

**Pinellas County, Florida, Site
Environmental Restoration Project**

**Semiannual Progress Report
for the 4.5 Acre Site**

June Through November 2014

December 2014



U.S. DEPARTMENT OF
ENERGY

Legacy
Management

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Appendix A Laboratory Reports, September 2014 Semiannual Monitoring

Abbreviations

| | |
|-------------|---|
| cDCE | <i>cis</i> -1,2-dichloroethene |
| COPC | contaminant of potential concern |
| DOE | U.S. Department of Energy |
| FAC | <i>Florida Administrative Code</i> |
| FDEP | Florida Department of Environmental Protection |
| IRA | Interim Remedial Action |
| LDA | large-diameter auger |
| LM | Office of Legacy Management |
| RPD | relative percent difference |
| STAR Center | Young - Rainey Science, Technology, and Research Center |
| TCE | trichloroethene |
| tDCE | <i>trans</i> -1,2-dichloroethene |
| VC | vinyl chloride |
| VOC | volatile organic compound |

1.0 Introduction

This *Pinellas County, Florida, Site Environmental Restoration Project Semiannual Progress Report for the 4.5 Acre Site* describes environmental restoration activities for the Pinellas 4.5 Acre Site located in Pinellas County, Largo, Florida (Figure 1). The former U.S. Department of Energy (DOE) Pinellas Plant facility consisted of the 4.5 Acre Site and what is now the STAR Center (Young - Rainey Science, Technology, and Research Center). Both the 4.5 Acre Site and the STAR Center are part of the overall Pinellas County, Florida, Site (Figure 2).

The Pinellas Plant facility was constructed in the mid-1950s as part of a nationwide nuclear weapons research, development, and production complex. Production of weapons-related components ceased in September 1994. However, as a result of these operations, contamination exists in the surficial groundwater beneath the site.

Administration of DOE activities at the 4.5 Acre Site is the responsibility of the DOE Office of Legacy Management (LM) in Grand Junction, Colorado. The S.M. Stoller Corporation, a wholly owned subsidiary of Huntington Ingalls Industries and a prime contractor to LM, provides technical support to DOE for the remediation and closure of all active solid-waste management units on the STAR Center and for the 4.5 Acre Site.

The 4.5 Acre Site is located to the northwest of the STAR Center, in the northeast quarter of Section 13, Township 30 South, Range 15 East. DOE owned this parcel from 1957 to 1972, at which time it was sold to a private landowner. During the period of DOE ownership, the property was used for disposal of drums of waste resins and solvents. As a result of this practice, the surficial aquifer was impacted by volatile organic compounds (VOCs)—primarily vinyl chloride (VC), toluene, trichloroethene (TCE), and 1,2-dichloroethene. DOE completed a drum removal action in 1985.

An Interim Remedial Action (IRA), consisting of groundwater extraction and treatment via air stripping, and a routine groundwater monitoring program, was initiated in May 1990. In July 1997, a modification of the IRA, involving the installation of dual-phase extraction wells, provided a more aggressive system to remove groundwater contamination. In November 1999, the dual-phase extraction/air-stripping system was replaced with an in situ biosparge treatment system.

The Florida Department of Environmental Protection (FDEP) approved the *4.5 Acre Site Biosparge System Integration Plan* (DOE 2000) on January 17, 2001. This plan stated that performance monitoring of the biosparge system would be undertaken on a quarterly basis. Therefore, in April 2001, quarterly performance monitoring through the use of direct-push technology was undertaken. This continued until the biosparge system was shut off in May 2003.

The *Remedial Action Plan for the Pinellas 4.5 Acre Site* (DOE 2001) outlined a groundwater recovery system as a contingency option in the event that biosparging resulted in extending the contaminant plume. The *Interim Remedial Action Plan for Ground Water Recovery at the 4.5 Acre Site* (DOE 2003) was submitted to FDEP on August 29, 2003, and approved by FDEP on September 19, 2003. Construction of the IRA treatment system began on March 8, 2004, and the system began operations on April 26, 2004. The treatment system consisted of an extraction

well field (three recovery wells), pumps and associated piping, a water transmission pipeline, a utility connection, a low-profile tray air-stripper unit, and effluent piping.

In April 2005, the *4.5 Acre Site Remedial Action Plan Addendum* (DOE 2005) was submitted to FDEP. That document presented a proposed final action for the 4.5 Acre Site that involved the closure of the site using the provisions of the State of Florida Global Risk-Based Corrective Action regulations. Part of DOE's proposed final action for the 4.5 Acre Site was to shut down the groundwater recovery system and begin a 2-year monitoring period. Approval from FDEP to shut down the system was received on December 20, 2005, thus commencing DOE's 2-year monitoring period.

Although DOE has conducted numerous remediation activities at the 4.5 Acre Site since 1985, FDEP in 2005 suggested that, based on continuing elevated levels of VOCs in groundwater, a source of VOCs might remain in the subsurface, and that removal of contaminated soil might be necessary (Armstrong 2005). To investigate this concern, 1,172 soil samples were collected from 138 soil borings completed at two areas of the site during the summer of 2007. Analytical results demonstrated that the following contaminants were present in site sediments at concentrations that likely represented a source of contamination to groundwater: TCE, *cis*-1,2-dichloroethene (cDCE), *trans*-1,2-dichloroethene (tDCE), and toluene. Results from this characterization effort are available in the *4.5 Acre Site Source Characterization Data Report* (DOE 2007).

In April 2008, DOE completed a feasibility study that evaluated the available contaminant source removal technologies (DOE 2008a). The preferred option for source removal at the 4.5 Acre Site was determined to be soil excavation using a large-diameter auger (LDA) and offsite disposal of soil. FDEP agreed with this option in a letter dated May 14, 2008 (Armstrong 2008).

An *Interim Remedial Action Plan for Source Removal at the 4.5 Acre Site* (DOE 2008b) was prepared in late July 2008 and approved by FDEP on August 19, 2008. The objective of this IRA was to remove the source of contamination at the site. On March 31, 2009, LDA operations commenced at the 4.5 Acre Site and were completed on May 27, 2009. Two hundred twenty-one large-diameter and 325 small-diameter borings were completed. Approximately 7,035 cubic yards of soil were excavated. Of this total, 4,464 cubic yards were removed as clean overburden, and 2,571 cubic yards of contaminated soil were removed, characterized for waste disposal, and disposed of at a Resource Conservation and Recovery Act Subtitle D landfill. Additional information regarding the 4.5 Acre Site LDA work is available in the *Data Report for Overburden Soil at the Northeast Site and the 4.5 Acre Site* (DOE 2009b) and the *Interim Remedial Action Final Report for Source Removal at the 4.5 Acre Site* (DOE 2009c).

Routine monitoring at the site in March 2009 identified VC in a sample from offsite monitoring well PIN20-M035. DOE reported this discovery to FDEP and to the property owner in accordance with FDEP notification requirements.

As a follow-up to the LDA work, emulsified soybean oil and the microorganism *Dehalococcoides mccartyi* (formerly known as *Dehalococcoides ethenogenes*) were injected into the subsurface at 95 points at the site in February 2010 to enhance contaminant biodegradation. The document *Injection of Emulsified Soybean Oil at the Northeast Site and 4.5 Acre Site* (DOE 2010) was prepared to describe the work performed for this task. This project has resulted

in a significant decrease in contaminant mass and concentration around the former contaminant source areas and in the downgradient contaminant plume.

A second emulsified soybean oil injection event was conducted in July 2013. Approximately 23,000 gallons of diluted emulsified soybean oil and the microorganism *Dehalococcoides mccartyi* were injected at 46 locations along the southwest property boundary and adjacent to monitoring well pair PIN20-0502/0503. This project is described in detail in the *4.5 Acre Interim Remedial Action Report* (DOE 2013).

With (1) the completion of the LDA project to remove contaminant source material and (2) the two emulsified soybean oil injection events, DOE is proceeding to close the site under FDEP's Risk-Based Corrective Action regulations (*Florida Administrative Code* Section 62-780.680 [FAC 62-780.680]). The *Closure Monitoring Plan for the Northeast Site and 4.5 Acre Site* (DOE 2009a) describes the closure monitoring that is necessary under the Risk-Based Corrective Action regulations, according to the requirements in FAC Section 62-780.750, "Post Active Remediation Monitoring." That DOE document was approved by FDEP on December 21, 2009.

Closure monitoring began with the August/September 2009 sampling event. During a meeting with FDEP in August 2014, it was determined that the list of closure monitoring wells should be revised to exclude wells in the interior of the site and add wells along the southwest property boundary. This change was implemented starting with the September 2014 sampling event. Current and former closure monitoring wells are listed in Table 1.

This document is the semiannual progress report for the 4.5 Acre Site for June through November 2014, as requested by FDEP. This report provides the results of monitoring activities and a summary of ongoing and projected work.

1.1 Site Activities

The following work took place during the June through November 2014 period:

- Conducted semiannual sampling, which consisted of collecting groundwater samples for VOCs analysis from eight closure monitoring wells on September 11, 2014, and measuring water levels in all accessible wells and nearby ponds on September 10.
- Reported the results of the semiannual closure monitoring (this document).

2.0 Monitoring Data

2.1 Groundwater Elevations and Flow

During this reporting period, depth-to-water measurements were taken in all accessible monitoring wells and former recovery wells at the 4.5 Acre Site on September 10, 2014. The depth to water in each well was measured with an electronic water level indicator. The groundwater elevation data are listed in Table 2. Surface water elevations for the West Pond (to the east) and Pond 5 (to the southeast) are listed in Table 3. The water elevation data were

used to construct contours of water levels in the shallow and deep portions of the surficial aquifer (Figures 3 and 4).

In September 2014, groundwater in the shallow surficial aquifer (Figure 3) generally flowed to the west-northwest. There was also a component of flow toward the southeast in the southern part of the site. The flow patterns in the deep surficial aquifer (Figure 4) indicate similar flow directions. The average hydraulic gradient in most of the site was approximately 0.002 foot per foot. This gradient is similar to those observed during the previous few years. Calculations using Darcy's law, along with approximations of 1 foot per day for hydraulic conductivity and 0.3 for effective porosity, indicate that groundwater at the site is estimated to move about 2.4 feet per year. Groundwater velocities at the site have historically ranged from 2 to 10 feet per year.

2.2 Groundwater Sampling

Groundwater samples from the eight closure monitoring wells were analyzed for VOCs in September 2014. All samples were collected in accordance with the *Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites* (LMS/PRO/S04351), using FDEP procedures. All samples were submitted to TestAmerica Laboratories Inc. in Denver, Colorado, for analysis. TestAmerica Denver is accredited by the Florida Department of Health in accordance with the National Environmental Laboratory Accreditation Conference (certification number E87667). VOCs were analyzed using U.S. Environmental Protection Agency SW-846 method 8260B.

The September 2014 sampling event was the first event in which water was allowed to pass through the peristaltic pump head before collection into the sample vials, a sampling technique that had just been approved by FDEP. Also per FDEP approval, several weeks before the sampling event, bladder pumps were removed from all 1-inch and 2-inch-diameter wells, and dedicated Teflon tubing was installed into each of these wells. The new sampling technique (i.e., sampling through the pump head) was used at all wells.

All monitoring wells were micropurged using a peristaltic pump, and sampling was performed when the field measurements stabilized. Table 4 lists the September 2014 field measurements of temperature, specific conductance, turbidity, pH, oxidation-reduction potential, and dissolved oxygen recorded at the time the samples were collected. Measurements were made using a calibrated multiparameter meter with a flow cell, and turbidity was measured using a nephelometer. Dissolved oxygen was not measured in most wells due to adverse effects from the emulsified soybean oil injection conducted in 2013.

2.3 Groundwater Analytical Results

Table 5 presents individual contaminants of potential concern (COPCs) in samples collected from the eight current closure monitoring wells at the 4.5 Acre Site since closure monitoring began in August 2009. Figure 5 shows the total COPCs concentrations (the sum of the individual COPCs concentrations) for September 2014. The COPCs for the 4.5 Acre Site are TCE, cDCE, tDCE, VC, and benzene. Only VC exceeded its cleanup target level; a VC plume map is included as Figure 6. Laboratory reports for samples collected in September 2014 are provided in Appendix A.

2.4 Quality Assurance/Quality Control

The results from the analytical laboratory, TestAmerica, were checked for quality assurance/quality control through duplicate samples and trip blanks. Detected analytes for the duplicate sample collected from the 4.5 Acre Site in September 2014 are listed in Table 6. The duplicate sample results were compared, and the relative percent differences (RPDs) between the results were calculated. All duplicate results met the U.S. Environmental Protection Agency recommended laboratory duplicate criterion of less than 20 percent RPD for results that are greater than 5 times the practical quantitation limit.

As specified in the *Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites*, duplicate samples should be collected at a frequency of one duplicate for every 20 or fewer samples. During the September 2014 event, eight samples were collected and one duplicate sample was collected, so this criterion was met.

