were received and analyzed at LLI with a pH range of 5-7 which exceeds the pH<2 preservation requirement.

## 1.3 LABORATORY ANALYTICAL METHODS

The groundwater samples collected from the Ekonol site were analyzed for certain volatile organic compounds (VOCs) including methane, ethane, and ethene; dissolved metals; chloride; nitrate; orthophosphate; sulfate; sulfide; total organic carbon (TOC); total inorganic carbon (TIC); and/or total carbon. Summaries of issues concerning these laboratory analyses are presented in Subsections 1.3.1 through 1.3.3. The data qualifications resulting from the data review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) are discussed for each analytical method in Section 2. The laboratory data were reviewed and may be qualified with the following validation flags:

"U" - not detected at the value given,

"UJ" - estimated and not detected at the value given,

"J" - estimated at the value given,

"N" - presumptive evidence at the value given, and

"R" - unusable value.

The validated laboratory data were tabulated and are presented in Attachment A.

### 1.3.1 Volatile Organic Analysis Including Methane, Ethane, and Ethene

The groundwater samples collected from the Ekonol site were analyzed for certain VOCs using the USEPA SW-846 8260B analytical method. In addition, these groundwater samples were analyzed for methane, ethane, and ethene using the modified USEPA approved RSK-175 analytical method. Certain reported results for these samples were considered estimated based upon sample holding times, surrogate recoveries, matrix spike/matrix spike duplicate (MS/MSD) recoveries, laboratory control sample recoveries, and instrument calibrations. The reported VOC and methane, ethane, and ethene analytical results were 100% complete (i.e., usable) based upon the groundwater data presented and PARCC requirements were met.

### 1.3.2 Metals Analysis

Certain groundwater samples collected from the Ekonol site were analyzed for dissolved metals using the USEPA SW-846 6010B analytical method. Certain reported results for the metals samples were considered estimated based upon matrix spike/matrix spike duplicate (MS/MSD) recoveries, instrument calibration standard recoveries, and field duplicate precision. The reported metals analytical results were 100% complete (i.e., usable) based upon the groundwater data presented and PARCC requirements were met.

### 1.3.3 Other Parameters

The groundwater samples collected from the Ekonol site were analyzed for chloride, nitrate, and sulfate using the USEPA 300.0 analytical method; sulfide using the SM20 4500 analytical method; orthophosphate using the USEPA 365.3; and/or TOC, TIC, and total carbon using the SM20 5310C analytical method. Custody documentation, holding times, laboratory blanks, matrix spike/matrix spike duplicate, laboratory duplicate precision, laboratory control samples, instrument calibrations, quantitation limits, sample result identification, and field duplicate precision were reviewed for compliance. The reported results for these samples did not require qualification resulting from data validation with the exception of the following:

- The TOC results for field duplicate samples MW-12D and MW-120D were considered estimated and qualified “J” based upon poor field duplicate precision (145%RPD);

- The positive chloride, nitrate, and sulfate results associated with samples collected on 6/21/12 were considered estimated, possibly biased high, and qualified “J” based

upon matrix spike recoveries exceeding the 90-110% QC limit for chloride (167%R, 198%R), nitrate (121%R), and sulfate (164%R);

- The positive chloride and sulfate results associated with samples collected on 6/22/12 were considered estimated, possibly biased high, and qualified "J" based upon matrix spike recoveries exceeding the 90-110% QC limit for chloride (116%R) and sulfate (115%R); and

- The chloride results associated with samples collected on 6/25/12 and 6/27/12 were considered estimated, possibly biased low, with positive results qualified "J" and nondetected results qualified "UJ" based upon a low matrix spike recovery for chloride (79%R, 88%R; QC limit 90-110%R).

The reported analytical results for these parameters were 100% complete (i.e., usable) based upon the groundwater data presented and PARCC requirements were met.

# SECTION 2

# DATA VALIDATION REPORT

## 2.1 2ND QUARTER MONITORING EVENT

Data review has been completed for data packages generated by LLI containing groundwater samples collected from the Ekonol Facility site during the 2nd Quarter Monitoring event. All of these samples were shipped under a COC record and received intact by the analytical laboratory. Analytical results from the project samples were submitted by LLI within the following sample delivery groups (SDGs): BPW13, BPW14, BPW15, BPW16, BPW17, BPW19, BPW20, and BPW21. Data validation was performed for all samples in accordance with the most current editions of the USEPA Region II SOPs and the NYSDEC ASP for organic and inorganic data review. This data validation and usability report is presented by analysis type. The validated laboratory data are tabulated and presented in Attachment A.

### 2.1.1 Volatiles Including Methane, Ethane, and Ethene (MEE)

The following items were reviewed for compliancy in the volatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy
- Laboratory control sample (LCS) recoveries
- Laboratory method blank and trip blank contamination
- Instrument performance
- Initial and continuing calibrations
- Internal standard responses
- Field duplicate precision
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of holding times, surrogate recoveries, MS/MSD precision and accuracy, LCS recoveries, blank contamination, and continuing calibrations as discussed below.

Holding Times

It was noted that volatile samples OR-6SM, OR-10SM, OR-14SM, OR-140SM, and OR-15SM were received and analyzed at LLI with a pH range of 5-7 which exceeds the pH<2 preservation requirement. In addition, the analytical holding time for samples OR-6SM, OR-10SM, OR-14SM, and OR-140SM exceeded the 7-day holding time requirement for unpreserved samples by two to four days. Therefore, the volatile results for these samples were considered estimated, possibly biased low, with positive results qualified "J" and nondetected results qualified "UJ".

Surrogate Recoveries

All sample surrogate recoveries were considered acceptable and within QC limits with the exception of the low propene surrogate recovery (QC limit 42-131%R) in the MEE samples OR-6SM (37%R), INJ-02 (35%R), MW-5S (21%R), and OR-10SM (33%R). Therefore, the MEE results for these samples were considered estimated, possibly biased low, with positive results qualified "J" and nondetected results qualified "UJ".

MS/MSD Precision and Accuracy

All MS/MSD precision (relative percent difference; %RPD) and accuracy (percent recovery; %R) measurements were considered acceptable for designated spiked project samples and did not require qualification of the parent sample with the exception of the high MS/MSD accuracy results for methane (283%R/217%R; QC limit 35-157%R) during the spiked analyses of sample MW-4S. Therefore, the positive methane result for the parent sample MW-4S was considered estimated, possibly biased high, and qualified "J".

LCS Recoveries

All LCS recoveries were considered acceptable and within QC limits with the exception of the high LCS recovery for 1,1,1-trichloroethane (123%R; QC limit 70-120%R) associated with the samples PMW-5S, RMW-2D, MW-2S, OR-5SM and samples collected on 6/22/12 except MW-17D. Therefore, the positive 1,1,1-trichloroethane results were considered estimated, possibly biased high, and qualified "J" for the affected samples.

Blank Contamination

The QC trip blank TB12144-D associated with samples collected 6/20/12 contained 1,1,1-trichloroethane at a concentration of 0.93 µg/L. Validation qualification was not required of the project samples since sample carry-over was suspected. This trip blank was reanalyzed and did not contain contamination.

Continuing Calibrations

All continuing calibration compounds had relative response factors (RRFs) greater than 0.05 and percent differences (%Ds) within ±20% with the exception of 1,1,1-trichloroethane (22%D,

26%D, 25%D, 23%D) in the continuing calibrations associated with samples collected on 6/20/12, 6/21/12, and 6/22/12 except MW-17D. Therefore, the 1,1,1-trichloroethane results were considered estimated with positive results qualified "J" and nondetected results qualified "UJ" for the affected samples.

Usability

All volatile groundwater sample results including methane, ethane, and ethene were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The volatile groundwater presented were 100% (i.e., usable). The validated volatile laboratory data are tabulated and presented in Attachment A.

It was also noted that many samples were diluted and reanalyzed due to the exceedance in instrument calibration ranges for 1,1-dichloroethane, cis-1,2-dichloroethene, trichloroethene, 1,1,1-trichloroethane, tetrachloroethene, vinyl chloride, methane, and/or ethene. Therefore, the diluted result for these compounds was reported for these samples in the validated laboratory data table in Attachment A.

### 2.1.2 Dissolved Metals

The following items were reviewed for compliancy in the metals analysis:

- Custody documentation
- Holding times
- Initial and continuing calibration, and preparation blank contamination
- Initial and continuing calibration verifications
- Interference check sample recoveries
- Matrix spike recoveries
- Laboratory duplicate precision
- Field duplicate precision
- Laboratory control sample recoveries
- Serial dilutions
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of instrument calibrations, matrix spike recoveries, and field duplicate precision as discussed below.

Instrument Calibrations

All initial and continuing calibration verifications were analyzed at the appropriate frequency with recoveries within QC limits. All instrument calibration reference standards were analyzed at the appropriate frequency with recoveries within the 50-150%R QC limit with the exception of the high standard recoveries for dissolved sodium (174.4%R, 158.5%R) associated with samples OR-4SM, MW-1S, MW-12D, MW-15D, MW-18D, RMW-2D; dissolved magnesium (158.5%R) associated with samples PMW-2S, PMW-4S, PMW-5S, PMW-11S, PMW-17D, MW-2S, RMW-2D, and OR-5SM; and dissolved arsenic (1051.5%R) and dissolved selenium (756.4%R) associated with samples collected on 6/26/12. Therefore, the positive dissolved sodium, magnesium, arsenic, and selenium results were considered estimated, possibly biased high, and qualified "J" for the affected samples.

Matrix Spike Recoveries

All matrix spike recoveries were considered acceptable and within the 75-125%R acceptance limit with the exception of the low dissolved selenium recoveries (40%R, 44%R, 45%R, 46%R, 62%R, 65%R) associated with samples collected on 6/19/12, 6/21/12, 6/22/12, 6/26/12, and 6/28/12. Therefore, the dissolved selenium results were considered estimated, possibly biased low, with positive results qualified "J" and nondetected results qualified "UJ" for the affected samples.

Field Duplicate Precision

All field duplicate precision results were considered acceptable with the exception of the precision for dissolved calcium (53%RPD), iron (86%RPD), and magnesium (53%RPD) associated with sample INJ-02 and its field duplicate INJ-200. The results for dissolved calcium, iron, and magnesium for this field duplicate pair were considered estimated and qualified "J".

Usability

All dissolved metals sample results were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The metals data presented were 100% complete (i.e., usable). The validated groundwater laboratory data are tabulated and presented in Attachment A.