A data validation software module for identifying and tracking anomalous groundwater data within the SEEPro (Site Environmental Evaluation for Projects) database was used to generate a report of analytical results that fall outside of historical minimum or maximum values. There were no anomalies associated with these results, and the data are acceptable as qualified.

3.0 Data Interpretation

Trend plots for the eight closure monitoring wells are shown as Figures 7–14. TCE and benzene were detected infrequently and at very low concentrations during closure monitoring, so only cDCE, tDCE, and VC are shown on these plots.

As can be seen in the trend plots, contaminant concentrations, particularly the VC concentrations, decreased following the July 2013 emulsified soybean oil injection event. In September 2014, VC was detected in only three of the eight wells, at a maximum concentration of 22 micrograms per liter in well PIN20-M068.

Geochemical parameters measured in the field at the 4.5 Acre Site during September 2014 are listed in Table 4. Conditions are moderately to highly reducing, as evidenced by the low values of dissolved oxygen and oxidation-reduction potential, and therefore are favorable for continued contaminant biodegradation.

In summary, the contaminant plume at the 4.5 Acre Site is stable or decreasing, as evidenced by generally decreasing contaminant concentration trends. The emulsified soybean oil injected in 2013 should remain active for at least 5 years after injection, so biodegradation of contaminants should continue.

4.0 Upcoming Tasks

During the December 2014 to May 2015 period, sampling of the eight closure monitoring wells will be conducted in March 2015.

5.0 References

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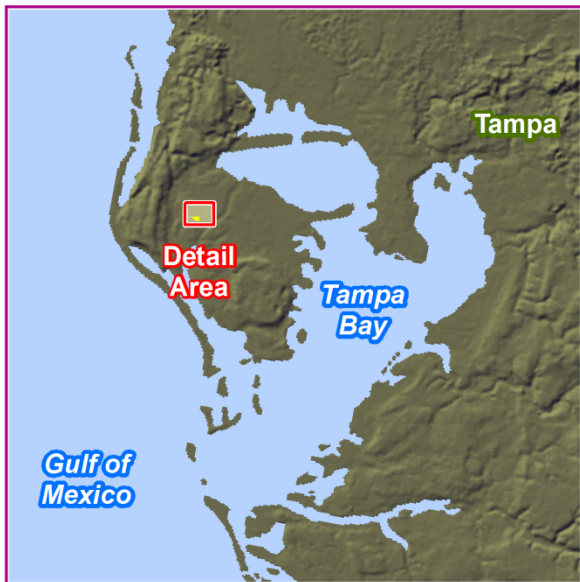
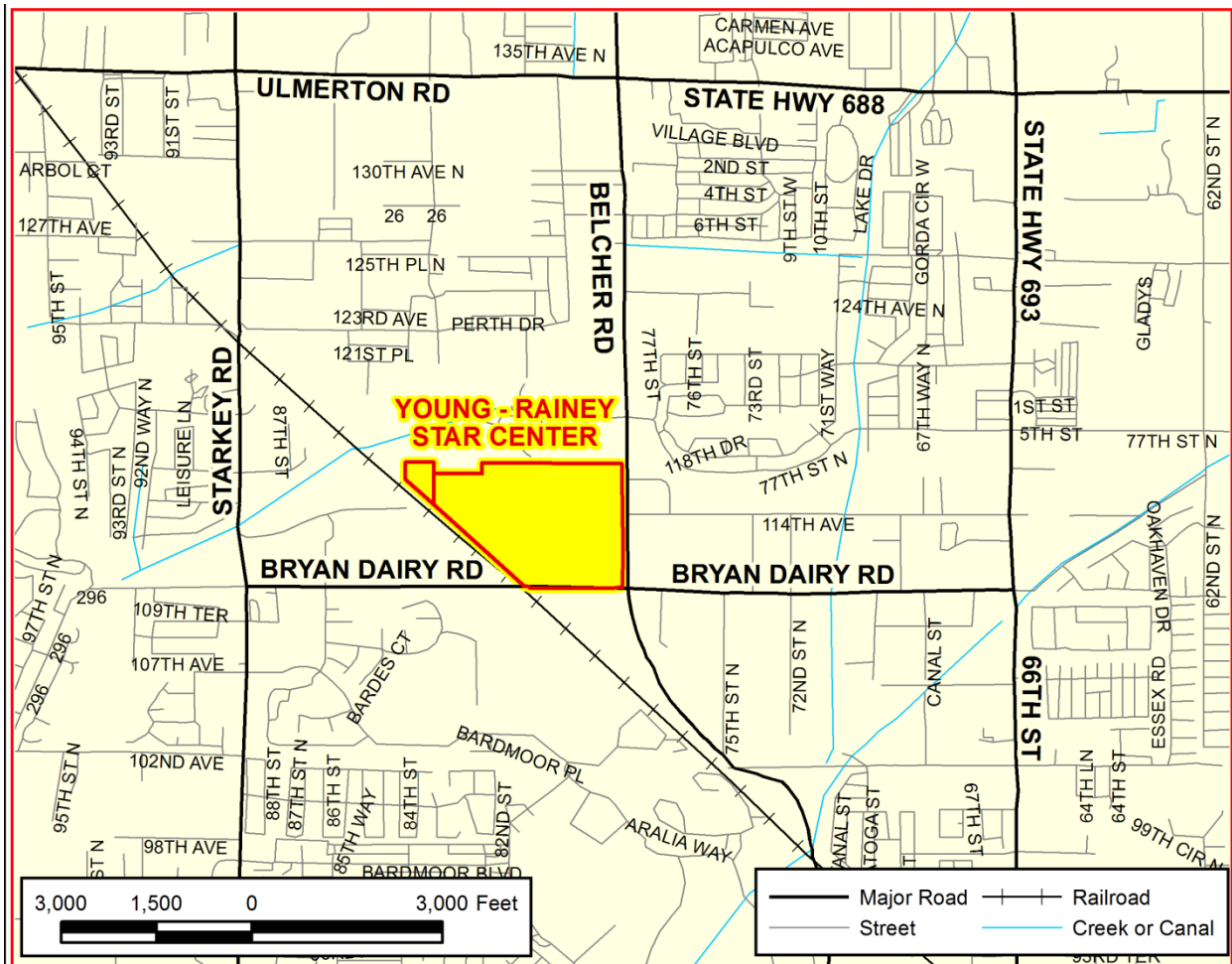
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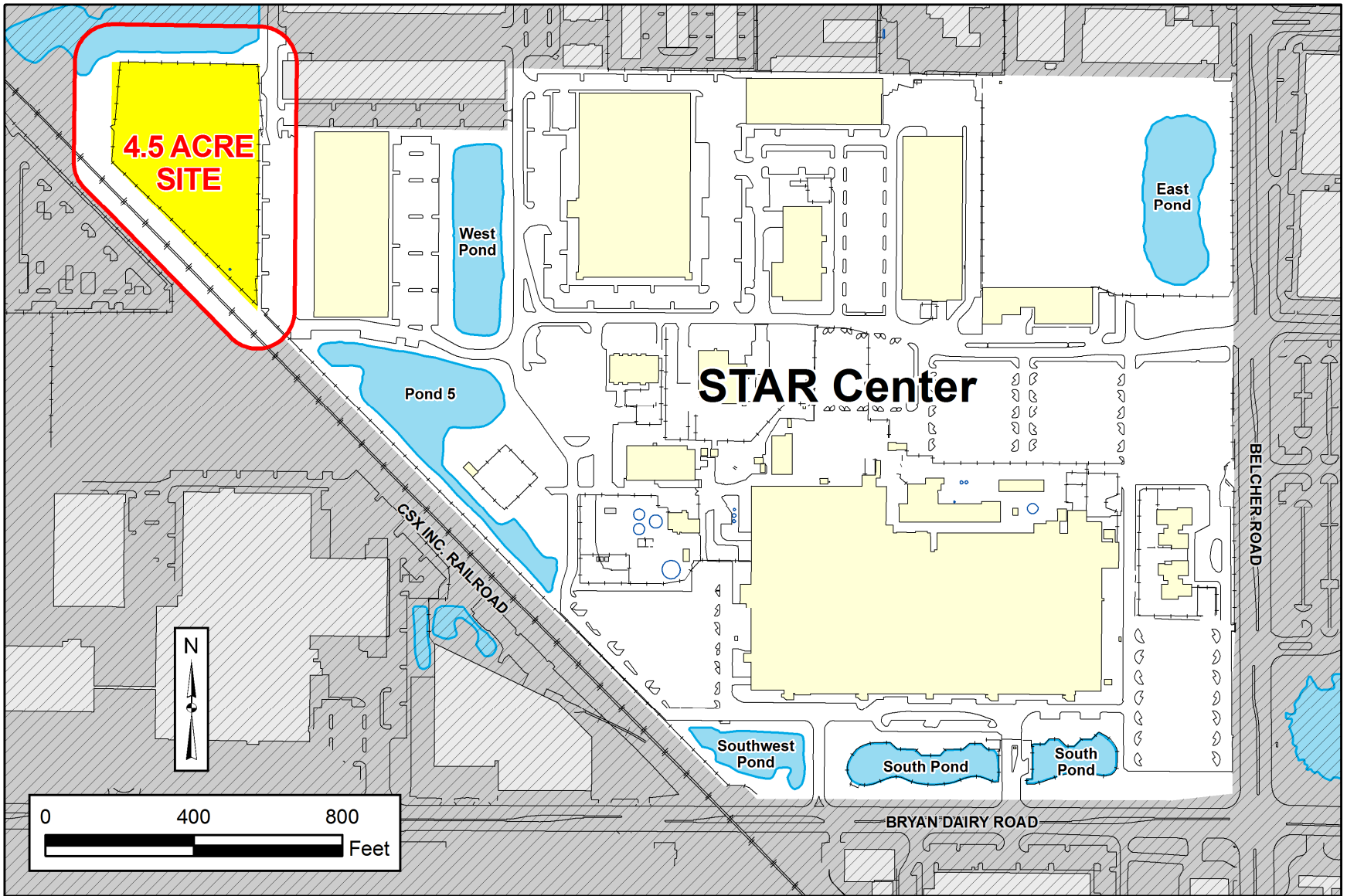
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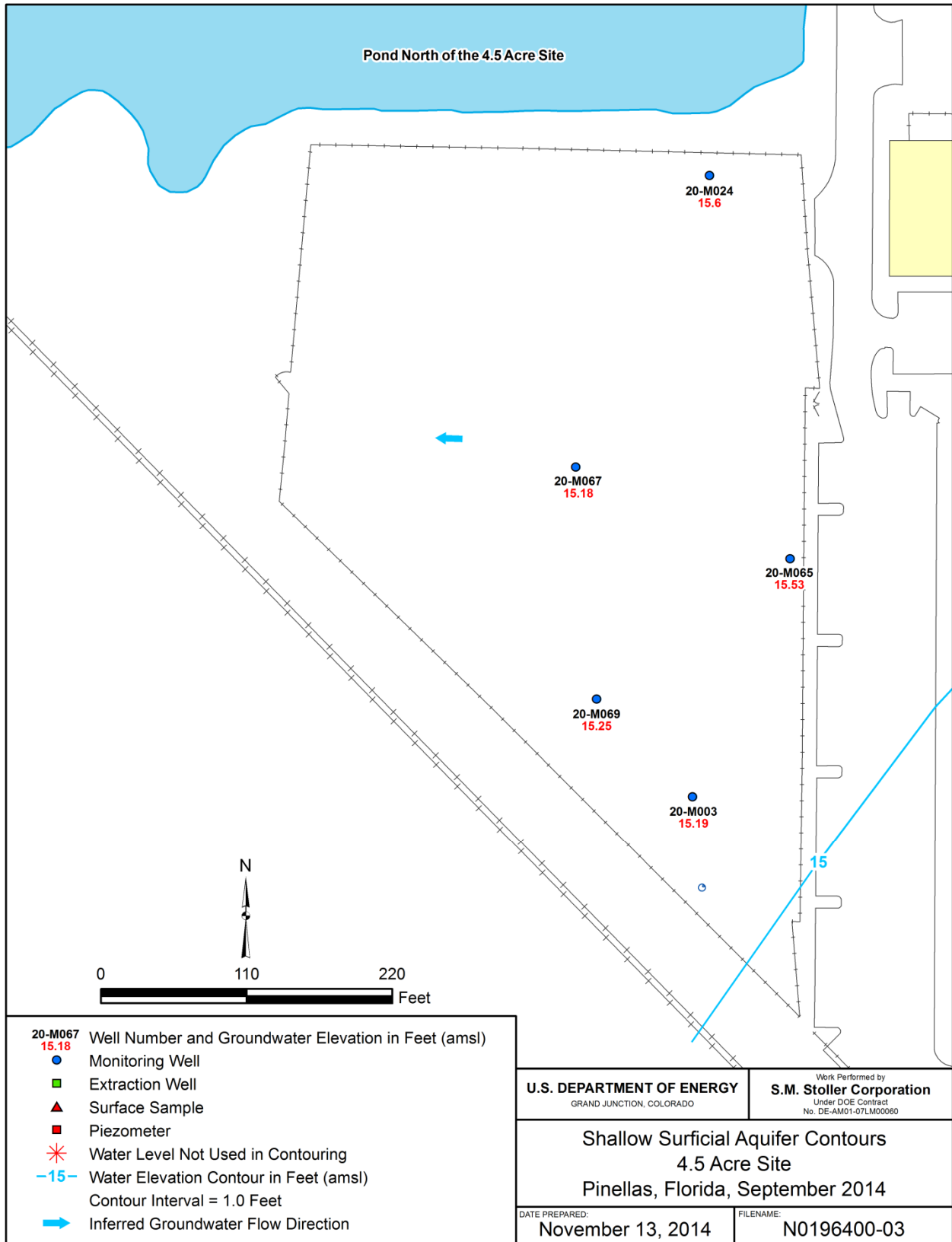
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Figure 1. Young - Rainey STAR Center Location