# ATTACHMENT A

# VALIDATED LABORATORY DATA

## TABLE OF CONTENTS

**Page**



## LIST OF ATTACHMENTS

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | INJ-01<br>INJ-01_062712<br>6704978<br>LLI<br>BPW20<br>WATER<br>6/27/2012 13:25<br>8/22/2012 | INJ-02<br>INJ-02_062212<br>6699392<br>LLI<br>BPW16<br>WATER<br>6/22/2012 11:05<br>8/22/2012 | Dup of INJ-02_062212<br>INJ-02<br>INJ-200_062212<br>6699393<br>LLI<br>BPW16<br>WATER<br>6/22/2012 12:01<br>8/22/2012 | INJ-04<br>INJ-04_062212<br>6699397<br>LLI<br>BPW16<br>WATER<br>6/22/2012 13:25<br>8/22/2012 | INJ-05<br>INJ-05_062212<br>6699390<br>LLI<br>BPW16<br>WATER<br>6/22/2012 9:10<br>8/22/2012 | INJ-07D<br>INJ-7D_062812<br>6706158<br>LLI<br>BPW21<br>WATER<br>6/28/2012 8:55<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 1000 | 16 UJ | 16 UJ | 730 J | 1100 J | 870 |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 83 J | 20 U | 20 U | 130 J | 76 J | 53 J |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 82 J | 51 J | 58 J | 160 J | 62 J | 200 |
| 75-00-3 | CHLOROETHANE | ug/l | 50 U | 20 U | 20 U | 100 U | 50 U | 20 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 34000 | 14000 | 17000 | 69000 | 27000 | 56000 |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 570 | 16 U | 16 U | 780 | 650 | 2300 |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 52 J | 26 J | 29 J | 89 J | 42 J | 64 J |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 51000 | 38 J | 97 J | 54000 | 45000 | 290000 |
| 75-01-4 | VINYL CHLORIDE | ug/l | 1100 | 4200 | 4200 | 2200 | 290 | 150 |
| 74-85-1 | ETHENE | ug/l | 76 | 360 J | 360 | 370 | 120 | 20 |
| 74-84-0 | ETHANE | ug/l | 13 | 18 J | 18 | 21 | 15 | 13 |
| 74-82-8 | METHANE | ug/l | 1300 | 1200 | 1200 | 2600 | 730 | 170 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | 0.0743 U | 0.0743 U | 0.0743 U | 0.0743 U | 0.0743 U | 0.0743 U |
| 7440-38-2 | ARSENIC | mg/l | 0.0068 U | 0.0068 U | 0.0068 U | 0.0068 U | 0.0068 U | 0.0068 U |
| 7440-70-2 | CALCIUM | mg/l | 248 | 58.4 J | 101 J | 243 | 249 | 256 |
| 7439-89-6 | IRON | mg/l | 0.04 J | 1.32 J | 0.528 J | 0.0333 U | 0.0333 U | 0.0333 U |
| 7439-95-4 | MAGNESIUM | mg/l | 109 | 28.7 J | 49.6 J | 141 | 125 | 94.5 |
| 7439-96-5 | MANGANESE | mg/l | 0.228 | 0.219 | 0.227 | 0.321 | 0.239 | 0.284 |
| 9/7/7440 | POTASSIUM | mg/l | 3.86 | 5.34 | 6.05 | 5.62 | 3.78 | 4.13 |
| 7782-49-2 | SELENIUM | mg/l | 0.0075 U | 0.0075 UJ | 0.0075 UJ | 0.0075 UJ | 0.0075 UJ | 0.0075 UJ |
| 7440-23-5 | SODIUM | mg/l | 93.4 | 126 | 137 | 122 | 90.6 | 114 |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | 155 J | 214 J | 213 J | 232 J | 146 J | 162 |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | 0.6 U | 0.6 U | | 0.6 U | 0.6 U | 0.6 U |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | 261 J | 1.7 J | 3.2 J | 166 J | 214 J | 407 |
| 18496-25-8 | SULFIDE | mg/l | 148 | 24.1 | | 176 | 156 | 97.6 |
| 7440-44-0 | TOTAL CARBON | mg/l | 220 | | | | | 207 |
| TOC | TOTAL ORGANIC CARBON | mg/l | 25.6 | 97.8 | 93.3 | 56.5 | 26.8 | 62.9 |
| TIC | TOTAL INORGANIC CARBON | mg/l | 194 | | | | | 144 |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | INJ-08D<br>INJ-8D_062512<br>6700875<br>LLI<br>BPW17<br>WATER<br>6/25/2012 15:35<br>8/22/2012 | INJ-09D<br>INJ-9D_062112<br>6697901<br>LLI<br>BPW15<br>WATER<br>6/21/2012 15:15<br>8/22/2012 | INJ-10D<br>INJ-10D_062112<br>6697900<br>LLI<br>BPW15<br>WATER<br>6/21/2012 15:05<br>8/22/2012 | INJ-11D<br>INJ-11D_062112<br>6697895<br>LLI<br>BPW15<br>WATER<br>6/21/2012 10:45<br>8/22/2012 | INJ-12D<br>INJ-12D_062812<br>6706160<br>LLI<br>BPW21<br>WATER<br>6/28/2012 9:25<br>8/22/2012 | INJ-13D<br>INJ-13D_062812<br>6706159<br>LLI<br>BPW21<br>WATER<br>6/28/2012 9:00<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 42 | 73 J | 1400 J | 980 J | 540 | 810 |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 41 | 3.9 J | 59 | 98 | 31 J | 100 U |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 12 J | 1.7 J | 16 | 51 | 56 J | 140 J |
| 75-00-3 | CHLOROETHANE | ug/l | 5 U | 2 U | 1 U | 5 U | 20 U | 100 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 5500 | 550 | 710 | 14000 | 17000 | 26000 |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 4 U | 1.6 U | 5.8 | 27 | 200 | 810 |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 6.8 J | 1.6 U | 4.1 J | 29 | 34 J | 80 U |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 49 | 25 | 23 | 3500 | 19000 | 140000 |
| 75-01-4 | VINYL CHLORIDE | ug/l | 250 | 21 | 210 | 390 | 510 | 320 J |
| 74-85-1 | ETHENE | ug/l | 6.1 | 1 U | 23 | 22 | 210 | 91 |
| 74-84-0 | ETHANE | ug/l | 8 | 1 U | 1.1 J | 1.8 J | 49 | 15 |
| 74-82-8 | METHANE | ug/l | 15000 | 97 | 85 | 98 | 4100 | 260 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | 0.0743 U | 0.0801 U | 0.306 | 0.0801 U | 0.0743 U | 0.0743 U |
| 7440-38-2 | ARSENIC | mg/l | 0.0068 J | 0.0051 U | 0.0051 U | 0.0051 U | 0.0068 U | 0.0068 U |
| 7440-70-2 | CALCIUM | mg/l | 71.6 | 32.9 | 243 | 294 | 232 | 268 |
| 7439-89-6 | IRON | mg/l | 20.2 | 0.539 | 1.36 | 0.149 J | 0.0506 J | 0.0333 U |
| 7439-95-4 | MAGNESIUM | mg/l | 31.6 | 7.67 | 81.1 | 153 | 89.9 | 119 |
| 7439-96-5 | MANGANESE | mg/l | 0.431 | 0.13 | 0.175 | 0.218 | 0.325 | 0.225 |
| 9/7/7440 | POTASSIUM | mg/l | 29.2 | 3.98 | 6.82 | 3.49 | 6.32 | 3.6 |
| 7782-49-2 | SELENIUM | mg/l | 0.0075 U | 0.0069 UJ | 0.0069 UJ | 0.0069 UJ | 0.0075 UJ | 0.0075 UJ |
| 7440-23-5 | SODIUM | mg/l | 131 | 33.1 | 131 | 105 | 109 | 102 |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | 215 J | 81.4 J | 384 J | 183 J | 173 | 164 |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | 0.03 U | 0.034 J | 0.6 U | 0.03 U | 0.6 U | 0.6 U |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | 18.7 | 20 J | 615 J | 1070 J | 267 | 566 |
| 18496-25-8 | SULFIDE | mg/l | 0.13 J | 3.9 | 23.9 | 17.1 | 128 | 108 |
| 7440-44-0 | TOTAL CARBON | mg/l | 225 | 45.4 | 95.6 | 96.2 | 179 | 164 |
| TOC | TOTAL ORGANIC CARBON | mg/l | 190 | 26.7 | 17.7 | 4.1 | 17.5 | 30 |
| TIC | TOTAL INORGANIC CARBON | mg/l | 34.8 | 18.7 | 77.9 | 92.1 | 162 | 134 |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | MW-1S<br>MW-1S_061912<br>6693739<br>LLI<br>BPW13<br>WATER<br>6/19/2012 12:20<br>8/22/2012 | MW- 2S<br>MW-2S_062012<br>6695650<br>LLI<br>BPW14<br>WATER<br>6/20/2012 12:00<br>8/22/2012 | MW- 3S<br>MW-3S_062612<br>6703180<br>LLI<br>BPW19<br>WATER<br>6/26/2012 11:00<br>8/22/2012 | MW- 4S<br>MW-4S_062712<br>6704970<br>LLI<br>BPW20<br>WATER<br>6/27/2012 9:00<br>8/22/2012 | MW- 5S<br>MW-5S_062712<br>6704979<br>LLI<br>BPW20<br>WATER<br>6/27/2012 14:35<br>8/22/2012 | MW- 6S<br>MW-6S_062712<br>6704973<br>LLI<br>BPW20<br>WATER<br>6/27/2012 10:50<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 0.8 U | 40 UJ | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 1 U | 50 U | 1 U | 1 U | 1 U | 3.9 J |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 2 J | 560 | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 75-00-3 | CHLOROETHANE | ug/l | 1 U | 50 U | 1 U | 1 U | 1 U | 1 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 170 | 250000 | 0.8 U | 37 | 1.3 J | 53 |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 0.8 U | 40 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 7.4 | 1700 | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 14 | 600 | 1 U | 1.6 J | 1 U | 1 U |
| 75-01-4 | VINYL CHLORIDE | ug/l | 15 | 27000 | 1 U | 74 | 27 | 210 |
| 74-85-1 | ETHENE | ug/l | 1 U | 390 | 1 U | 15 | 1.1 J | 4 J |
| 74-84-0 | ETHANE | ug/l | 1 U | 62 | 1 U | 5.9 | 1.6 J | 34 |
| 74-82-8 | METHANE | ug/l | 32 | 1800 | 5 U | 100 J | 24 J | 110 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | 0.0801 U | 0.0801 U | 0.0743 U | 0.0743 U | 0.0743 U | |
| 7440-38-2 | ARSENIC | mg/l | 0.0051 U | 0.0051 U | 0.0068 U | 0.0068 U | 0.0068 U | |
| 7440-70-2 | CALCIUM | mg/l | 285 | 418 | 72.4 | 460 | 276 | |
| 7439-89-6 | IRON | mg/l | 1.14 | 3.88 | 0.945 | 0.72 | 0.678 | |
| 7439-95-4 | MAGNESIUM | mg/l | 379 | 260 J | 39.8 | 777 | 154 | |
| 7439-96-5 | MANGANESE | mg/l | 0.387 | 2.04 | 0.138 | 0.834 | 0.179 | |
| 9/7/7440 | POTASSIUM | mg/l | 3.66 | 3.1 | 5.46 | 7.57 | 2.66 | |
| 7782-49-2 | SELENIUM | mg/l | 0.0069 UJ | 0.0069 U | 0.0075 UJ | 0.0075 U | 0.0075 U | |
| 7440-23-5 | SODIUM | mg/l | 65.6 J | 344 | 340 | 233 | 107 | |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | 58.9 | 959 | 444 | 213 J | 188 J | |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | 0.25 U | 0.35 J | 0.25 U | 0.25 U | 0.25 U | |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | 0.03 U | 0.03 U | 0.03 U | 0.065 J | 0.03 U | |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | 2260 | 1170 | 462 | 3190 J | 966 J | |
| 18496-25-8 | SULFIDE | mg/l | 0.054 U | 0.054 U | 0.054 U | 5.1 | 0.054 U | |
| 7440-44-0 | TOTAL CARBON | mg/l | 75.7 | 161 | 66.2 | 176 | | |
| TOC | TOTAL ORGANIC CARBON | mg/l | 2.6 | 5.5 | 19.8 | 3.8 | 1.6 | |
| TIC | TOTAL INORGANIC CARBON | mg/l | | | 46.4 | 172 | | |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | MW- 7D<br>MW-7D_062612<br>6703182<br>LLI<br>BPW19<br>WATER<br>6/26/2012 12:10<br>8/22/2012 | MW- 7S<br>MW-7S_062612<br>6703178<br>LLI<br>BPW19<br>WATER<br>6/26/2012 10:25<br>8/22/2012 | MW- 8S<br>MW-8S_062112<br>6697890<br>LLI<br>BPW15<br>WATER<br>6/21/2012 7:50<br>8/22/2012 | MW- 9S<br>MW-9S_062612<br>6703179<br>LLI<br>BPW19<br>WATER<br>6/26/2012 10:55<br>8/22/2012 | MW-10D<br>MW-10D_062512<br>6700876<br>LLI<br>BPW17<br>WATER<br>6/25/2012 15:50<br>8/22/2012 | MW-10S<br>MW-10S_061912<br>6693731<br>LLI<br>BPW13<br>WATER<br>6/19/2012 9:35<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 150 | 0.8 U | 0.8 UJ | 0.8 U | 190 | 0.8 U |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 80 J | 1 U | 1 U | 3.6 J | 15 | 2.3 J |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 60 J | 0.8 U | 0.8 U | 3.7 J | 15 | 2.7 J |
| 75-00-3 | CHLOROETHANE | ug/l | 20 U | 1 U | 1 U | 1 U | 2 U | 1 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 32000 | 0.8 U | 4 J | 1100 | 1300 | 1000 |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 390 | 0.8 U | 0.8 U | 0.8 U | 1.6 U | 0.8 U |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 56 J | 0.8 U | 0.8 U | 7.8 | 3.1 J | 19 |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 19000 | 1 U | 1 U | 1 U | 2.3 J | 10 |
| 75-01-4 | VINYL CHLORIDE | ug/l | 630 | 1 U | 3.8 J | 290 | 91 | 740 |
| 74-85-1 | ETHENE | ug/l | 190 | 1 U | 1 U | 19 | 3.5 J | 590 |
| 74-84-0 | ETHANE | ug/l | 17 | 1 U | 1 U | 1 U | 15 | 16 |
| 74-82-8 | METHANE | ug/l | 3100 | 7.5 J | 5 U | 42 | 200 | 6600 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | 0.0743 U | 0.0743 U | 0.0801 U | 0.0743 U | 0.0743 U | |
| 7440-38-2 | ARSENIC | mg/l | 0.0068 U | 0.0068 U | 0.0051 U | 0.0068 U | 0.0068 U | |
| 7440-70-2 | CALCIUM | mg/l | 276 | 972 | 469 | 417 | 309 | |
| 7439-89-6 | IRON | mg/l | 0.0333 U | 0.709 | 0.0325 J | 1.06 | 0.168 J | |
| 7439-95-4 | MAGNESIUM | mg/l | 222 | 515 | 802 | 512 | 97.2 | |
| 7439-96-5 | MANGANESE | mg/l | 0.407 | 0.406 | 0.359 | 0.473 | 0.134 | |
| 9/7/7440 | POTASSIUM | mg/l | 9.27 | 5.74 | 6.26 | 5.24 | 3.7 | |
| 7782-49-2 | SELENIUM | mg/l | 0.0075 UJ | 0.0075 UJ | 0.0069 UJ | 0.0075 UJ | 0.0075 U | |