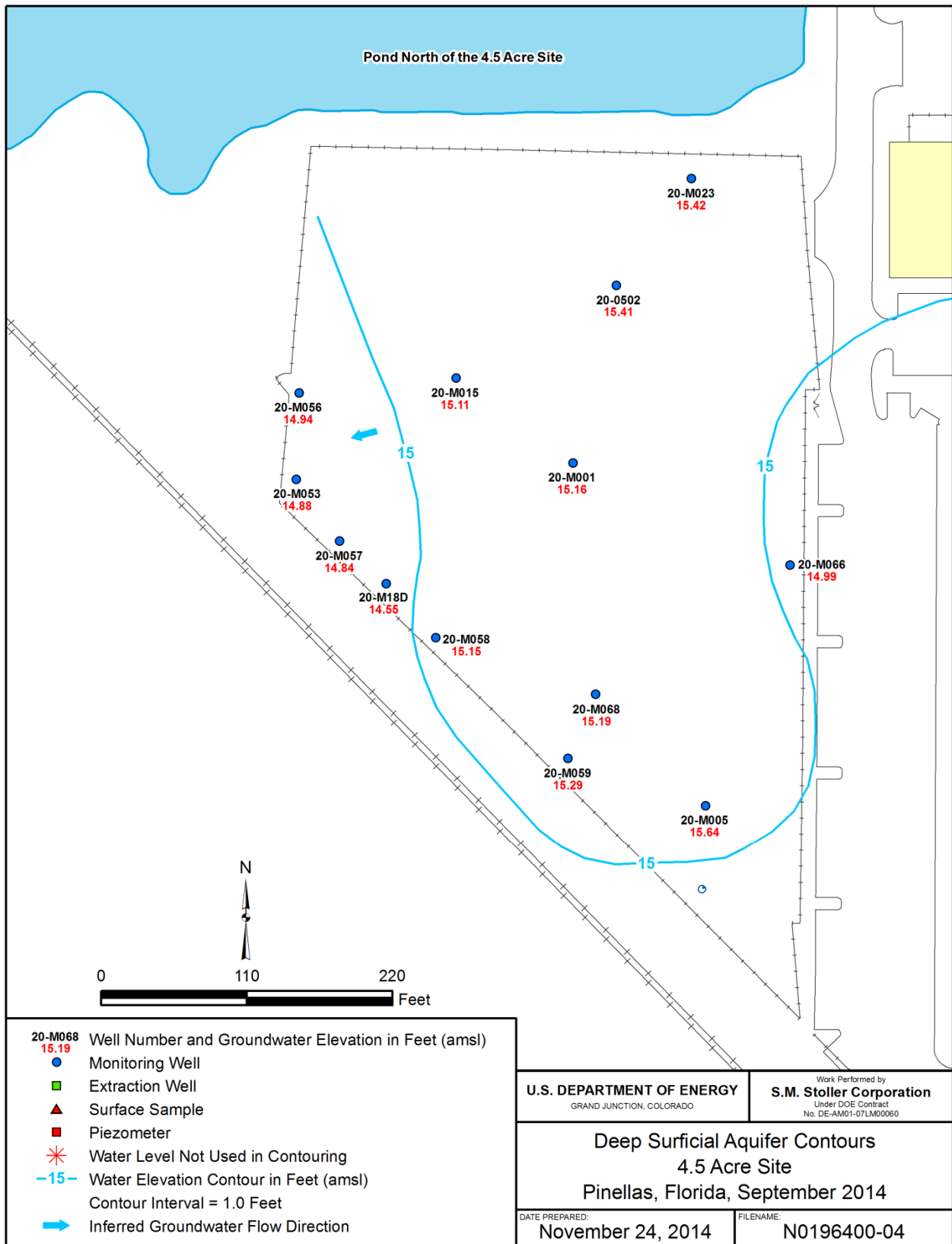
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Figure 2. 4.5 Acre Site Location



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Figure 3. Shallow Surficial Aquifer Flow, September 2014



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Figure 4. Deep Surficial Aquifer Flow, September 2014

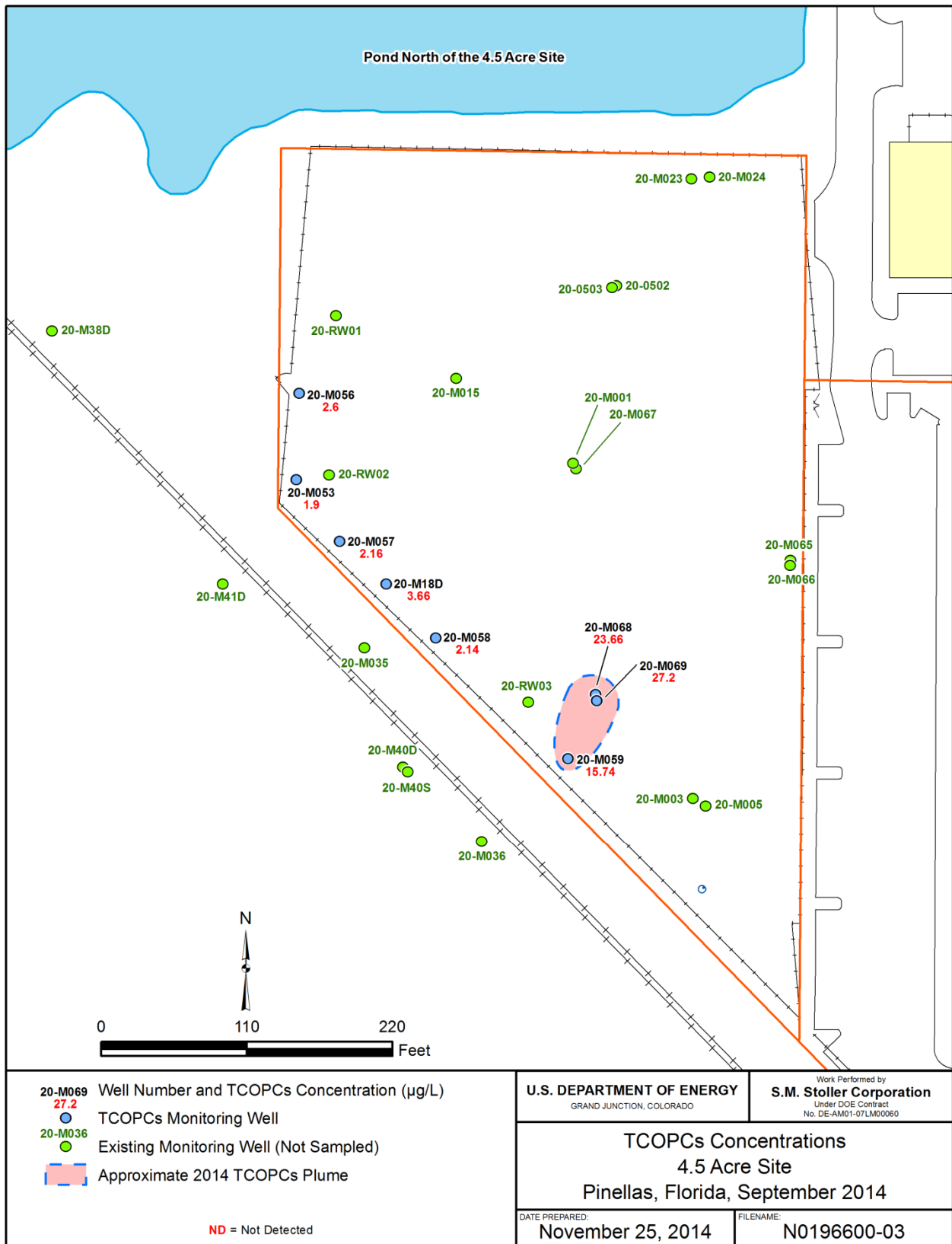
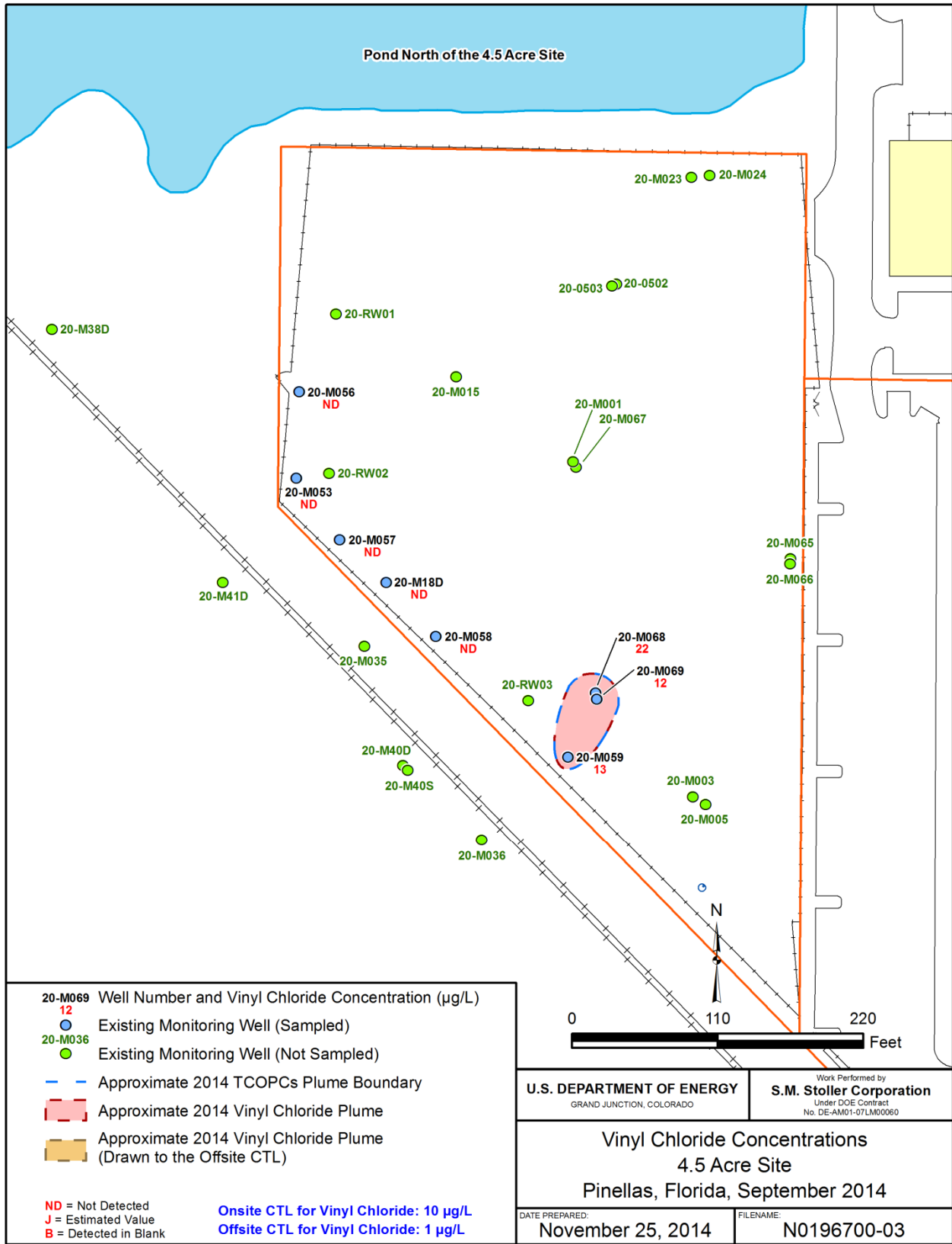


Figure 5. Total COPCs Concentrations, September 2014



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Figure 6. Vinyl Chloride Concentrations, September 2014

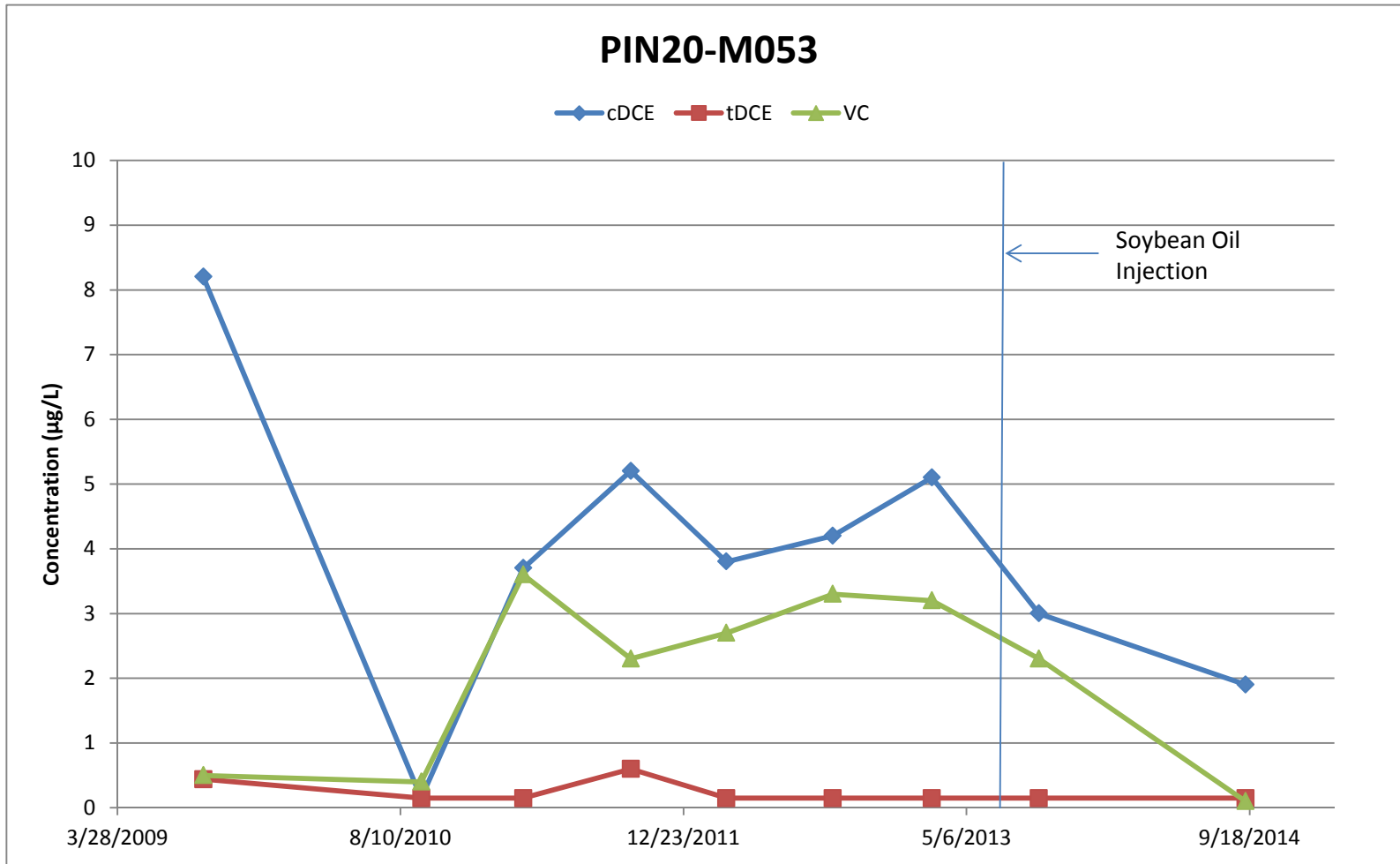


Figure 7. cDCE, tDCE, and VC in Well PIN20-M053, 2009–2014

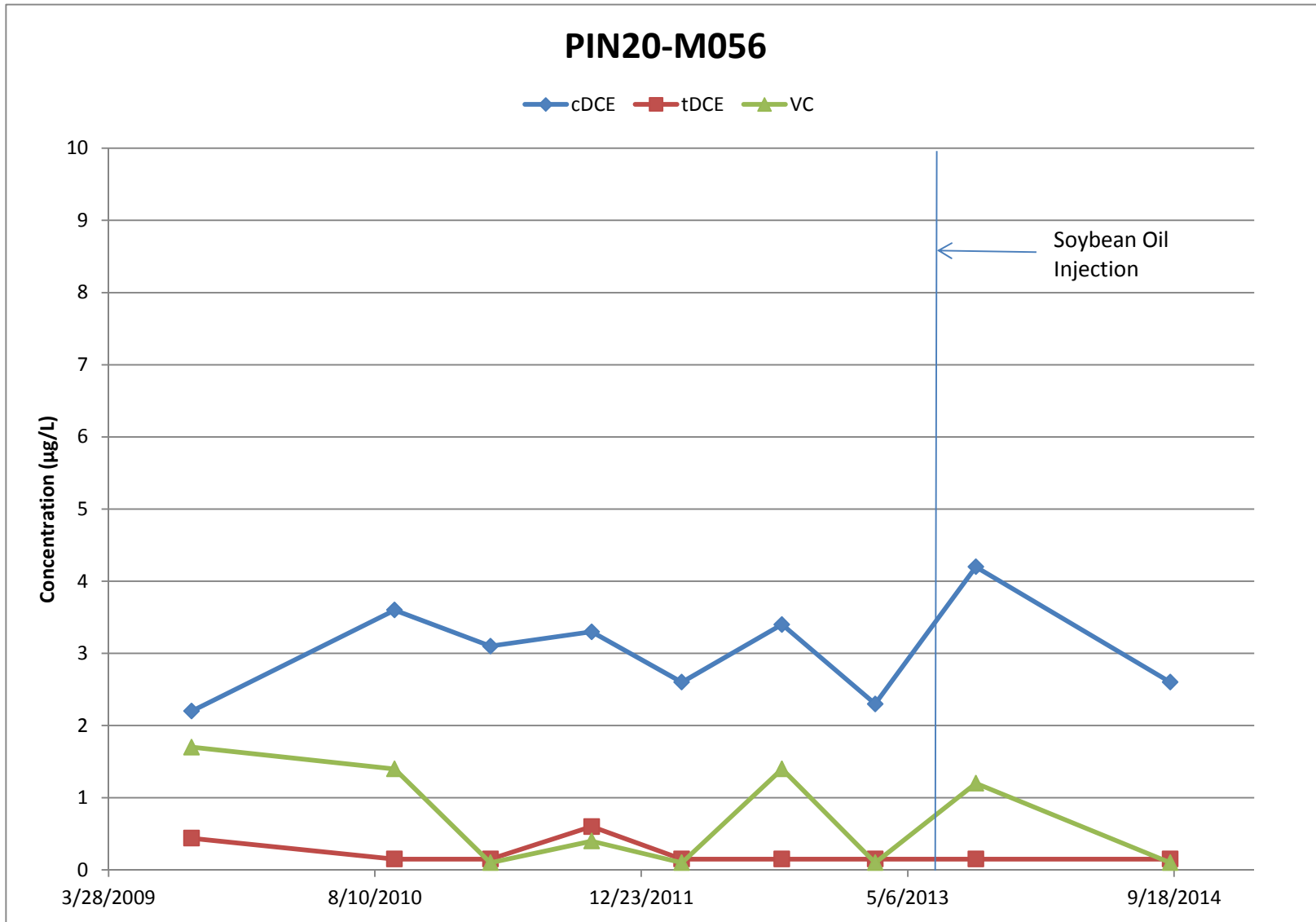


Figure 8. cDCE, tDCE, and VC in Well PIN20-M056, 2009–2014

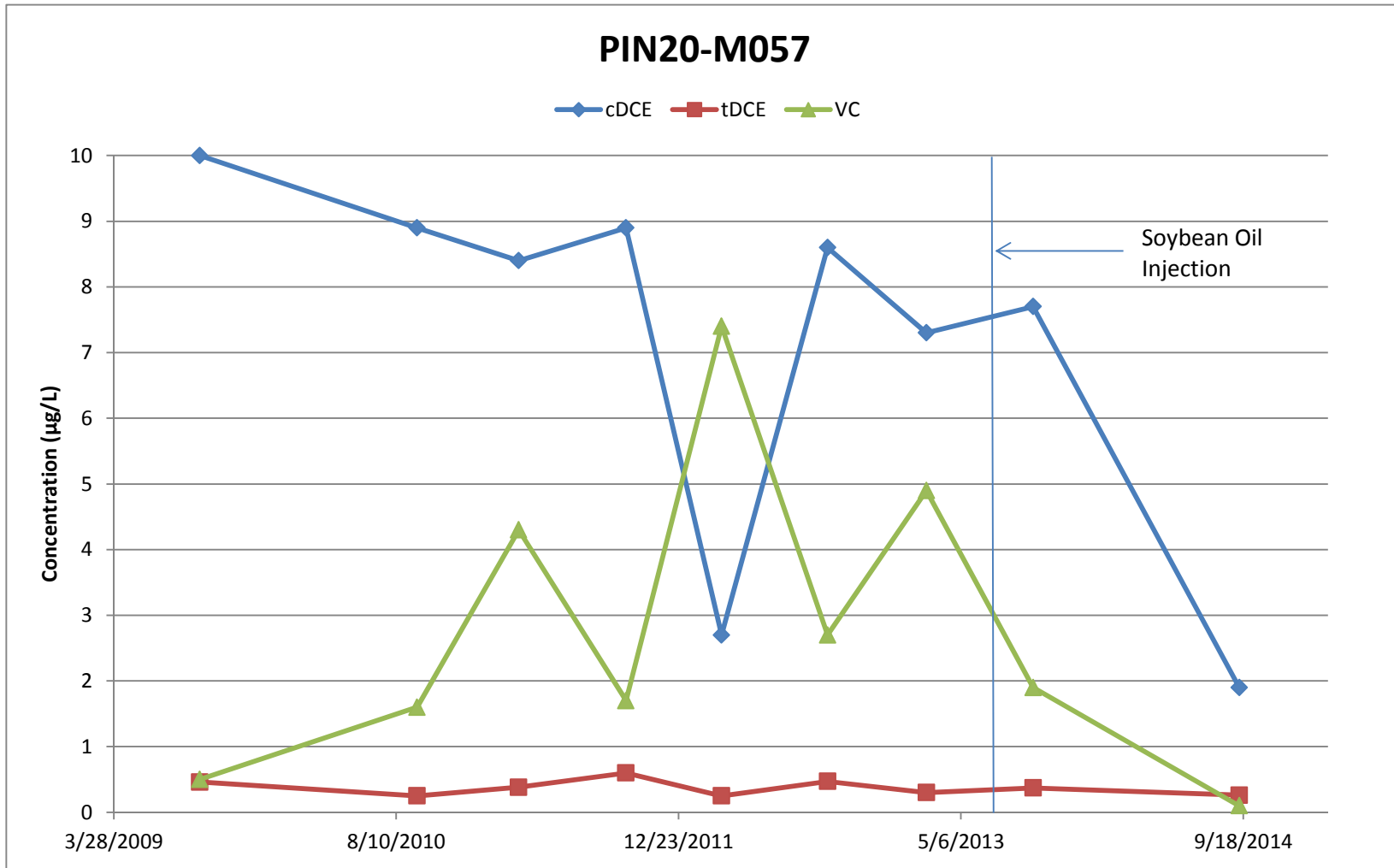


Figure 9. cDCE, tDCE, and VC in Well PIN20-M057, 2009–2014

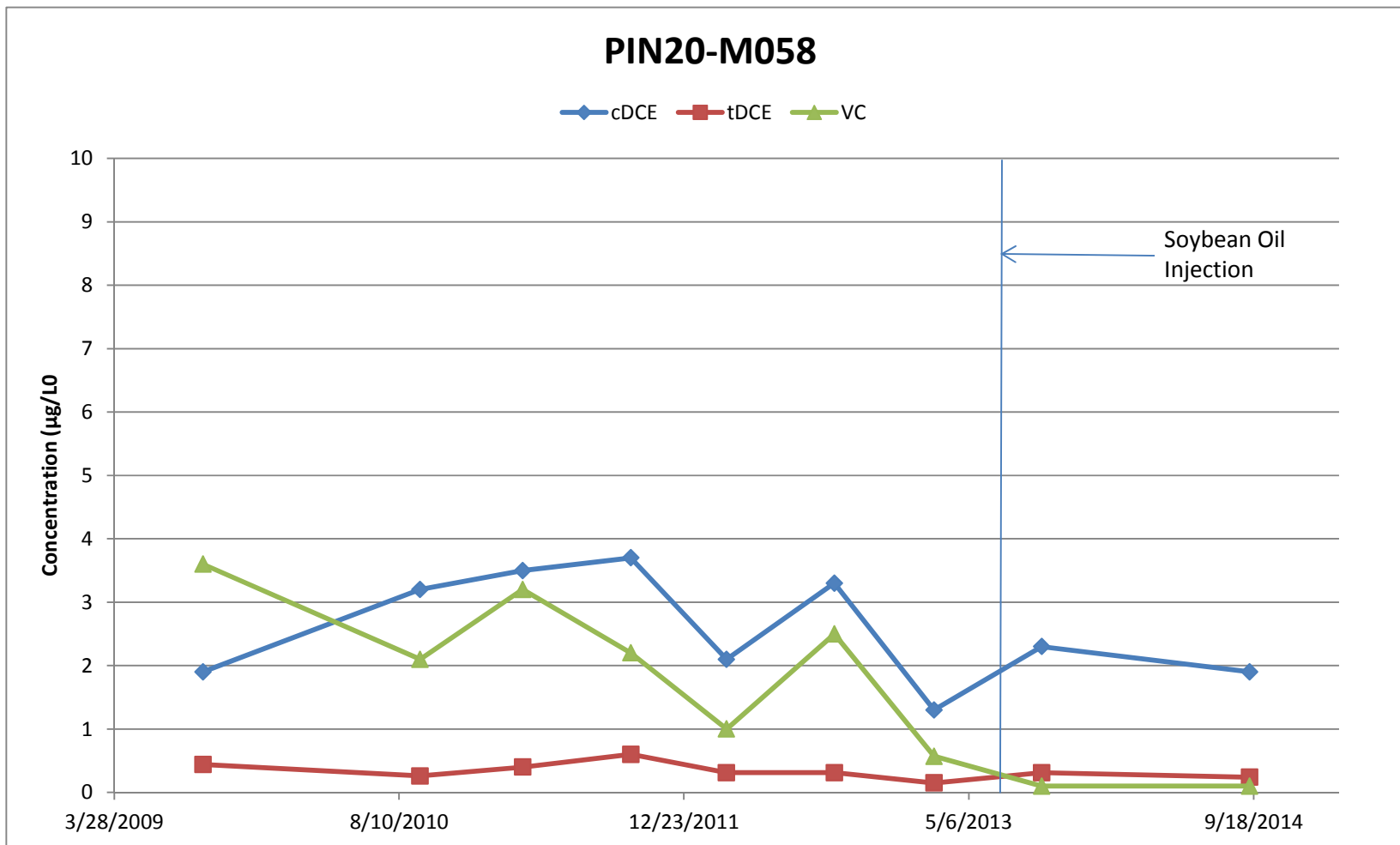


Figure 10. cDCE, tDCE, and VC in Well PIN20-M058, 2009–2014

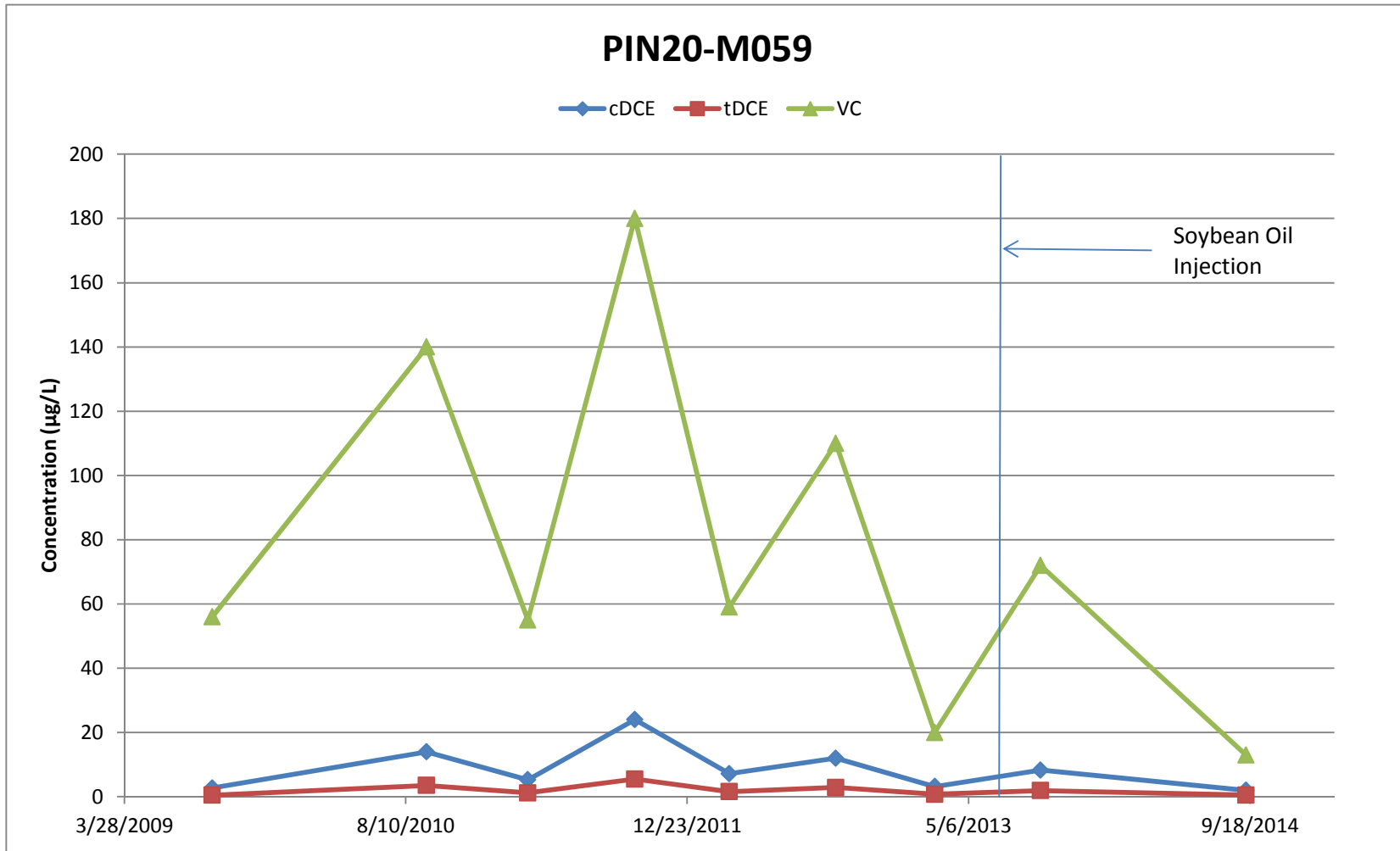


Figure 11. cDCE, tDCE, and VC in Well PIN20-M059, 2009–2014

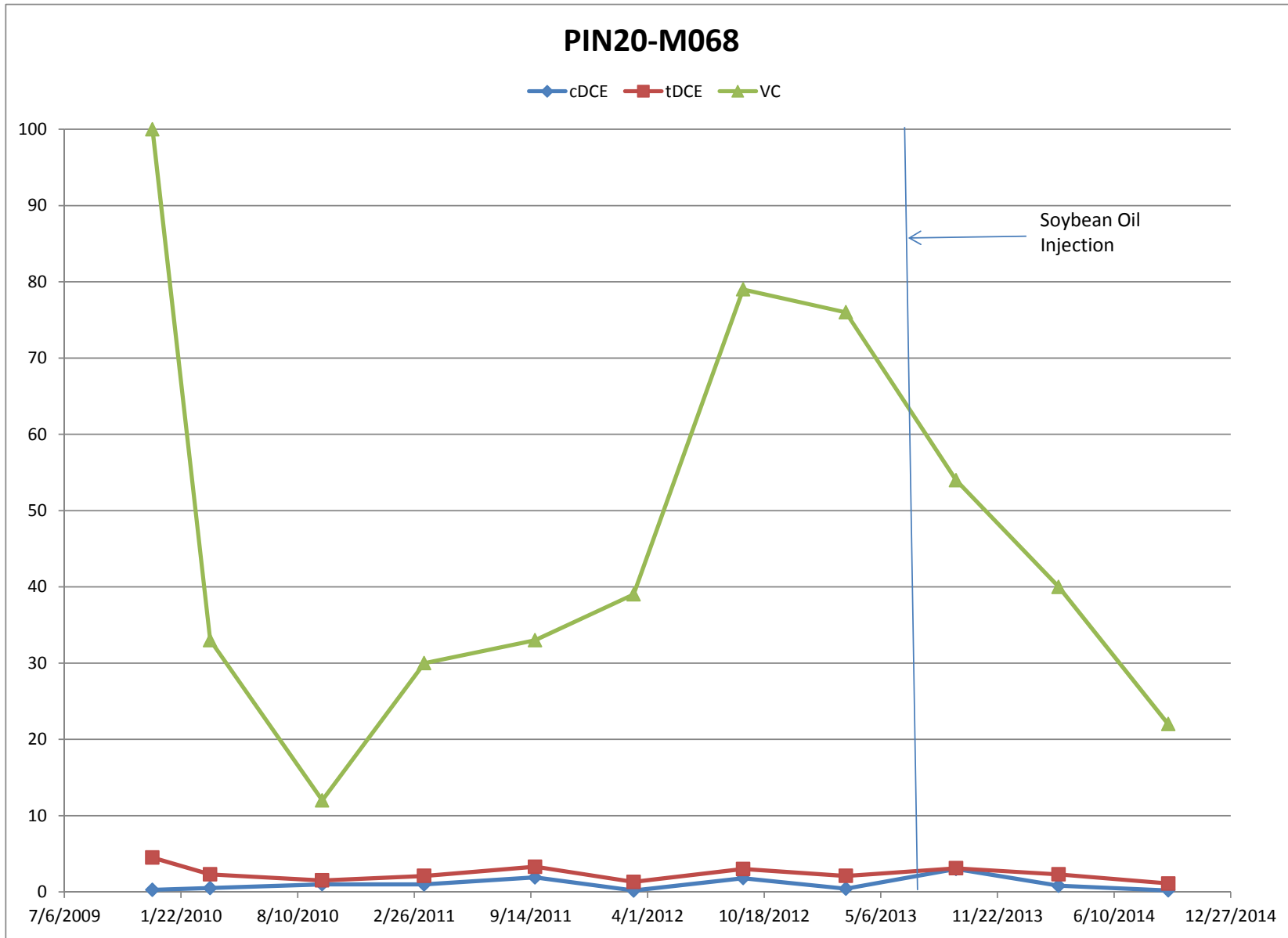


Figure 12. cDCE, tDCE, and VC in Well PIN20-M068, 2009–2014

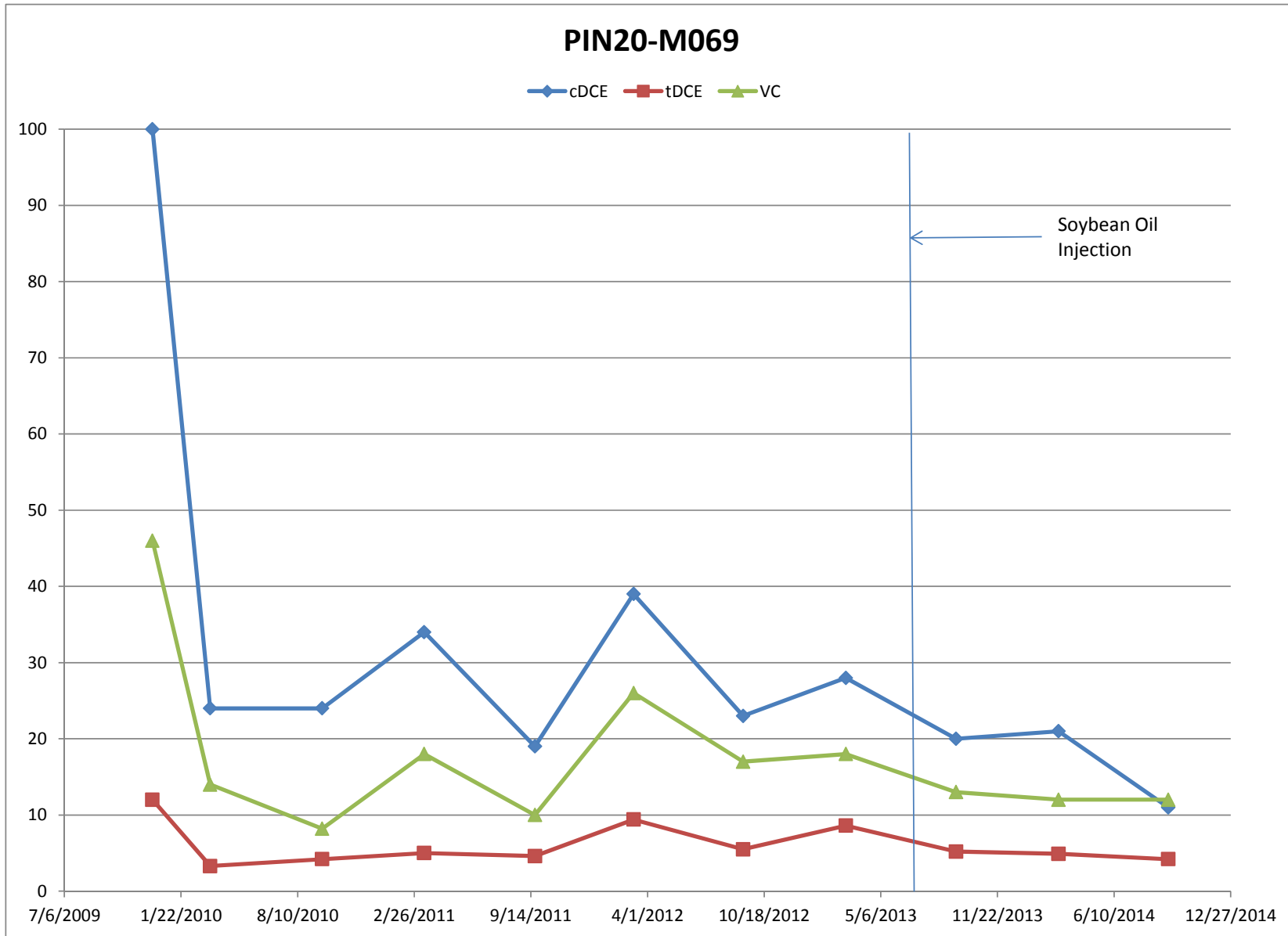


Figure 13. cDCE, tDCE, and VC in Well PIN20-M069, 2009–2014

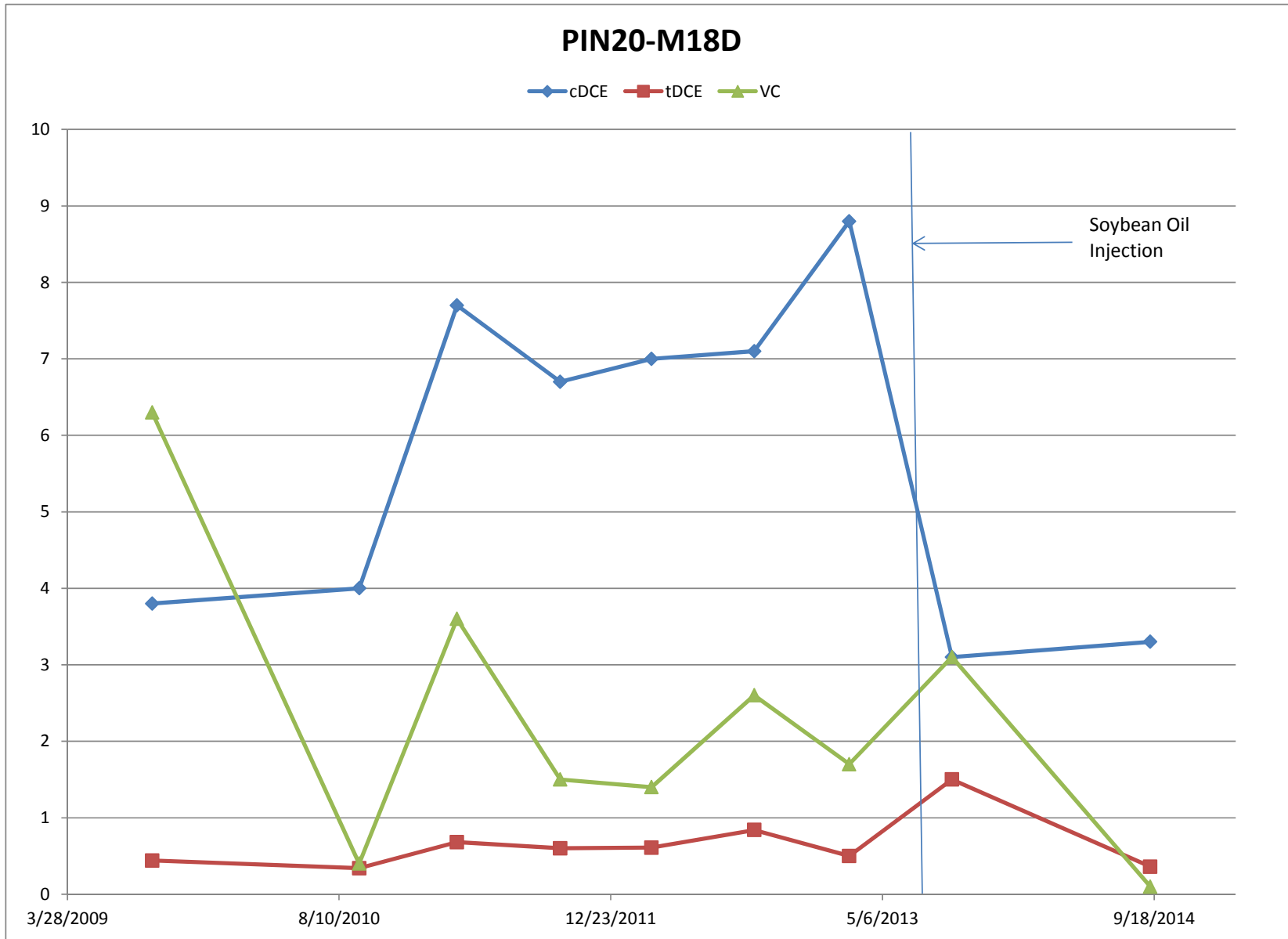


Figure 14. cDCE, tDCE, and VC in Well PIN20-M18D, 2009–2014

Table 1. Current and Former Closure Monitoring Wells

| Current Closure Monitoring Wells (starting with the September 2014 sampling event) | Former Closure Monitoring Wells August 2009–March 2014 |
|---|---|
| PIN20-M053 | PIN20-0502 |
| PIN20-M056 | PIN20-0503 |
| PIN20-M057 | PIN20-M001 |
| PIN20-M058 | PIN20-M003 |
| PIN20-M059 | PIN20-M005 |
| PIN20-M068 | PIN20-M015 |
| PIN20-M069 | PIN20-M035 |
| PIN20-M18D | PIN20-M065 |
| | PIN20-M066 |
| | PIN20-M067 |
| | PIN20-M068 |
| | PIN20-M069 |
| | PIN20-M38D |

Table 2. Groundwater Elevation Data at the 4.5 Acre Site, September 2014

| Location | Measurement | | Water Depth (ft bls) | Groundwater Elevation (ft amsl) |