| 7440-23-5 | SODIUM | mg/l | 139 | 315 | 366 | 223 | 80 | |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | 267 | 1490 | 366 J | 268 | 162 J | |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | 0.6 U | 0.03 U | 0.03 U | 0.03 U | 0.03 J | |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | 376 | 1750 | 4390 J | 2300 | 932 | |
| 18496-25-8 | SULFIDE | mg/l | 230 | 0.054 U | 0.054 U | 0.054 U | 6.2 | |
| 7440-44-0 | TOTAL CARBON | mg/l | 287 | | | | | |
| TOC | TOTAL ORGANIC CARBON | mg/l | 14.7 | 2.4 | 25.1 | 5.9 | 2.1 | |
| TIC | TOTAL INORGANIC CARBON | mg/l | 272 | | | | | |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | MW-11D<br>MW-11D_062012<br>6695656<br>LLI<br>BPW14<br>WATER<br>6/20/2012 16:35<br>8/22/2012 | MW-11S<br>MW-11S_062112<br>6697902<br>LLI<br>BPW15<br>WATER<br>6/21/2012 16:55<br>8/22/2012 | MW-12D<br>MW-12D_061912<br>6693741<br>LLI<br>BPW13<br>WATER<br>6/19/2012 14:05<br>8/22/2012 | Dup of MW-12D_061912<br>MW-12D<br>MW-120D_061912<br>6693737<br>LLI<br>BPW13<br>WATER<br>6/19/2012 12:01<br>8/22/2012 | MW-12S<br>MW-12S_062712<br>6704976<br>LLI<br>BPW20<br>WATER<br>6/27/2012 12:25<br>8/22/2012 | MW-13DS<br>MW-13DS_062512<br>6700874<br>LLI<br>BPW17<br>WATER<br>6/25/2012 15:00<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 430 J | 39 J | 1.7 J | 1.7 J | 120 | 0.8 U |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 21 | 67 | 1 U | 1 U | 48 | 14 |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 4.2 J | 4.4 J | 0.8 U | 0.8 U | 8 J | 1.9 J |
| 75-00-3 | CHLOROETHANE | ug/l | 1 U | 1 U | 1 U | 1 U | 5 U | 1 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 150 | 280 | 4.7 J | 5.1 | 2900 | 270 |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 1.2 J | 0.8 U | 0.8 U | 0.8 U | 4 U | 0.8 U |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 0.8 U | 14 | 0.8 U | 0.8 U | 38 | 2.8 J |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 10 | 89 | 1 U | 1 U | 7000 | 1 U |
| 75-01-4 | VINYL CHLORIDE | ug/l | 53 | 270 | 1 U | 1 J | 190 | 150 |
| 74-85-1 | ETHENE | ug/l | 1.9 J | 110 | 1 U | 1 U | 150 | 10 |
| 74-84-0 | ETHANE | ug/l | 110 | 4 J | 28 | 28 | 16 | 9.1 |
| 74-82-8 | METHANE | ug/l | 750 | 770 | 150 | 160 | 2000 | 29 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | | | 0.0801 U | 0.0801 U | | 0.0743 U |
| 7440-38-2 | ARSENIC | mg/l | | | 0.0051 U | 0.0051 U | | 0.0068 U |
| 7440-70-2 | CALCIUM | mg/l | | | 533 | 541 | | 317 |
| 7439-89-6 | IRON | mg/l | | | 0.0141 U | 0.0141 U | | 0.242 |
| 7439-95-4 | MAGNESIUM | mg/l | | | 115 | 117 | | 198 |
| 7439-96-5 | MANGANESE | mg/l | | | 0.0199 | 0.0193 | | 0.117 |
| 9/7/7440 | POTASSIUM | mg/l | | | 3.17 | 3.17 | | 3.14 |
| 7782-49-2 | SELENIUM | mg/l | | | 0.0069 UJ | 0.0069 UJ | | 0.0075 U |
| 7440-23-5 | SODIUM | mg/l | | | 43.7 J | 47.1 | | 99.7 |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | | | 109 | 105 | | 276 J |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | | | 0.25 U | 0.25 U | | 0.25 U |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | | | 0.3 U | | | 0.03 U |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | | | 1780 | 1700 | | 1700 |
| 18496-25-8 | SULFIDE | mg/l | | | 36.7 | | | 3.1 |
| 7440-44-0 | TOTAL CARBON | mg/l | | | | | | |
| TOC | TOTAL ORGANIC CARBON | mg/l | | | 0.78 J | 4.9 J | | 2.9 |
| TIC | TOTAL INORGANIC CARBON | mg/l | | | | | | |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | MW-14D<br>MW-14D_062712<br>6704977<br>LLI<br>BPW20<br>WATER<br>6/27/2012 12:40<br>8/22/2012 | MW-15D<br>MW-15D_061912<br>6693744<br>LLI<br>BPW13<br>WATER<br>6/19/2012 16:20<br>8/22/2012 | MW-16D<br>MW-16D_062212<br>6699401<br>LLI<br>BPW16<br>WATER<br>6/22/2012 14:55<br>8/22/2012 | MW-17D<br>MW-17D_062212<br>6699402<br>LLI<br>BPW16<br>WATER<br>6/22/2012 15:05<br>8/22/2012 | MW-18D<br>MW-18D_061912<br>6693743<br>LLI<br>BPW13<br>WATER<br>6/19/2012 15:50<br>8/22/2012 | MW-19D<br>MW-19D_061912<br>6693740<br>LLI<br>BPW13<br>WATER<br>6/19/2012 13:00<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 0.8 U | 41 | 8.7 J | 660 | 0.8 U | 0.8 U |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 1 U | 14 | 14 | 41 | 1 U | 1 U |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 0.8 U | 4.3 J | 3 J | 16 | 0.8 U | 0.8 U |
| 75-00-3 | CHLOROETHANE | ug/l | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 0.8 U | 560 | 450 | 350 | 0.8 U | 34 |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 0.8 U | 0.8 U | 0.8 U | 1.2 J | 0.8 U | 0.8 U |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 0.8 U | 3.7 J | 2 J | 1.6 J | 0.8 U | 0.8 U |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 1 U | 2.9 J | 2.2 J | 6.1 | 1 U | 1 U |
| 75-01-4 | VINYL CHLORIDE | ug/l | 1 U | 220 | 230 | 85 | 1 U | 1.4 J |
| 74-85-1 | ETHENE | ug/l | 1 U | 1.1 J | 8.8 | 1 U | 1 U | 1 U |
| 74-84-0 | ETHANE | ug/l | 28 | 1 U | 6.9 | 6.9 | 1.2 J | 1 U |
| 74-82-8 | METHANE | ug/l | 82 | 10 J | 46 | 68 | 47 | 19 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | 0.0743 U | 0.0801 U | 0.0743 U | | 0.0801 U | 0.0801 U |
| 7440-38-2 | ARSENIC | mg/l | 0.0068 U | 0.0051 U | 0.0068 U | | 0.0051 U | 0.0051 U |
| 7440-70-2 | CALCIUM | mg/l | 320 | 158 | 328 | | 438 | 507 |
| 7439-89-6 | IRON | mg/l | 0.0966 J | 0.15 J | 0.228 | | 0.0141 U | 2.26 |
| 7439-95-4 | MAGNESIUM | mg/l | 134 | 64.5 | 127 | | 175 | 624 |
| 7439-96-5 | MANGANESE | mg/l | 0.234 | 0.0951 | 0.0644 | | 0.114 | 0.102 |
| 9/7/7440 | POTASSIUM | mg/l | 3.26 | 3.25 | 3.69 | | 2.73 | 4.91 |
| 7782-49-2 | SELENIUM | mg/l | 0.0075 U | 0.0069 UJ | 0.0075 UJ | | 0.0069 UJ | 0.0069 UJ |
| 7440-23-5 | SODIUM | mg/l | 85.3 | 45.9 J | 92.4 | | 62.5 J | 139 |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | 115 J | 18.7 | 186 J | | 93.8 | 237 |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | 0.25 U | 0.25 U | 0.25 U | | 0.25 U | 0.25 U |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | 0.03 U | 0.03 U | 0.03 U | | 0.032 J | 0.03 U |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | 1160 J | 52.1 | 983 J | | 1630 | 3660 |
| 18496-25-8 | SULFIDE | mg/l | 7.4 | 0.47 | 0.54 | | 4.1 | 0.054 U |
| 7440-44-0 | TOTAL CARBON | mg/l | | | | | | |
| TOC | TOTAL ORGANIC CARBON | mg/l | 2 | 1.5 | 2.7 | | 4.4 | 8.7 |
| TIC | TOTAL INORGANIC CARBON | mg/l | | | | | | |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | MW-20D<br>MW-20D_062012/062612<br>6695653/6703188<br>LLI<br>BPW14<br>WATER<br>6/20/2012 / 6/26/12<br>8/22/2012 | MW-21D<br>MW-21D_062212<br>6699395<br>LLI<br>BPW16<br>WATER<br>6/22/2012 12:55<br>8/22/2012 | OR- 3SM<br>OR-3SM_061912<br>6693735<br>LLI<br>BPW13<br>WATER<br>6/19/2012 9:55<br>8/22/2012 | OR- 4SM<br>OR-4SM_061912<br>6693738<br>LLI<br>BPW13<br>WATER<br>6/19/2012 12:20<br>8/22/2012 | OR- 5SM<br>OR-5SM_062012<br>6695657<br>LLI<br>BPW14<br>WATER<br>6/20/2012 15:35<br>8/22/2012 | OR- 6SM<br>OR-6SM_062112<br>6697894<br>LLI<br>BPW15<br>WATER<br>6/21/2012 10:20<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 14000 J | 310 J | 0.8 UJ | 0.8 U | 0.8 UJ | 8 UJ |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 860 | 35 | 1 U | 1 U | 1.7 J | 10 UJ |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 180 | 13 J | 0.8 U | 0.8 U | 0.8 U | 8 UJ |
| 75-00-3 | CHLOROETHANE | ug/l | 2 U | 5 U | 1.9 J | 1 U | 1.9 J | 19 J |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 5200 | 3600 | 0.81 J | 0.8 U | 5.3 | 950 J |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 15 | 4 U | 0.8 U | 0.8 U | 0.8 U | 8 UJ |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 19 | 7.9 J | 48 | 13 | 56 | 110 J |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 590 | 15 J | 1 U | 1 U | 1 U | 10 UJ |
| 75-01-4 | VINYL CHLORIDE | ug/l | 160 | 580 | 1.8 J | 1 U | 11 | 420 J |
| 74-85-1 | ETHENE | ug/l | 3.7 J | 8 | 1 U | 1 U | 76 | 180 J |
| 74-84-0 | ETHANE | ug/l | 1 U | 1 U | 42 | 2.2 J | 130 | 94 J |
| 74-82-8 | METHANE | ug/l | 42 | 37 | 13000 | 12000 | 12000 | 8000 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | | | 0.155 J | 0.0841 J | 0.118 J | 0.0801 U |
| 7440-38-2 | ARSENIC | mg/l | | | 0.0537 | 0.02 | 0.013 J | 0.026 |
| 7440-70-2 | CALCIUM | mg/l | | | 651 | 372 | 409 | 806 |
| 7439-89-6 | IRON | mg/l | | | 73.3 | 42.7 | 11.3 | 45.4 |
| 7439-95-4 | MAGNESIUM | mg/l | | | 205 | 92 | 91 J | 165 |
| 7439-96-5 | MANGANESE | mg/l | | | 6.15 | 7.16 | 3.17 | 11.2 |
| 9/7/7440 | POTASSIUM | mg/l | | | 57.2 | 41.5 | 20.3 | 100 |
| 7782-49-2 | SELENIUM | mg/l | | | 0.0069 UJ | 0.0069 UJ | 0.0069 U | 0.0069 UJ |
| 7440-23-5 | SODIUM | mg/l | | | 239 | 86.6 J | 325 | 345 |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | | | 382 | 146 | 664 | 1000 J |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | | | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | | | 0.03 U | 0.079 J | 0.032 J | 0.032 J |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | | | 2 J | 2.2 J | 1.5 U | 6.5 J |
| 18496-25-8 | SULFIDE | mg/l | | | 0.18 | 0.21 | 3.1 | 3.4 |
| 7440-44-0 | TOTAL CARBON | mg/l | | | 1300 | 500 | 469 | 772 |
| TOC | TOTAL ORGANIC CARBON | mg/l | | | 838 | 84.7 | 139 | 243 |
| TIC | TOTAL INORGANIC CARBON | mg/l | | | | | | 530 |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | | | | | | Dup of OR-14SM_062512 | |
|---|---|---|---|---|---|---|---|---|
| | | Location ID: | OR- 9SM | OR-10SM | OR-13SM | OR-14SM | OR-14SM | OR-15SM |
| | | Sample ID: | OR-9SM_062712 | OR-10SM_062712 | OR-13SM_062112 | OR-14SM_062512 | OR-140SM_062512 | OR-15SM_061912 |
| | | Lab Sample Id: | 6704980 | 6704982 | 6697896 | 6700872 | 6700871 | 6693742 |
| | | Source: | LLI | LLI | LLI | LLI | LLI | LLI |
| | | SDG: | BPW20 | BPW20 | BPW15 | BPW17 | BPW17 | BPW13 |
| | | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | | Sampled: | 6/27/2012 14:40 | 6/27/2012 16:15 | 6/21/2012 11:20 | 6/25/2012 12:10 | 6/25/2012 12:01 | 6/19/2012 14:30 |
| | | Validated: | 8/22/2012 | 8/22/2012 | 8/22/2012 | 8/22/2012 | 8/22/2012 | 8/22/2012 |
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 73 | 0.8 UJ | 0.8 UJ | 8 UJ | 8 UJ | 0.8 U |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 25 J | 1 UJ | 6.9 | 10 UJ | 10 UJ | 1 U |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 12 J | 0.8 UJ | 0.8 U | 8 UJ | 8 UJ | 0.8 U |
| 75-00-3 | CHLOROETHANE | ug/l | 20 J | 12 J | 44 | 10 UJ | 10 UJ | 1 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 4000 | 0.8 UJ | 0.91 J | 8 UJ | 8 UJ | 0.8 U |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 8 U | 0.8 UJ | 0.8 U | 8 UJ | 8 UJ | 0.8 U |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 19 J | 2.5 J | 11 | 8 UJ | 8 UJ | 2 J |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 16 J | 1 UJ | 1 U | 10 UJ | 10 UJ | 1 U |
| 75-01-4 | VINYL CHLORIDE | ug/l | 910 | 1 UJ | 1 U | 10 UJ | 10 UJ | 1 U |
| 74-85-1 | ETHENE | ug/l | 170 | 1 UJ | 6.8 | 2.3 J | 2.1 J | 1 U |
| 74-84-0 | ETHANE | ug/l | 14 | 6.3 J | 7.4 | 4.1 J | 3.6 J | 1.7 J |
| 74-82-8 | METHANE | ug/l | 13000 | 11000 | 7700 | 13000 | 11000 | 8300 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | 0.0743 U | 0.162 J | 0.0938 J | 0.0743 U | 0.0743 U | 0.0801 U |
| 7440-38-2 | ARSENIC | mg/l | 0.018 J | 0.0119 J | 0.0234 | 0.02 J | 0.0176 J | 0.0163 J |
| 7440-70-2 | CALCIUM | mg/l | 318 | 458 | 619 | 726 | 690 | 692 |
| 7439-89-6 | IRON | mg/l | 0.195 J | 14.6 | 51 | 52.6 | 51 | 67.3 |
| 7439-95-4 | MAGNESIUM | mg/l | 97.5 | 150 | 195 | 215 | 213 | 133 |