|--------------|-------------|-------|-------------------------|---------------------------------------|
| | Date | Time | | |
| PIN20 | | | | |
| 0502 | 9/10/2014 | 08:19 | 1.99 | 15.41 |
| 0503 | 9/10/2014 | 08:24 | - | - |
| M001 | 9/10/2014 | 08:31 | 2.44 | 15.16 |
| M003 | 9/10/2014 | 10:10 | 2.71 | 15.19 |
| M005 | 9/10/2014 | 10:09 | 2.66 | 15.64 |
| M015 | 9/10/2014 | 08:42 | 3.28 | 15.11 |
| M023 | 9/10/2014 | 08:15 | 4.05 | 15.42 |
| M024 | 9/10/2014 | 08:11 | 2.20 | 15.60 |
| M053 | 9/10/2014 | 08:57 | 2.32 | 14.88 |
| M056 | 9/10/2014 | 08:53 | 2.16 | 14.94 |
| M057 | 9/10/2014 | 09:20 | 3.06 | 14.84 |
| M058 | 9/10/2014 | 09:35 | 2.55 | 15.15 |
| M059 | 9/10/2014 | 09:59 | 2.51 | 15.29 |
| M065 | 9/10/2014 | 10:17 | 2.87 | 15.53 |
| M066 | 9/10/2014 | 10:14 | 3.21 | 14.99 |
| M067 | 9/10/2014 | 08:34 | 3.52 | 15.18 |
| M068 | 9/10/2014 | 09:54 | 2.96 | 15.19 |
| M069 | 9/10/2014 | 09:57 | 2.75 | 15.25 |
| M18D | 9/10/2014 | 09:28 | 3.15 | 14.55 |
| RW01 | 9/10/2014 | 08:48 | 0.79 | 16.81 |
| RW02 | 9/10/2014 | 09:16 | 2.10 | 15.00 |
| RW03 | 9/10/2014 | 09:41 | 2.37 | 15.23 |

Abbreviations:

ft amsl = feet above mean sea level

ft bls = feet below land surface

- = not measured

Table 3. Surface Water Elevations at the 4.5 Acre Site, September 2014

| Location | Measurement | | Surface Water Elevation (ft amsl) |
|--------------|--|-------|--------------------------------------|
| | Date | Time | |
| PIN01 | Pond 5 | | |
| P501 | 9/10/2014 | 11:45 | 13.99 |
| P502 | 9/10/2014 | 13:46 | 14.21 |
| PIN02 | West Pond | | |
| W005 | 9/10/2014 | 13:51 | 14.47 |
| PIN20 | Pond North of the 4.5 Acre Site | | |
| BP01 | – | – | – |

Abbreviations:

ft amsl = feet above mean sea level

– = not measured

Table 4. Field Measurements of Samples Collected at the 4.5 Acre Site, September 2014

| Location | Screen Depth (ft bls) | Temperature (°C) | Specific Conductance (µmhos/cm) ^a | Turbidity (NTU) | pH | Oxidation-Reduction Potential (mV) | Dissolved Oxygen (mg/L) |
|--------------|-----------------------|------------------|--|-----------------|------|------------------------------------|-------------------------|
| PIN20 | | | | | | | |
| M053 | 20–30 | 26.2 | 1,731 | 10 | 6.77 | -245 | – |
| M056 | 19–29 | 27.2 | 1,964 | 2 | 6.74 | -83 | – |
| M057 | 20–30 | 26.2 | 2,087 | 12 | 6.64 | -246 | – |
| M058 | 18–28 | 27.1 | 1,616 | 17 | 6.86 | -269 | – |
| M059 | 19–29 | 25.8 | 1,721 | 6 | 6.75 | -90 | – |
| M068 | 20–30 | 28.0 | 1,141 | 14 | 6.55 | -50 | – |
| M069 | 10–20 | 29.0 | 2,635 | 12 | 6.88 | -156 | 0.8J |
| M18D | 20–30 | 27.1 | 2,515 | 45 | 6.47 | -282 | – |

Notes:

^a Temperature corrected to 25 °C

Abbreviations:

– = not measured

ft bls = feet below land surface

µmhos/cm = micromhos per centimeter

mg/L = milligrams/liter

mV = millivolts

NTU = nephelometric turbidity units

J = estimated value

Table 5. COPC Concentrations from Current Closure Monitoring Wells Since August 2009 ($\mu\text{g/L}$)^a