| 7439-96-5 | MANGANESE | mg/l | 1.73 | 4.52 | 8.99 | 10.4 | 9.89 | 12 |
| 9/7/7440 | POTASSIUM | mg/l | 18.8 | 39.5 | 73.7 | 193 | 184 | 172 |
| 7782-49-2 | SELENIUM | mg/l | 0.0075 U | 0.0075 U | 0.0069 UJ | 0.0075 U | 0.0075 U | 0.0069 UJ |
| 7440-23-5 | SODIUM | mg/l | 337 | 326 | 274 | 155 | 149 | 177 |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | 515 J | 605 J | 387 J | 161 J | 155 J | 238 |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | 0.65 J | 0.12 | 0.03 U | 0.033 J | | 0.03 U |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | 115 J | 27.8 J | 14.2 J | 240 | 217 | 1.5 U |
| 18496-25-8 | SULFIDE | mg/l | 34.2 | 3.1 | 0.63 | 1.4 | | 0.054 U |
| 7440-44-0 | TOTAL CARBON | mg/l | 471 | 618 | 885 | 952 | | 967 |
| TOC | TOTAL ORGANIC CARBON | mg/l | 172 | 102 | 192 | 171 | 179 | 267 |
| TIC | TOTAL INORGANIC CARBON | mg/l | 299 | 516 | 692 | 781 | | |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | OR-18SM<br>OR-18SM_061912<br>6693736<br>LLI<br>BPW13<br>WATER<br>6/19/2012 11:25<br>8/22/2012 | PMW- 1D<br>PMW-1D_062612<br>6703177<br>LLI<br>BPW19<br>WATER<br>6/26/2012 9:05<br>8/22/2012 | PMW- 1S<br>PMW-1S_062512<br>6700873<br>LLI<br>BPW17<br>WATER<br>6/25/2012 12:55<br>8/22/2012 | PMW-2D<br>PMW-2D_062112<br>6697892<br>LLI<br>BPW15<br>WATER<br>6/21/2012 8:50<br>8/22/2012 | PMW- 2S<br>PMW-2S_062012<br>6695652<br>LLI<br>BPW14<br>WATER<br>6/20/2012 14:50<br>8/22/2012 | PMW- 3D<br>PMW-3D_062712<br>6704971<br>LLI<br>BPW20<br>WATER<br>6/27/2012 9:10<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 0.8 U | 240 | 0.8 U | 40 J | 0.8 UJ | 22 J |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 1 U | 43 J | 1.1 J | 34 J | 2 J | 27 J |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 0.8 U | 71 J | 1.1 J | 130 | 1.6 J | 20 J |
| 75-00-3 | CHLOROETHANE | ug/l | 1 U | 20 U | 1 U | 10 U | 1 U | 10 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 9.4 | 26000 | 200 | 80000 | 390 | 8900 |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 0.8 U | 16 U | 0.8 U | 160 | 0.8 U | 20 J |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 3.7 J | 60 J | 27 | 160 | 63 | 18 J |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 1 U | 1900 | 1.4 J | 27000 | 2.8 J | 5000 |
| 75-01-4 | VINYL CHLORIDE | ug/l | 22 | 2100 | 160 | 1700 | 350 | 210 |
| 74-85-1 | ETHENE | ug/l | 38 | 61 | 500 | 180 | 220 | 14 |
| 74-84-0 | ETHANE | ug/l | 14 | 4.9 J | 1700 | 19 | 190 | 5.3 |
| 74-82-8 | METHANE | ug/l | 17000 | 2200 | 20000 | 2600 | 13000 | 1900 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | 0.0801 U | 0.0743 U | 0.0743 U | 0.0801 U | 0.0801 U | 0.0743 U |
| 7440-38-2 | ARSENIC | mg/l | 0.0051 U | 0.0068 U | 0.0116 J | 0.0067 J | 0.0216 | 0.0068 U |
| 7440-70-2 | CALCIUM | mg/l | 371 | 286 | 188 | 235 | 389 | 325 |
| 7439-89-6 | IRON | mg/l | 0.0597 J | 0.0333 U | 1.63 | 0.0141 U | 21.6 | 0.0333 U |
| 7439-95-4 | MAGNESIUM | mg/l | 99.7 | 207 | 39.1 | 169 | 80.1 J | 141 |
| 7439-96-5 | MANGANESE | mg/l | 2.11 | 0.211 | 0.835 | 0.252 | 3.06 | 0.0399 |
| 9/7/7440 | POTASSIUM | mg/l | 41.6 | 5.83 | 16.8 | 9.85 | 20 | 17.8 |
| 7782-49-2 | SELENIUM | mg/l | 0.0069 UJ | 0.0075 UJ | 0.0075 U | 0.0069 UJ | 0.0069 U | 0.0075 U |
| 7440-23-5 | SODIUM | mg/l | 124 | 168 | 419 | 225 | 399 | 145 |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | 123 | 269 | 502 J | 339 J | 808 | 175 J |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | 1.6 | 0.03 U | 0.32 | 0.6 U | 0.03 U | 0.6 U |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | 280 | 1150 | 14.7 | 202 J | 1.8 J | 505 J |
| 18496-25-8 | SULFIDE | mg/l | | 29 | 8.9 | 150 | 1.1 | 173 |
| 7440-44-0 | TOTAL CARBON | mg/l | 427 | 130 | 150 | 371 | 489 | 317 |
| TOC | TOTAL ORGANIC CARBON | mg/l | 105 | 6.2 | 29.3 | 148 | 234 | 167 |
| TIC | TOTAL INORGANIC CARBON | mg/l | | 124 | 120 | 223 | | 151 |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | PMW- 3S<br>PMW-3S_062512<br>6700870<br>LLI<br>BPW17<br>WATER<br>6/25/2012 10:30<br>8/22/2012 | PMW- 4D<br>PMW-4D_062712<br>6704972<br>LLI<br>BPW20<br>WATER<br>6/27/2012 9:30<br>8/22/2012 | PMW- 4S<br>PMW-4S_062012<br>6695646<br>LLI<br>BPW14<br>WATER<br>6/20/2012 8:00<br>8/22/2012 | PMW- 5D<br>PMW-5D_062212<br>6699389<br>LLI<br>BPW16<br>WATER<br>6/22/2012 9:05<br>8/22/2012 | PMW- 5S<br>PMW-5S_062012<br>6695647<br>LLI<br>BPW14<br>WATER<br>6/20/2012 9:00<br>8/22/2012 | PMW-6D<br>PMW-6D_062112<br>6697891<br>LLI<br>BPW15<br>WATER<br>6/21/2012 8:00<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 80 U | 7 J | 4.5 J | 44 J | 8 UJ | 4 UJ |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 100 U | 4.3 J | 14 J | 20 U | 16 J | 75 |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 150 J | 9.1 J | 20 J | 37 J | 100 | 26 |
| 75-00-3 | CHLOROETHANE | ug/l | 100 U | 2 U | 5 U | 20 U | 10 U | 5 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 65000 | 1800 | 11000 | 8600 | 57000 | 21000 |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 80 U | 13 | 7.6 J | 88 J | 8 U | 8.6 J |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 1200 | 9.2 J | 280 | 16 U | 1000 | 83 |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 660 | 1900 | 270 | 6800 | 3100 | 2200 |
| 75-01-4 | VINYL CHLORIDE | ug/l | 13000 | 83 | 660 | 63 J | 9800 | 1600 |
| 74-85-1 | ETHENE | ug/l | 930 | 61 | 110 | 85 | 450 | 980 |
| 74-84-0 | ETHANE | ug/l | 280 | 31 | 38 | 12 | 68 | 24 |
| 74-82-8 | METHANE | ug/l | 10000 | 4200 | 2000 | 2400 | 800 | 8000 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | 0.0743 U | 0.0743 U | 0.0801 U | 0.0743 U | 0.0801 U | 0.0801 U |
| 7440-38-2 | ARSENIC | mg/l | 0.0082 J | 0.0068 U | 0.0051 U | 0.0068 U | 0.0051 U | 0.0104 J |
| 7440-70-2 | CALCIUM | mg/l | 486 | 311 | 524 | 257 | 472 | 384 |
| 7439-89-6 | IRON | mg/l | 4.3 | 0.0333 J | 0.0155 J | 0.0333 U | 0.0551 J | 0.0336 J |
| 7439-95-4 | MAGNESIUM | mg/l | 205 | 133 | 297 J | 139 | 283 J | 122 |
| 7439-96-5 | MANGANESE | mg/l | 3.35 | 0.117 | 0.763 | 0.283 | 1.7 | 0.497 |
| 9/7/7440 | POTASSIUM | mg/l | 17.4 | 5.02 | 4.73 | 6.13 | 4.23 | 14.6 |
| 7782-49-2 | SELENIUM | mg/l | 0.0075 U | 0.0075 U | 0.0069 U | 0.0075 UJ | 0.0069 U | 0.0069 UJ |
| 7440-23-5 | SODIUM | mg/l | 331 | 139 | 501 | 134 | 165 | 332 |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | 1130 J | 205 J | 1530 | 257 J | 595 | 540 J |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | 0.25 U | 0.25 U | 0.41 J | 0.25 U | 0.25 U | 0.25 U |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | 0.083 J | 0.6 U | 0.03 U | 0.6 U | 0.03 U | 0.6 U |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | 1010 | 203 J | 1400 | 246 J | 1530 | 1050 J |
| 18496-25-8 | SULFIDE | mg/l | 3.2 | 187 | 0.054 U | 146 | 0.054 U | 84.4 |
| 7440-44-0 | TOTAL CARBON | mg/l | 368 | 369 | 96 | | 154 | 740 |
| TOC | TOTAL ORGANIC CARBON | mg/l | 84.8 | 144 | 3.8 | 57 | 5.8 | 578 |
| TIC | TOTAL INORGANIC CARBON | mg/l | 283 | 224 | | | | 162 |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | PMW- 6S<br>PMW-6S_062212<br>6699388<br>LLI<br>BPW16<br>WATER<br>6/22/2012 9:00<br>8/22/2012 | PMW- 7D<br>PMW-7D_062612<br>6703187<br>LLI<br>BPW19<br>WATER<br>6/26/2012 14:45<br>8/22/2012 | PMW- 7S<br>PMW-7S_062212<br>6699391<br>LLI<br>BPW16<br>WATER<br>6/22/2012 11:00<br>8/22/2012 | PMW- 8D<br>PMW-8D_062212<br>6699394<br>LLI<br>BPW16<br>WATER<br>6/22/2012 11:05<br>8/22/2012 | PMW- 8S<br>PMW-8S_062212<br>6699400<br>LLI<br>BPW16<br>WATER<br>6/22/2012 14:15<br>8/22/2012 | PMW- 9D<br>PMW-9D_062212<br>6699396<br>LLI<br>BPW16<br>WATER<br>6/22/2012 13:05<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 8 UJ | 270 | 0.8 UJ | 470 J | 25 J | 790 J |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 10 U | 77 J | 54 | 39 J | 29 | 100 U |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 8 U | 91 J | 0.8 U | 45 J | 0.8 U | 170 J |
| 75-00-3 | CHLOROETHANE | ug/l | 10 U | 50 UJ | 1 U | 20 U | 1.5 J | 100 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 3900 | 31000 | 3.7 J | 15000 | 45 | 86000 |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 8 U | 350 | 0.8 U | 240 | 0.8 U | 600 |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 200 | 52 J | 0.8 U | 46 J | 6.7 | 120 J |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 10 U | 25000 | 1 U | 18000 | 1 U | 77000 |
| 75-01-4 | VINYL CHLORIDE | ug/l | 3100 | 520 | 2.8 J | 1000 | 48 | 610 |
| 74-85-1 | ETHENE | ug/l | 510 | 87 | 1 U | 82 | 280 | 110 |
| 74-84-0 | ETHANE | ug/l | 78 | 11 | 1 U | 6.6 | 11 | 23 |
| 74-82-8 | METHANE | ug/l | 11000 | 2600 | 10 J | 1400 | 2500 | 3500 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | 0.109 J | 0.0743 U | 0.0743 U | 0.0743 U | 0.0743 U | 0.0743 U |
| 7440-38-2 | ARSENIC | mg/l | 0.0284 | 0.0068 U | 0.0068 U | 0.0068 U | 0.0068 U | 0.0068 U |
| 7440-70-2 | CALCIUM | mg/l | 336 | 252 | 484 | 354 | 432 | 226 |
| 7439-89-6 | IRON | mg/l | 38.5 | 0.0333 U | 0.473 | 0.0333 U | 0.652 | 0.0333 U |
| 7439-95-4 | MAGNESIUM | mg/l | 117 | 246 | 809 | 371 | 491 | 85.2 |
| 7439-96-5 | MANGANESE | mg/l | 4.87 | 0.153 | 0.285 | 0.371 | 1.51 | 0.218 |
| 9/7/7440 | POTASSIUM | mg/l | 27.4 | 38.2 | 6 | 5.32 | 6.92 | 6.31 |
| 7782-49-2 | SELENIUM | mg/l | 0.0075 UJ | 0.0075 UJ | 0.0075 UJ | 0.0075 UJ | 0.0075 UJ | 0.0075 UJ |
| 7440-23-5 | SODIUM | mg/l | 103 | 195 | 188 | 152 | 220 | 105 |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | 208 J | 193 | 316 J | 179 J | 437 J | 191 J |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | 0.03 U | 0.6 U | 0.03 U | 0.6 U | 0.32 | 0.6 U |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | 173 J | 950 | 4090 J | 1700 J | 2210 J | 267 J |
| 18496-25-8 | SULFIDE | mg/l | 0.31 | 184 | 0.054 U | 131 | 15.1 | 124 |
| 7440-44-0 | TOTAL CARBON | mg/l | 395 | 199 | 177 | | 217 | 205 |
| TOC | TOTAL ORGANIC CARBON | mg/l | 47.9 | 25.5 | 6.3 | 28.4 | 16.6 | 61.7 |
| TIC | TOTAL INORGANIC CARBON | mg/l | 347 | 173 | 170 | | 200 | 143 |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | PMW- 9S<br>PMW-9S_062112<br>6697899<br>LLI<br>BPW15<br>WATER<br>6/21/2012 14:05<br>8/22/2012 | PMW-10D<br>PMW-10D_062612<br>6703186<br>LLI<br>BPW19<br>WATER<br>6/26/2012 14:20<br>8/22/2012 | PMW-10S<br>PMW-10S_062512<br>6700877<br>LLI<br>BPW17<br>WATER<br>6/25/2012 16:15<br>8/22/2012 | PMW-11D<br>PMW-11D_062112<br>6697893<br>LLI<br>BPW15<br>WATER<br>6/21/2012 9:10<br>8/22/2012 | Dup of<br>PMW-11D_062112<br>PMW-11D<br>PMW-110D_062112<br>6697898<br>LLI<br>BPW15<br>WATER<br>6/21/2012 12:01<br>8/22/2012 | PMW-11S<br>PMW-11S_062012<br>6695648<br>LLI<br>BPW14<br>WATER<br>6/20/2012 9:20<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 1.5 J | 250 | 0.8 U | 72000 | 74000 J | 4 UJ |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 1 U | 240 J | 1 U | 520 | 560 | 47 |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 14 | 83 J | 0.8 U | 620 | 660 | 32 |
| 75-00-3 | CHLOROETHANE | ug/l | 8.4 | 50 UJ | 1 U | 5 U | 5 U | 5 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 2700 | 30000 | 0.8 U | 7800 | 6700 | 13000 |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 0.8 U | 40 U | 0.8 U | 330 | 360 | 4 U |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 32 | 42 J | 0.8 U | 23 J | 25 | 230 |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 5100 | 750 | 1 U | 3900 | 3200 | 320 |
| 75-01-4 | VINYL CHLORIDE | ug/l | 93 | 210 J | 2.7 J | 29 | 32 | 2600 |
| 74-85-1 | ETHENE | ug/l | 7.1 | 120 | 1 U | 3.1 J | 2.9 J | 170 |
| 74-84-0 | ETHANE | ug/l | 8.8 | 27 | 1 U | 25 | 21 | 32 |
| 74-82-8 | METHANE | ug/l | 91 | 810 | 13 J | 21 | 19 | 1800 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | 0.0801 U | 0.0743 U | 0.0743 U | 0.0801 U | 0.0801 U | 0.0801 U |
| 7440-38-2 | ARSENIC | mg/l | 0.0051 U | 0.0068 U | 0.0068 U | 0.0051 U | 0.0051 U | 0.0051 U |
| 7440-70-2 | CALCIUM | mg/l | 466 | 168 | 403 | 262 | 260 | 536 |
| 7439-89-6 | IRON | mg/l | 0.033 J | 69.5 | 0.0333 U | 3.46 | 3.62 | 0.27 |
| 7439-95-4 | MAGNESIUM | mg/l | 631 | 90.7 | 590 | 94.5 | 94.5 | 300 J |
| 7439-96-5 | MANGANESE | mg/l | 0.647 | 1.43 | 0.279 | 0.286 | 0.285 | 0.418 |
| 9/7/7440 | POTASSIUM | mg/l | 6.64 | 9.04 | 4.63 | 3.2 | 3.2 | 3.95 |
| 7782-49-2 | SELENIUM | mg/l | 0.0069 UJ | 0.0075 UJ | 0.0075 U | 0.0069 U | 0.0069 UJ | 0.0069 U |
| 7440-23-5 | SODIUM | mg/l | 118 | 192 | 127 | 74.2 | 74.5 | 166 |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | 113 J | 234 | 168 J | 138 | 172 J | 445 |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | 0.03 U | 0.03 U | 0.03 U | 0.03 U | | 0.03 U |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | 3010 J | 53.8 | 2820 | 752 | 896 J | 1880 |
| 18496-25-8 | SULFIDE | mg/l | 0.054 U | 4.8 | 0.054 U | 12 | | 0.054 U |
| 7440-44-0 | TOTAL CARBON | mg/l | 137 | 638 | 109 | 101 | | 107 |
| TOC | TOTAL ORGANIC CARBON | mg/l | 3.4 | 450 | 2.4 | 26.8 | 26 | 2.1 |
| TIC | TOTAL INORGANIC CARBON | mg/l | 133 | 188 | 107 | 74.3 | | |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | PMW-12D<br>PMW-12D_062612<br>6703185<br>LLI<br>BPW19<br>WATER<br>6/26/2012 13:00<br>8/22/2012 | PMW-13D<br>PMW-13D_062612<br>6703189<br>LLI<br>BPW19<br>WATER<br>6/26/2012 16:15<br>8/22/2012 | PMW-14D<br>PMW-14D_062712<br>6704981<br>LLI<br>BPW20<br>WATER<br>6/27/2012 15:15<br>8/22/2012 | PMW-15D<br>PMW-15D_062112<br>6697897<br>LLI<br>BPW15<br>WATER<br>6/21/2012 11:50<br>8/22/2012 | PMW-16D<br>PMW-16D_062712<br>6704975<br>LLI<br>BPW20<br>WATER<br>6/27/2012 11:25<br>8/22/2012 | PMW-17D<br>PMW-17D_062012<br>6695651<br>LLI<br>BPW14<br>WATER<br>6/20/2012 13:00<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 160 U | 350 | 270 J | 49000 J | 39 | 3900 J |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 200 U | 99 J | 440 J | 3000 | 17 J | 610 |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 910 J | 150 J | 110 J | 320 | 7.1 J | 63 |
| 75-00-3 | CHLOROETHANE | ug/l | 200 U | 50 U | 100 U | 5 U | 5 U | 5 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 350000 | 30000 | 57000 | 10000 | 3000 | 13000 |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 160 U | 370 | 80 U | 48 | 30 | 190 |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 160 U | 60 J | 80 U | 44 | 9.8 J | 26 |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 850 J | 38000 | 19000 | 2900 | 1200 | 11000 |
| 75-01-4 | VINYL CHLORIDE | ug/l | 210 J | 100 J | 580 | 1500 | 530 | 140 |
| 74-85-1 | ETHENE | ug/l | 140 | 230 | 140 | 66 | 7.1 | 4.7 J |
| 74-84-0 | ETHANE | ug/l | 38 | 37 | 29 | 19 | 3 J | 11 |
| 74-82-8 | METHANE | ug/l | 110 | 37 | 94 | 900 | 57 | 79 |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | 0.0743 U | 0.0743 U | 0.0743 U | 0.0801 U | 0.44 | 0.0801 U |
| 7440-38-2 | ARSENIC | mg/l | 0.0068 U | 0.0068 U | 0.0068 U | 0.0064 J | 0.0068 U | 0.0051 U |
| 7440-70-2 | CALCIUM | mg/l | 270 | 156 | 250 | 239 | 75.1 | 234 |
| 7439-89-6 | IRON | mg/l | 59.8 | 69.5 | 55.6 | 0.0574 J | 0.244 | 0.216 |
| 7439-95-4 | MAGNESIUM | mg/l | 106 | 67.2 | 122 | 96 | 0.55 | 103 J |
| 7439-96-5 | MANGANESE | mg/l | 1.03 | 1.56 | 2.27 | 0.298 | 0.0022 J | 0.364 |
| 9/7/7440 | POTASSIUM | mg/l | 29.7 | 24.7 | 12.4 | 4.61 | 10.1 | 5.4 |
| 7782-49-2 | SELENIUM | mg/l | 0.0075 UJ | 0.0075 UJ | 0.0075 U | 0.0069 UJ | 0.0075 U | 0.0069 U |
| 7440-23-5 | SODIUM | mg/l | 168 | 195 | 209 | 101 | 57.1 | 95 |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | 471 | 329 | 181 J | 294 J | 127 J | 138 |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | 0.03 U | 0.03 U | 0.61 | 0.6 U | 0.03 U | 0.6 U |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | 291 | 104 | 55.3 J | 133 J | 44.4 J | 201 |
| 18496-25-8 | SULFIDE | mg/l | 0.054 U | 10.6 | 30.3 | 127 | 2.6 | 157 |
| 7440-44-0 | TOTAL CARBON | mg/l | 304 | 764 | 1310 | 297 | 20.2 | 272 |
| TOC | TOTAL ORGANIC CARBON | mg/l | 169 | 618 | 987 | 134 | 20.9 | 94.5 |
| TIC | TOTAL INORGANIC CARBON | mg/l | 135 | 146 | 324 | 163 | 0.5 U | |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | RMW-1D<br>RMW-1D_061912<br>6693732<br>LLI<br>BPW13<br>WATER<br>6/19/2012 9:40<br>8/22/2012 | RMW-2D<br>RMW-2D_062012<br>6695649<br>LLI<br>BPW14<br>WATER<br>6/20/2012 9:40<br>8/22/2012 | RMW-3D<br>RMW-3D_062612<br>6703181<br>LLI<br>BPW19<br>WATER<br>6/26/2012 11:20<br>8/22/2012 | RMW-4D<br>RMW-4D_062712<br>6704974<br>LLI<br>BPW20<br>WATER<br>6/27/2012 11:15<br>8/22/2012 | FIELDQC<br>TB12144-A<br>6693730<br>LLI<br>BPW13<br>WATER<br>6/12/2012 0:00<br>8/22/2012 | FIELDQC<br>TB12144-B<br>6693745<br>LLI<br>BPW13<br>WATER<br>6/12/2012 0:00<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 500 J | 860 J | 25000 | 180 | 0.8 U | 0.8 U |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 9.4 | 66 J | 130 | 49 J | 1 U | 1 U |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 6.1 | 68 J | 210 | 59 J | 0.8 U | 0.8 U |
| 75-00-3 | CHLOROETHANE | ug/l | 1 U | 20 U | 20 U | 25 U | 1 U | 1 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 380 | 16000 | 3800 | 24000 | 0.8 U | 0.8 U |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 2.2 J | 800 | 100 | 87 J | 0.8 U | 0.8 U |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 1.4 J | 24 J | 16 U | 40 J | 0.8 U | 0.8 U |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 24 | 69000 | 460 | 18000 | 1 U | 1 U |
| 75-01-4 | VINYL CHLORIDE | ug/l | 5.8 | 52 J | 20 U | 830 | 1 U | 1 U |
| 74-85-1 | ETHENE | ug/l | 1 U | 1.2 J | 1 U | 400 | | |
| 74-84-0 | ETHANE | ug/l | 12 | 18 | 5.7 | 19 | | |
| 74-82-8 | METHANE | ug/l | 54 | 80 | 27 | 5600 | | |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | 0.0801 U | 0.0801 U | 0.0743 U | 0.0743 U | | |
| 7440-38-2 | ARSENIC | mg/l | 0.0051 U | 0.0051 U | 0.0068 U | 0.0068 U | | |
| 7440-70-2 | CALCIUM | mg/l | 295 | 279 | 265 | 278 | | |
| 7439-89-6 | IRON | mg/l | 0.273 | 0.0141 U | 0.0697 J | 0.0333 U | | |
| 7439-95-4 | MAGNESIUM | mg/l | 105 | 97.8 J | 85.7 | 102 | | |
| 7439-96-5 | MANGANESE | mg/l | 0.168 | 0.219 | 0.187 | 0.123 | | |
| 9/7/7440 | POTASSIUM | mg/l | 3.05 | 3.18 | 3.05 | 3.61 | | |
| 7782-49-2 | SELENIUM | mg/l | 0.0069 UJ | 0.0069 U | 0.0075 UJ | 0.0075 U | | |
| 7440-23-5 | SODIUM | mg/l | 76.2 | 81.4 J | 79.6 | 117 | | |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | 126 | 128 | 409 | 161 J | | |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | 0.25 U | 0.25 U | 0.25 U | 0.25 U | | |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | 0.03 U | 0.6 U | 0.03 U | 0.6 U | | |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | 934 | 485 | 978 | 241 J | | |
| 18496-25-8 | SULFIDE | mg/l | 5.2 | 94.9 | 15.2 | 192 | | |
| 7440-44-0 | TOTAL CARBON | mg/l | | 173 | 89.2 | 253 | | |
| TOC | TOTAL ORGANIC CARBON | mg/l | 1.9 | 43.2 | 9 | 55.9 | | |
| TIC | TOTAL INORGANIC CARBON | mg/l | | | 80.2 | 197 | | |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | FIELDQC<br>TB12144-C<br>6695644<br>LLI<br>BPW14<br>WATER<br>6/12/2012 0:00<br>8/22/2012 | FIELDQC<br>TB12144-D<br>6695645<br>LLI<br>BPW14<br>WATER<br>6/12/2012 0:00<br>8/22/2012 | FIELDQC<br>TB12144-E<br>6697888<br>LLI<br>BPW15<br>WATER<br>6/12/2012 0:00<br>8/22/2012 | FIELDQC<br>TB12144-F<br>6697889<br>LLI<br>BPW15<br>WATER<br>6/12/2012 0:00<br>8/22/2012 | FIELDQC<br>TB12144-G<br>6699386<br>LLI<br>BPW16<br>WATER<br>6/12/2012 0:00<br>8/22/2012 | FIELDQC<br>TB12144-H<br>6699387<br>LLI<br>BPW16<br>WATER<br>6/12/2012 0:00<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 0.8 UJ | 0.93 J | 0.8 UJ | 0.8 UJ | 0.8 UJ | 0.8 UJ |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 75-00-3 | CHLOROETHANE | ug/l | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 75-01-4 | VINYL CHLORIDE | ug/l | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 74-85-1 | ETHENE | ug/l | | | | | | |
| 74-84-0 | ETHANE | ug/l | | | | | | |
| 74-82-8 | METHANE | ug/l | | | | | | |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | | | | | | |
| 7440-38-2 | ARSENIC | mg/l | | | | | | |
| 7440-70-2 | CALCIUM | mg/l | | | | | | |
| 7439-89-6 | IRON | mg/l | | | | | | |
| 7439-95-4 | MAGNESIUM | mg/l | | | | | | |
| 7439-96-5 | MANGANESE | mg/l | | | | | | |
| 9/7/7440 | POTASSIUM | mg/l | | | | | | |
| 7782-49-2 | SELENIUM | mg/l | | | | | | |
| 7440-23-5 | SODIUM | mg/l | | | | | | |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | | | | | | |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | | | | | | |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | | | | | | |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | | | | | | |
| 18496-25-8 | SULFIDE | mg/l | | | | | | |
| 7440-44-0 | TOTAL CARBON | mg/l | | | | | | |
| TOC | TOTAL ORGANIC CARBON | mg/l | | | | | | |
| TIC | TOTAL INORGANIC CARBON | mg/l | | | | | | |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | FIELDQC<br>TB12144-I<br>6700868<br>LLI<br>BPW17<br>WATER<br>6/12/2012 0:00<br>8/22/2012 | FIELDQC<br>TB12144-J<br>6700869<br>LLI<br>BPW17<br>WATER<br>6/12/2012 0:00<br>8/22/2012 | FIELDQC<br>TB12144-K<br>6703175<br>LLI<br>BPW19<br>WATER<br>6/12/2012 0:00<br>8/22/2012 | FIELDQC<br>TB12144-L<br>6703176<br>LLI<br>BPW19<br>WATER<br>6/12/2012 0:00<br>8/22/2012 | FIELDQC<br>TB12144-M<br>6704968<br>LLI<br>BPW20<br>WATER<br>6/12/2012 0:00<br>8/22/2012 | FIELDQC<br>TB12144-N<br>6704969<br>LLI<br>BPW20<br>WATER<br>6/12/2012 0:00<br>8/22/2012 |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | | | | | | |
| | VOLATILES | | | | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 75-00-3 | CHLOROETHANE | ug/l | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U | 0.8 U |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 75-01-4 | VINYL CHLORIDE | ug/l | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 74-85-1 | ETHENE | ug/l | | | | | | |
| 74-84-0 | ETHANE | ug/l | | | | | | |
| 74-82-8 | METHANE | ug/l | | | | | | |
| | DISSOLVED METALS | | | | | | | |
| 7429-90-5 | ALUMINUM | mg/l | | | | | | |
| 7440-38-2 | ARSENIC | mg/l | | | | | | |
| 7440-70-2 | CALCIUM | mg/l | | | | | | |
| 7439-89-6 | IRON | mg/l | | | | | | |
| 7439-95-4 | MAGNESIUM | mg/l | | | | | | |
| 7439-96-5 | MANGANESE | mg/l | | | | | | |
| 9/7/7440 | POTASSIUM | mg/l | | | | | | |
| 7782-49-2 | SELENIUM | mg/l | | | | | | |
| 7440-23-5 | SODIUM | mg/l | | | | | | |
| | OTHER | | | | | | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | | | | | | |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | | | | | | |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | | | | | | |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | | | | | | |
| 18496-25-8 | SULFIDE | mg/l | | | | | | |
| 7440-44-0 | TOTAL CARBON | mg/l | | | | | | |
| TOC | TOTAL ORGANIC CARBON | mg/l | | | | | | |
| TIC | TOTAL INORGANIC CARBON | mg/l | | | | | | |