| Location (all IDs start with "PIN20-") | Screen Depth (ft bls) | Date Sampled | TCE | cDCE | tDCE | VC | Benzene | TCOPCs |
|--|-----------------------|--------------|-----------|------------|-------------|-----------|-----------|--------|
| Cleanup Target Level^b: | | | 30 | 700 | 1000 | 10 | 10 | |
| M053 | 20–30 | 8/27/2009 | <0.5 | 8.2 | <0.44 | <0.5 | <0.5 | 8.2 |
| | | 9/16/2010 | <0.16 | <0.15 | <0.15 | <0.4 | <0.16 | ND |
| | | 3/15/2011 | <0.16 | 3.7 | <0.15 | 3.6 | <0.16 | 7.3 |
| | | 9/21/2011 | <0.64 | 5.2 | <0.6 | 2.3J | <0.64 | 7.5 |
| | | 3/8/2012 | <0.16 | 3.8 | <0.15 | 2.7 | <0.16 | 6.5 |
| | | 9/12/2012 | <0.16 | 4.2 | <0.15 | 3.3 | <0.16 | 7.5 |
| | | 3/6/2013 | <0.16 | 5.1 | <0.15 | 3.2 | <0.16 | 8.3 |
| | | 9/11/2013 | <0.16 | 3 | <0.15 | 2.3 | <0.16 | 5.3 |
| | | 9/11/2014 | <0.16 | 1.9 | <0.15 | <0.1 | <0.16 | 1.9 |
| M056 | 19–29 | 8/31/2009 | <0.5 | 2.2 | <0.44 | 1.7 | <0.5 | 3.9 |
| | | 9/16/2010 | <0.16 | 3.6 | <0.15 | 1.4 | <0.16 | 5 |
| | | 3/15/2011 | <0.16 | 3.1 | <0.15 | <0.1 | <0.16 | 3.1 |
| | | 9/21/2011 | <0.64 | 3.3J | <0.6 | <0.4 | <0.64 | 3.3 |
| | | 3/8/2012 | <0.16 | 2.6 | <0.15 | <0.1 | <0.16 | 2.6 |
| | | 9/12/2012 | <0.16 | 3.4 | <0.15 | 1.4 | <0.16 | 4.8 |
| | | 3/6/2013 | <0.16 | 2.3 | <0.15 | <0.1 | <0.16 | 2.3 |
| | | 9/11/2013 | <0.16 | 4.2 | <0.15 | 1.2 | <0.16 | 5.4 |
| | | 9/11/2014 | <0.16 | 2.6 | <0.15 | <0.1 | <0.16 | 2.6 |
| M057 | 20–30 | 8/27/2009 | <0.5 | 10 | 0.46J | <0.5 | <0.5 | 10.46 |
| | | 9/16/2010 | <0.16 | 8.9 | 0.25J | 1.6 | <0.16 | 10.75 |
| | | 3/15/2011 | <0.16 | 8.4 | 0.38J | 4.3 | <0.16 | 13.08 |
| | | 9/21/2011 | <0.64 | 8.9 | <0.6 | 1.7J | <0.64 | 10.6 |
| | | 3/8/2012 | <0.16 | 2.7 | 0.25J | 7.4 | <0.16 | 10.35 |
| | | 9/12/2012 | <0.16 | 8.6 | 0.47J | 2.7 | <0.16 | 11.77 |
| | | 3/6/2013 | <0.16 | 7.3 | 0.3J | 4.9 | <0.16 | 12.5 |
| | | 9/11/2013 | <0.16 | 7.7 | 0.37J | 1.9 | <0.16 | 9.97 |
| | | 9/11/2014 | <0.16 | 1.9 | 0.26J | <0.1 | <0.16 | 2.16 |
| M058 | 18–28 | 8/31/2009 | <0.5 | 1.9 | <0.44 | 3.6 | <0.5 | 5.5 |
| | | 9/16/2010 | <0.16 | 3.2 | 0.26J | 2.1 | <0.16 | 5.56 |
| | | 3/15/2011 | <0.16 | 3.5 | 0.4J | 3.2 | <0.16 | 7.1 |
| | | 9/21/2011 | <0.64 | 3.7J | <0.6 | 2.2J | <0.64 | 5.9 |
| | | 3/7/2012 | <0.16 | 2.1 | 0.31J | 1 | <0.16 | 3.41 |
| | | 9/12/2012 | <0.16 | 3.3 | 0.31J | 2.5 | <0.16 | 6.11 |
| | | 3/6/2013 | <0.16 | 1.3 | <0.15 | 0.57J | <0.16 | 1.87 |
| | | 9/11/2013 | <0.16 | 2.3 | 0.31J | <0.1 | <0.16 | 2.61 |
| | | 9/11/2014 | <0.16 | 1.9 | 0.24J | <0.1 | <0.16 | 2.14 |

Table 5 (continued). COPC Concentrations from Wells at the 4.5 Acre Site Since August 2009 ($\mu\text{g/L}$)^a

| Location (all IDs start with "PIN20-") | Screen Depth (ft bls) | Date Sampled | TCE | cDCE | tDCE | VC | Benzene | TCOPCs |
|--|-----------------------|--------------|-----------|------------|-------------|-----------|-----------|--------|
| Cleanup Target Level^b: | | | 30 | 700 | 1000 | 10 | 10 | |
| M059 | 19–29 | 8/31/2009 | <0.5 | 2.7 | 0.48J | 56 | <0.5 | 59.18 |
| | | 9/16/2010 | <0.64 | 14 | 3.5J | 140 | <0.64 | 157.5 |
| | | 3/15/2011 | <0.16 | 5.3 | 1.2 | 55 | <0.16 | 61.5 |
| | | 9/21/2011 | <0.64 | 24 | 5.5 | 180 | <0.64 | 209.5 |
| | | 3/7/2012 | <0.16 | 7.2 | 1.6 | 59 | <0.16 | 67.8 |
| | | 9/12/2012 | <0.16 | 12 | 2.9 | 110 | 0.27J | 125.17 |
| | | 3/7/2013 | <0.16 | 3.2 | 0.79J | 20 | 0.18J | 24.17 |
| | | 9/11/2013 | <0.16 | 8.3 | 1.9 | 72 | 0.21J | 82.41 |
| | | 9/11/2014 | <0.16 | 2 | 0.52J | 13 | 0.22J | 15.74 |
| M068 | 20–30 | 12/4/2009 | 0.27J | 0.26J | 4.5 | 100 | 0.26J | 105.29 |
| | | 3/13/2010 | 0.59J | 0.5J | 2.3 | 33 | <0.16 | 36.39 |
| | | 9/21/2010 | 0.89J | 1 | 1.5 | 12 | <0.16 | 15.39 |
| | | 3/15/2011 | 0.9J | 0.98J | 2.1 | 30 | <0.16 | 33.98 |
| | | 9/21/2011 | 1.3J | 1.9J | 3.3J | 33 | <0.64 | 39.5 |
| | | 3/8/2012 | <0.16 | 0.18J | 1.3 | 39 | 0.28J | 40.76 |
| | | 9/12/2012 | 0.67J | 1.8 | 3 | 79 | 0.27J | 84.74 |
| | | 3/7/2013 | <0.16 | 0.41J | 2.1 | 76 | <0.16 | 78.51 |
| | | 9/12/2013 | 0.59J | 3 | 3.1 | 54 | 0.26J | 60.95 |
| | | 3/7/2014 | <0.16 | 0.8J | 2.3 | 40 | 0.37J | 43.47 |
| | | 9/11/2014 | <0.16 | 0.2J | 1.1 | 22 | 0.36J | 23.66 |
| M069 | 10–20 | 12/4/2009 | 9.3 | 100 | 12 | 46 | <0.16 | 167.3 |
| | | 3/13/2010 | 2 | 24 | 3.3 | 14 | <0.16 | 43.3 |
| | | 9/21/2010 | 1.6 | 24 | 4.2 | 8.2 | <0.16 | 38 |
| | | 3/15/2011 | 2.7 | 34 | 5 | 18 | <0.16 | 59.7 |
| | | 9/21/2011 | <0.64 | 19 | 4.6 | 10 | <0.64 | 33.6 |
| | | 3/8/2012 | 1.1 | 39 | 9.4 | 26 | <0.16 | 75.5 |
| | | 9/12/2012 | 0.18J | 23 | 5.5 | 17 | <0.16 | 45.68 |
| | | 3/7/2013 | <0.16 | 28 | 8.6 | 18 | <0.16 | 54.6 |
| | | 9/12/2013 | <0.16 | 20 | 5.2 | 13 | <0.16 | 38.2 |
| | | 3/7/2014 | <0.16 | 21 | 4.9 | 12 | <0.16 | 37.9 |
| | | 9/11/2014 | <0.16 | 11 | 4.2 | 12 | <0.16 | 27.2 |

Table 5 (continued). COPC Concentrations from Wells at the 4.5 Acre Site Since August 2009 (µg/L)^a

| Location (all IDs start with "PIN20-") | Screen Depth (ft bls) | Date Sampled | TCE | cDCE | tDCE | VC | Benzene | TCOPCs |
|--|-----------------------|--------------|-----------|------------|-------------|-----------|-----------|--------|
| Cleanup Target Level^b: | | | 30 | 700 | 1000 | 10 | 10 | |
| M18D | 20–30 | 8/31/2009 | <0.5 | 3.8 | <0.44 | 6.3 | <0.5 | 10.1 |
| | | 9/16/2010 | <0.16 | 4 | 0.34J | <0.4 | <0.16 | 4.34 |
| | | 3/15/2011 | <0.16 | 7.7 | 0.68J | 3.6 | <0.16 | 11.98 |
| | | 9/21/2011 | <0.64 | 6.7 | <0.6 | 1.5J | <0.64 | 8.2 |
| | | 3/7/2012 | <0.16 | 7 | 0.61J | 1.4 | <0.16 | 9.01 |
| | | 9/12/2012 | <0.16 | 7.1J | 0.84J | 2.6J | <0.16 | 10.54 |
| | | 3/6/2013 | <0.16 | 8.8 | 0.5J | 1.7 | <0.16 | 11 |
| | | 9/11/2013 | <1.6 | 3.1J | <1.5 | <3.1J | <1.6 | 3.1 |
| | | 9/11/2014 | <0.16 | 3.3 | 0.36J | <0.1 | <0.16 | 3.66 |

Notes:

^a "<" values are method detection limits.

^b The offsite CTL is a factor of 10 lower than the listed onsite (poor water quality) CTL.

Abbreviations:

µg/L = micrograms per liter.
 ft bls = feet below land surface.
 TCOPCs = total COPCs.
 J = Estimated value
 ND = Not detected.

Table 6. Relative Percent Difference (RPD) for Duplicate Samples, September 2014 (Reported in µg/L)

| Sample ID | Duplicate ID | Analyte | Result | Duplicate Result | MDL | RPD |
|------------|--------------|----------------------------------|--------|------------------|------|---------------|
| PIN20-M059 | PIN20-2456 | Benzene | 0.22 | 0.21 | 0.16 | Range <5X PQL |
| | | <i>trans</i> -1,2-dichloroethene | 0.52 | 0.56 | 0.15 | Range <5X PQL |
| | | Vinyl Chloride | 13 | 12 | 0.10 | 8.00 |

Abbreviations:

MDL = method detection limit

Appendix A

Laboratory Reports

September 2014 Semiannual Monitoring

ANALYTICAL REPORT

Job Number: 280-59970-1

SDG Number: 14086436

Job Description: PINELLAS MONITORING

For:

S.M. Stoller Corporation
2597 Legacy Way
Grand Junction, CO 81503
Attention: Mr. Steve Donovan



Approved for release.
DiLea R Bindel
Project Manager I
9/30/2014 3:42 PM

DiLea R Bindel, Project Manager I
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0173
dilea.bindel@testamericainc.com
09/30/2014

The test results in this report relate only to the samples in this report and meet all requirements of NELAP, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

TestAmerica Laboratories, Inc.

TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002
Tel (303) 736-0100 Fax (303) 431-7171 www.testamericainc.com



Pages have been deleted from this laboratory report file to reduce file size. The deleted pages contain raw data and instrument calibrations. If the full laboratory report is needed, contact Scott.Surovchak@lm.doe.gov

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CASE NARRATIVE

Client: S.M. Stoller Corporation

Project: PINELLAS MONITORING - 14086436

Report Number: 280-59970-1

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

Results between the method detection limit (MDL) and reporting limit (RL) are flagged with a "J" qualifier to indicate an estimated value. These results are statistically less reliable than results greater than or equal to the RL and should be considered a qualitative value.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 9/13/2014 9:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.9° C.

A collection time discrepancy was noted between the information listed on the chain-of-custody and on one of the three VOA vial container labels for sample PIN99-2522 (MJS 978). The collection time on the chain-of-custody reads 08:10, while the collection time on the associated container label read 08:20. The collection time was logged as 08:10, per the information on the chain-of-custody. The client was notified on 9/16/2014.

GC/MS VOLATILES - SW846 8260B

The internal standard (ISTD) responses for TBA-d9 in CCV2 associated with batch 280-244138 were outside acceptance criteria. The ISTDs are not associated with any requested target compounds; therefore, corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DATA REPORTING QUALIFIERS

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

| Lab Section | Qualifier | Description |
|-------------|-----------|--|
| GC/MS VOA | U | Indicates the analyte was analyzed for but not detected. |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

SAMPLE SUMMARY

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

| Lab Sample ID | Client Sample ID | Client Matrix | Date/Time Sampled | Date/Time Received |
|----------------------|-------------------------|----------------------|------------------------------|-------------------------------|
| 280-59970-1 | PIN20-2456 | Water | 09/11/2014 1200 | 09/13/2014 0925 |
| 280-59970-1MS | PIN20-2456 | Water | 09/11/2014 1200 | 09/13/2014 0925 |
| 280-59970-1MSD | PIN20-2456 | Water | 09/11/2014 1200 | 09/13/2014 0925 |
| 280-59970-2 | PIN99-2522 | Water | 09/11/2014 0810 | 09/13/2014 0925 |
| 280-59970-3 | PIN20-M053 | Water | 09/11/2014 0915 | 09/13/2014 0925 |
| 280-59970-4 | PIN20-M056 | Water | 09/11/2014 0845 | 09/13/2014 0925 |
| 280-59970-5 | PIN20-M057 | Water | 09/11/2014 1000 | 09/13/2014 0925 |
| 280-59970-6 | PIN20-M058 | Water | 09/11/2014 1105 | 09/13/2014 0925 |
| 280-59970-7 | PIN20-M059 | Water | 09/11/2014 1155 | 09/13/2014 0925 |
| 280-59970-8 | PIN20-M068 | Water | 09/11/2014 1525 | 09/13/2014 0925 |
| 280-59970-9 | PIN20-M069 | Water | 09/11/2014 1425 | 09/13/2014 0925 |
| 280-59970-10 | PIN20-M18D | Water | 09/11/2014 1030 | 09/13/2014 0925 |