| Ekonol Facility<br>Validated Groundwater Analytical Results<br>Wheatfield, New York<br>2nd Quarter 2012 (June) | | Location ID:<br>Sample ID:<br>Lab Sample Id:<br>Source:<br>SDG:<br>Matrix:<br>Sampled:<br>Validated: | FIELDQC<br>TB12144-O<br>6706157<br>LLI<br>BPW21<br>WATER<br>6/12/2012 0:00<br>8/22/2012 |
|---|---|---|---|
| CAS NO. | COMPOUND | UNITS: | |
| | VOLATILES | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ug/l | 0.8 U |
| 75-34-3 | 1,1-DICHLOROETHANE | ug/l | 1 U |
| 75-35-4 | 1,1-DICHLOROETHENE | ug/l | 0.8 U |
| 75-00-3 | CHLOROETHANE | ug/l | 1 U |
| 156-59-2 | CIS-1,2-DICHLOROETHYLENE | ug/l | 0.8 U |
| 127-18-4 | TETRACHLOROETHYLENE(PCE) | ug/l | 0.8 U |
| 156-60-5 | TRANS-1,2-DICHLOROETHENE | ug/l | 0.8 U |
| 79-01-6 | TRICHLOROETHYLENE (TCE) | ug/l | 1 U |
| 75-01-4 | VINYL CHLORIDE | ug/l | 1 U |
| 74-85-1 | ETHENE | ug/l | |
| 74-84-0 | ETHANE | ug/l | |
| 74-82-8 | METHANE | ug/l | |
| | DISSOLVED METALS | | |
| 7429-90-5 | ALUMINUM | mg/l | |
| 7440-38-2 | ARSENIC | mg/l | |
| 7440-70-2 | CALCIUM | mg/l | |
| 7439-89-6 | IRON | mg/l | |
| 7439-95-4 | MAGNESIUM | mg/l | |
| 7439-96-5 | MANGANESE | mg/l | |
| 9/7/7440 | POTASSIUM | mg/l | |
| 7782-49-2 | SELENIUM | mg/l | |
| 7440-23-5 | SODIUM | mg/l | |
| | OTHER | | |
| 16887-00-6 | CHLORIDE (AS CL) | mg/l | |
| 14797-55-8 | NITROGEN, NITRATE (AS N) | mg/l | |
| 7723-14-0 | PHOSPHORUS, DISSOLVED (AS P) | mg/l | |
| 14808-79-8 | SULFATE (AS SO4) | mg/l | |
| 18496-25-8 | SULFIDE | mg/l | |
| 7440-44-0 | TOTAL CARBON | mg/l | |
| TOC | TOTAL ORGANIC CARBON | mg/l | |
| TIC | TOTAL INORGANIC CARBON | mg/l | |

# SUMMARY OF MICROBIOLOGICAL POPULATION AND INDICATOR RESULTS

| Microbiological Culture Results | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Sample ID | | MW-2S | PMW-1S | PMW-2S | PMW-3S | PMW-9S | PMW-10S | OR-5SM |
| Sample Date | | 6/20/12 | 6/25/12 | 6/20/12 | 6/25/12 | 6/21/12 | 6/25/12 | 6/20/12 |
| Sample Matrix | | Water | Water | Water | Water | Water | Water | Water |
| Analysis Method | | CENSUS | CENSUS | CENSUS | CENSUS | CENSUS | CENSUS | CENSUS |
| DHC | cells/ml | 2.26E+05 | 7.94E+05 | 4.17E+05 | 1.06E+06 | 4.11E+02 | 1.90E+00 | 4.82E+04 |
| DHBt | cells/ml | 8.55E+02 | 1.28E+03 | 1.18E+03 | 9.26E+02 | 1.21E+02 | 3.84E+01 | 1.02E+03 |
| bvcA | cells/ml | 8.53E+04 | 4.40E+03 | 1.21E+04 | 2.15E+05 | 1.00E+00 | < 0.5 | 2.57E+03 |
| tceA | cells/ml | 1.48E+02 | 2.32E+04 | 1.27E+04 | 1.14E+04 | 3.87E+01 | < 0.5 | 2.83E+03 |
| VCR | cells/ml | 2.82E+02 | 6.04E+05 | 3.49E+05 | 2.01E+05 | 1.80E+00 | 0.2 (J) | 9.13E+04 |
| Hydrogen and Acetylene | | | | | | | | |
| Sample ID | | MW-2S | PMW-1S | PMW-2S | PMW-3S | PMW-9S | PMW-10S | OR-5SM |
| Sample Date | | NS | 6/25/12 | 6/20/12 | 6/25/12 | 6/21/12 | 6/26/12 | 6/20/12 |
| Hydrogen | nM | NS | 4 | 1.6 | 2.3 | 3.2 | 2 | 2.8 |
| Acetylene | µg/L | NS | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |

DHC: Dehalococcoides spp.

DHB: Dehalobacter spp.

tceA: TCEA Reductase Functional Genes

bvcA: BVCA Reductase Functional Genes

VCR: VC Reductase Functional Genes

NS: Not sampled

<: result not detected

J = Estimated gene copies below PQL but above LQL

# SUMMARY OF MICROBIOLOGICAL POPULATION AND INDICATOR RESULTS

| Microbiological Culture Results | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Sample ID | | OR-6SM | OR-13SM | OR-14SM | INJ-7D | INJ-9D | INJ-10D | INJ-11D |
| Sample Date | | 6/21/12 | 6/21/12 | 6/25/12 | 6/28/12 | 6/21/12 | 6/21/12 | 6/21/12 |
| Sample Matrix | | Water | Water | Water | Water | Water | Water | Water |
| Analysis Method | | CENSUS | CENSUS | CENSUS | CENSUS | CENSUS | CENSUS | CENSUS |
| DHC | cells/ml | 8.54E+05 | 9.98E+04 | 1.72E+04 | 1.60E+03 | 4.80E+02 | 1.08E+04 | 2.13E+04 |
| DHBt | cells/ml | 3.15E+03 | 2.99E+03 | 1.85E+03 | 5.63E+03 | 1.20E+02 | 2.45E+03 | 2.35E+02 |
| bvcA | cells/ml | 2.60E+04 | 1.36E+02 | 4.10E+01 | 2.77E+02 | 1.79E+02 | 1.25E+03 | 1.22E+04 |
| tceA | cells/ml | 8.76E+03 | 7.10E+03 | 9.91E+02 | 3.42E+01 | 4.10E+00 | 4.88E+03 | 6.04E+02 |
| VCR | cells/ml | 6.31E+05 | 7.97E+04 | 2.95E+04 | 2.21E+02 | 7.82E+01 | 9.70E+03 | 5.20E+03 |
| Hydrogen and Acetylene | | | | | | | | |
| Sample ID | | OR-6SM | OR-13SM | OR-14SM | INJ-7D | INJ-9D | INJ-10D | INJ-11D |
| Sample Date | | 6/21/12 | 6/21/12 | 6/25/12 | NS | 6/21/12 | 6/21/12 | NS |
| Hydrogen | nM | 2.2 | 2 | 1.8 | NS | 10 | 3.6 | NS |
| Acetylene | µg/L | <0.50 | <0.50 | <0.50 | NS | <0.50 | <0.50 | NS |

DHC: Dehalococcoides spp.

DHB: Dehalobacter spp.

tceA: TCEA Reductase Functional Genes

bvcA: BVCA Reductase Functional Genes

VCR: VC Reductase Functional Genes

NS: Not sampled

<: result not detected

J = Estimated gene copies below PQL but abo

# SUMMARY OF MICROBIOLOGICAL POPULATION AND INDICATOR RESULTS

| Microbiological Culture Results | | | | | | | |
|---|---|---|---|---|---|---|---|
| Sample ID | | PMW-2D | PMW-6D | PMW-11D | PMW-15D | PMW-17D | RMW-2D |
| Sample Date | | 6/21/12 | 6/21/12 | 6/21/12 | 6/21/12 | 6/20/12 | 6/20/12 |
| Sample Matrix | | Water | Water | Water | Water | Water | Water |
| Analysis Method | | CENSUS | CENSUS | CENSUS | CENSUS | CENSUS | CENSUS |
| DHC | cells/ml | 4.82E+03 | 1.90E+06 | 7.06E+02 | 1.46E+06 | 2.58E+03 | 1.58E+03 |
| DHBt | cells/ml | 4.82E+02 | 6.95E+03 | 1.64E+03 | 3.26E+04 | 1.60E+03 | 3.35E+03 |
| bvcA | cells/ml | 8.16E+02 | 2.13E+04 | 8.63E+01 | 3.60E+05 | 7.77E+02 | 6.12E+02 |
| tceA | cells/ml | 2.54E+02 | 2.35E+02 | 2.04E+01 | 8.05E+03 | 2.58E+02 | 1.85E+01 |
| VCR | cells/ml | 4.30E+03 | 1.21E+06 | 2.16E+03 | 4.42E+04 | 1.55E+03 | 9.81E+01 |
| Hydrogen and Acetylene | | | | | | | |
| Sample ID | | PMW-2D | PMW-6D | PMW-11D | PMW-15D | PMW-17D | RMW-2D |
| Sample Date | | NS | NS | 6/21/12 | 6/21/12 | 6/20/12 | NS |
| Hydrogen | nM | NS | NS | 1.8 | 7.9 | 6 | NS |
| Acetylene | µg/L | NS | NS | 0.8 | <0.50 | 0.51 | NS |

DHC: Dehalococcoides spp.

DHB: Dehalobacter spp.

tceA: TCEA Reductase Functional Genes

bvcA: BVCA Reductase Functional Genes

VCR: VC Reductase Functional Genes

NS: Not sampled

<: result not detected

J = Estimated gene copies below PQL but abo

# ATTACHEMENT C
# INSPECTION RECORDS

# EKONOL SITE PAVEMENT INSPECTION FORM
# WHEATFIELD, NEW YORK

**Date of Inspection:** July 13, 2012 **Time:** 13:00

**Inspector(s) Name/Title:** Rob Piurek/Geologist, Dan Chamberland/Geologist

| Inspection of | Condition Present? | | Action Required? | | Comments/Location | Correction Date |
|---|---|---|---|---|---|---|
| | Yes | No | Yes | No | | |
| 1. Site Pavement | | | | | | |
| A. Surface cracks | X | | X | | Just south of PMW-7S, in front of the shipping door at the Ekonol facility(see included photo). Temporarily patched. | 7/13/12 |
| B. Pits/divots | | X | | | | NA |
| C. Sinking | X | | X | | Just south of PMW-7S, in front of the shipping door at the Ekonol facility. Temporarily patched. | 7/13/12 |
| 2. Well curb boxes | | | | | | |
| A. Cracks | | X | | X | | NA |
| B. Loose | | X | | X | | NA |
| C. Well caps missing | | X | | X | | NA |
| D. Settlement | | X | | X | | NA |

**SITE PHOTO LOG:**

# OPERATION, MONITORING AND MAINTENANCE CHECKLIST

Date: 6/28/12

Checklist Completed By: RP, DC

Project Number: _____

Property Location: Ekonol Site, St. Gobain Facility

System Installation Date: _____

The purpose of this form is to document the operation and maintenance of the sub-slab depressurization system to provide assurance that the system is functioning as designed or identify and execute any actions required to achieve the mitigation of subsurface vapor intrusion of volatile organic compounds to indoor air

**1. MITIGATION SYSTEM INSPECTION**

Occupant Interview

Any concerns identified by the building occupants? YES (NO)

*Comments / Action Items*

N/A

Occupant's Initials: [illegible]

External Piping

| | | | |
|---|---|---|---|
| Vent pipes securely fastened to building | (YES) | NO | |
| Are there any visible openings or breaks in the pipe system | YES | (NO) | |
| Is the rain cap present and intact at discharge point | (YES) | NO | N/A |
| Inspection of the exhaust point verified that no air intakes have been located nearby | (YES) | NO | |
| The sealing/caulking around wall penetrations is intact | (YES) | NO | |

*Comments / Action Items*

N/A

Mitigation Fan

| | | |
|---|---|---|
| Fan is mounted securely to building (no excessive vibrations during operation) | (YES) | NO |
| Fan cover is installed | (YES) | NO |
| No visible damage to fan or cover | (YES) | NO |

*Comments / Action Items*

N/A

## OPERATION, MONITORING AND MAINTENANCE CHECKLIST

Internal Piping

| | | | |
|---|---|---|---|
| Vertical and horizontal pipe runs are secured, including at all penetration points | YES | NO | |
| The sealing/caulking is intact around the extraction point or points through the basement floor, crawlspace floor, and/or crawlspace/basement wall interface. | YES | NO | |
| Vibration dampener installed and intact (pertains to fan mount) | YES | NO | N/A |
| Mitigation system operation placard present and visible/legible | YES | NO | |
| Contains description of major components, valid contact number and instructions for occupant inquiries and/or system failure | YES | NO | |
| Mitigation system maintenance tag present and filled out | YES | NO | |
| Date of last inspection shown on tag: N/A | | | |
| U-tube manometer present and intact at each extraction point | YES | NO | |

*Comments / Action Items*

N/A

Electrical

| | | | |
|---|---|---|---|
| Electrical connections secured | YES | NO | |
| Junction boxes are closed | YES | NO | |
| Conduit is supported | YES | NO | |
| Circuit breakers controlling the mitigation fan and alarm circuits operate and are labeled "Mitigation System" | YES | NO | |
| Power switch tagged with intact tamper proof seal | YES | NO | |
| Audible alarm present | YES | NO | |
| Audible alarm switch in "on" position (light on alarm is green) | YES | NO | |

*Comments / Action Items*

N/A

Water Sumps (skip this section if no sump(s) present)

| | | | |
|---|---|---|---|
| Sump present | YES | NO | |
| Number of sumps and locations are all shown on as-built drawing | YES | NO | |
| Sump pit is sealed to minimize influx of conditioned air | YES | NO | N/A |
| Penetrations to sump covers to accommodate electrical wiring, water injection pipes or vent pipes are sealed | YES | NO | N/A |
| Sump pits used as suction pits are identified with a label that reads; "This cover must be properly sealed for effective operation of the mitigation system - Contact Geosyntec Consultants (toll free 1-800-695-4436) for instructions on the correct procedure for replacement and sealing if removal or modification for any reason is performed" | YES | NO | N/A |

*Comments / Action Items*

N/A

## OPERATION, MONITORING AND MAINTENANCE CHECKLIST

**2. OPERATIONAL CHECKS**

Fan is operating — (YES) NO
Noise and Vibration within normal range — (YES) NO
Alarm sounds when fan is turned off — (YES) NO

U-Tube manometer indicating negative sub slab pressure — YES NO

U-Tube Manometer Reading: Location: OFFICE - ST. GOBAIN Vacuum 1.6 in $H_20$
U-Tube Manometer Reading: Location:_____ Vacuum _____ in $H_20$
U-Tube Manometer Reading: Location:_____ Vacuum _____ in $H_20$
U-Tube Manometer Reading: Location:_____ Vacuum _____ in $H_20$
U-Tube Manometer Reading: Location:_____ Vacuum _____ in $H_20$
U-Tube Manometer Reading: Location:_____ Vacuum _____ in $H_20$
U-Tube Manometer Reading: Location:_____ Vacuum _____ in $H_20$
U-Tube Manometer Reading: Location:_____ Vacuum _____ in $H_20$
U-Tube Manometer Reading: Location:_____ Vacuum _____ in $H_20$

Smoke test performed on internal penetrations and pipe joints — (YES) NO N/A
Smoke test indicated no leaks — (YES) NO N/A
Smoke test confirms air flow into sump — YES NO (N/A)
Back draft test confirms proper air flow at combustion appliances — (YES) NO N/A
Smoke test indicated no leaks — (YES) NO N/A

**3. MAINTENANCE**

Fan last replaced on (date): N/A

Fan due to be replaced; N/A

Additional Maintenance Action Items Performed

N/A

**4. ADDITIONAL ACTION ITEMS/ COMMENTS/COMPLETION DATES**

N/A

**5. CERTIFICATION**

I certify that the information on this form is true, accurate and complete (all blanks filled in) to the best of my knowledge and ability, and that I have the appropriate training and experience to perform this monitoring/inspection:

Name: ROBERT PINNOCK Affiliation: PARSONS

Signature: [signature] Date (dd/mm/yy): 6/28/12 1030 (am)/pm