EXECUTIVE SUMMARY - Detections

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

| Lab Sample ID | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|--------------------------|-------------------|--------|-----------|-----------------|-------|--------|
| 280-59970-1 | PIN20-2456 | | | | | |
| Benzene | | 0.21 | J | 1.0 | ug/L | 8260B |
| cis-1,2-Dichloroethene | | 2.0 | | 1.0 | ug/L | 8260B |
| trans-1,2-Dichloroethene | | 0.56 | J | 1.0 | ug/L | 8260B |
| Vinyl chloride | | 12 | | 1.0 | ug/L | 8260B |
| 280-59970-3 | PIN20-M053 | | | | | |
| cis-1,2-Dichloroethene | | 1.9 | | 1.0 | ug/L | 8260B |
| 280-59970-4 | PIN20-M056 | | | | | |
| cis-1,2-Dichloroethene | | 2.6 | | 1.0 | ug/L | 8260B |
| 280-59970-5 | PIN20-M057 | | | | | |
| cis-1,2-Dichloroethene | | 1.9 | | 1.0 | ug/L | 8260B |
| trans-1,2-Dichloroethene | | 0.26 | J | 1.0 | ug/L | 8260B |
| 280-59970-6 | PIN20-M058 | | | | | |
| cis-1,2-Dichloroethene | | 1.9 | | 1.0 | ug/L | 8260B |
| trans-1,2-Dichloroethene | | 0.24 | J | 1.0 | ug/L | 8260B |
| Toluene | | 0.21 | J | 1.0 | ug/L | 8260B |
| 280-59970-7 | PIN20-M059 | | | | | |
| Benzene | | 0.22 | J | 1.0 | ug/L | 8260B |
| cis-1,2-Dichloroethene | | 2.0 | | 1.0 | ug/L | 8260B |
| trans-1,2-Dichloroethene | | 0.52 | J | 1.0 | ug/L | 8260B |
| Vinyl chloride | | 13 | | 1.0 | ug/L | 8260B |
| 280-59970-8 | PIN20-M068 | | | | | |
| Benzene | | 0.36 | J | 1.0 | ug/L | 8260B |
| cis-1,2-Dichloroethene | | 0.20 | J | 1.0 | ug/L | 8260B |
| trans-1,2-Dichloroethene | | 1.1 | | 1.0 | ug/L | 8260B |
| Vinyl chloride | | 22 | | 1.0 | ug/L | 8260B |
| 280-59970-9 | PIN20-M069 | | | | | |
| cis-1,2-Dichloroethene | | 11 | | 1.0 | ug/L | 8260B |
| trans-1,2-Dichloroethene | | 4.2 | | 1.0 | ug/L | 8260B |
| Vinyl chloride | | 12 | | 1.0 | ug/L | 8260B |

EXECUTIVE SUMMARY - Detections

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

| Lab Sample ID | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|--------------------------|-------------------|--------|-----------|-----------------|-------|--------|
| 280-59970-10 | PIN20-M18D | | | | | |
| Acetone | | 24 | | 10 | ug/L | 8260B |
| cis-1,2-Dichloroethene | | 3.3 | | 1.0 | ug/L | 8260B |
| trans-1,2-Dichloroethene | | 0.36 | J | 1.0 | ug/L | 8260B |
| Toluene | | 1.2 | | 1.0 | ug/L | 8260B |

METHOD SUMMARY

Client: S.M. Stoller Corporation

Job Number: 280-59970-1
Sdg Number: 14086436

| Description | Lab Location | Method | Preparation Method |
|------------------------------------|--------------|-------------|--------------------|
| Matrix: Water | | | |
| Volatile Organic Compounds (GC/MS) | TAL DEN | SW846 8260B | |
| Purge and Trap | TAL DEN | | SW846 5030B |

Lab References:

TAL DEN = TestAmerica Denver

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: S.M. Stoller Corporation

Job Number: 280-59970-1
Sdg Number: 14086436

| Method | Analyst | Analyst ID |
|---------------|-----------------|-------------------|
| SW846 8260B | Lines, Jeremy N | JNL |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-2456

Lab Sample ID: 280-59970-1

Date Sampled: 09/11/2014 1200

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4479.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/19/2014 2056 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/19/2014 2056 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|-----------------------------|---------------|-----------|------|-----|
| Acetone | 1.9 | U | 1.9 | 10 |
| Benzene | 0.21 | J | 0.16 | 1.0 |
| Bromobenzene | 0.17 | U | 0.17 | 1.0 |
| Bromochloromethane | 0.10 | U | 0.10 | 1.0 |
| Bromodichloromethane | 0.17 | U | 0.17 | 1.0 |
| Bromoform | 0.19 | U | 0.19 | 1.0 |
| Bromomethane | 0.21 | U | 0.21 | 1.0 |
| 2-Butanone (MEK) | 2.0 | U | 2.0 | 5.0 |
| n-Butylbenzene | 0.32 | U | 0.32 | 1.0 |
| sec-Butylbenzene | 0.17 | U | 0.17 | 1.0 |
| tert-Butylbenzene | 0.16 | U | 0.16 | 1.0 |
| Carbon disulfide | 0.45 | U | 0.45 | 1.0 |
| Carbon tetrachloride | 0.19 | U | 0.19 | 1.0 |
| Chlorobenzene | 0.17 | U | 0.17 | 1.0 |
| Dibromochloromethane | 0.17 | U | 0.17 | 1.0 |
| Chloroethane | 0.41 | U | 0.41 | 1.0 |
| Chloroform | 0.16 | U | 0.16 | 1.0 |
| Chloromethane | 0.30 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 0.17 | U | 0.17 | 1.0 |
| 4-Chlorotoluene | 0.21 | U | 0.21 | 1.0 |
| 1,2-Dibromo-3-Chloropropane | 0.47 | U | 0.47 | 1.0 |
| Dibromomethane | 0.17 | U | 0.17 | 1.0 |
| 1,2-Dichlorobenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3-Dichlorobenzene | 0.13 | U | 0.13 | 1.0 |
| 1,4-Dichlorobenzene | 0.16 | U | 0.16 | 1.0 |
| Dichlorodifluoromethane | 0.31 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.22 | U | 0.22 | 1.0 |
| 1,2-Dichloroethane | 0.13 | U | 0.13 | 1.0 |
| cis-1,2-Dichloroethene | 2.0 | | 0.15 | 1.0 |
| trans-1,2-Dichloroethene | 0.56 | J | 0.15 | 1.0 |
| 1,1-Dichloroethene | 0.23 | U | 0.23 | 1.0 |
| 1,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 0.22 | U | 0.22 | 1.0 |
| 2,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| cis-1,3-Dichloropropene | 0.16 | U | 0.16 | 1.0 |
| trans-1,3-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| 1,1-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| Ethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Hexachlorobutadiene | 0.36 | U | 0.36 | 1.0 |
| 2-Hexanone | 1.7 | U | 1.7 | 5.0 |
| Isopropylbenzene | 0.19 | U | 0.19 | 1.0 |
| 4-Isopropyltoluene | 0.20 | U | 0.20 | 1.0 |
| Methylene Chloride | 0.32 | U | 0.32 | 1.0 |
| 4-Methyl-2-pentanone | 0.98 | U | 0.98 | 5.0 |
| Naphthalene | 0.22 | U | 0.22 | 1.0 |
| n-Propylbenzene | 0.16 | U | 0.16 | 1.0 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-2456

Lab Sample ID: 280-59970-1

Date Sampled: 09/11/2014 1200

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4479.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/19/2014 2056 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/19/2014 2056 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---------------------------|---------------|-----------|------|-----|
| Styrene | 0.17 | U | 0.17 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| Tetrachloroethene | 0.20 | U | 0.20 | 1.0 |
| Toluene | 0.17 | U | 0.17 | 1.0 |
| 1,2,3-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,1,1-Trichloroethane | 0.16 | U | 0.16 | 1.0 |
| 1,1,2-Trichloroethane | 0.27 | U | 0.27 | 1.0 |
| Trichloroethene | 0.16 | U | 0.16 | 1.0 |
| Trichlorofluoromethane | 0.29 | U | 0.29 | 1.0 |
| 1,2,3-Trichloropropane | 0.33 | U | 0.33 | 1.0 |
| 1,2,4-Trimethylbenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3,5-Trimethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Vinyl chloride | 12 | | 0.10 | 1.0 |
| Xylenes, Total | 0.19 | U | 0.19 | 1.0 |
| 1,2-Dibromoethane | 0.18 | U | 0.18 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|------------------------------|------|-----------|-------------------|
| 1,2-Dichloroethane-d4 (Surr) | 104 | | 70 - 127 |
| Toluene-d8 (Surr) | 105 | | 80 - 125 |
| 4-Bromofluorobenzene (Surr) | 101 | | 78 - 120 |
| Dibromofluoromethane (Surr) | 104 | | 77 - 120 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN99-2522

Lab Sample ID: 280-59970-2

Date Sampled: 09/11/2014 0810

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4480.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/19/2014 2117 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/19/2014 2117 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|-----------------------------|---------------|-----------|------|-----|
| Acetone | 1.9 | U | 1.9 | 10 |
| Benzene | 0.16 | U | 0.16 | 1.0 |
| Bromobenzene | 0.17 | U | 0.17 | 1.0 |
| Bromochloromethane | 0.10 | U | 0.10 | 1.0 |
| Bromodichloromethane | 0.17 | U | 0.17 | 1.0 |
| Bromoform | 0.19 | U | 0.19 | 1.0 |
| Bromomethane | 0.21 | U | 0.21 | 1.0 |
| 2-Butanone (MEK) | 2.0 | U | 2.0 | 5.0 |
| n-Butylbenzene | 0.32 | U | 0.32 | 1.0 |
| sec-Butylbenzene | 0.17 | U | 0.17 | 1.0 |
| tert-Butylbenzene | 0.16 | U | 0.16 | 1.0 |
| Carbon disulfide | 0.45 | U | 0.45 | 1.0 |
| Carbon tetrachloride | 0.19 | U | 0.19 | 1.0 |
| Chlorobenzene | 0.17 | U | 0.17 | 1.0 |
| Dibromochloromethane | 0.17 | U | 0.17 | 1.0 |
| Chloroethane | 0.41 | U | 0.41 | 1.0 |
| Chloroform | 0.16 | U | 0.16 | 1.0 |
| Chloromethane | 0.30 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 0.17 | U | 0.17 | 1.0 |
| 4-Chlorotoluene | 0.21 | U | 0.21 | 1.0 |
| 1,2-Dibromo-3-Chloropropane | 0.47 | U | 0.47 | 1.0 |
| Dibromomethane | 0.17 | U | 0.17 | 1.0 |
| 1,2-Dichlorobenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3-Dichlorobenzene | 0.13 | U | 0.13 | 1.0 |
| 1,4-Dichlorobenzene | 0.16 | U | 0.16 | 1.0 |
| Dichlorodifluoromethane | 0.31 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.22 | U | 0.22 | 1.0 |
| 1,2-Dichloroethane | 0.13 | U | 0.13 | 1.0 |
| cis-1,2-Dichloroethene | 0.15 | U | 0.15 | 1.0 |
| trans-1,2-Dichloroethene | 0.15 | U | 0.15 | 1.0 |
| 1,1-Dichloroethene | 0.23 | U | 0.23 | 1.0 |
| 1,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 0.22 | U | 0.22 | 1.0 |
| 2,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| cis-1,3-Dichloropropene | 0.16 | U | 0.16 | 1.0 |
| trans-1,3-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| 1,1-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| Ethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Hexachlorobutadiene | 0.36 | U | 0.36 | 1.0 |
| 2-Hexanone | 1.7 | U | 1.7 | 5.0 |
| Isopropylbenzene | 0.19 | U | 0.19 | 1.0 |
| 4-Isopropyltoluene | 0.20 | U | 0.20 | 1.0 |
| Methylene Chloride | 0.32 | U | 0.32 | 1.0 |
| 4-Methyl-2-pentanone | 0.98 | U | 0.98 | 5.0 |
| Naphthalene | 0.22 | U | 0.22 | 1.0 |
| n-Propylbenzene | 0.16 | U | 0.16 | 1.0 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN99-2522

Lab Sample ID: 280-59970-2

Date Sampled: 09/11/2014 0810

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4480.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/19/2014 2117 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/19/2014 2117 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---------------------------|---------------|-----------|------|-----|
| Styrene | 0.17 | U | 0.17 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| Tetrachloroethene | 0.20 | U | 0.20 | 1.0 |
| Toluene | 0.17 | U | 0.17 | 1.0 |
| 1,2,3-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,1,1-Trichloroethane | 0.16 | U | 0.16 | 1.0 |
| 1,1,2-Trichloroethane | 0.27 | U | 0.27 | 1.0 |
| Trichloroethene | 0.16 | U | 0.16 | 1.0 |
| Trichlorofluoromethane | 0.29 | U | 0.29 | 1.0 |
| 1,2,3-Trichloropropane | 0.33 | U | 0.33 | 1.0 |
| 1,2,4-Trimethylbenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3,5-Trimethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Vinyl chloride | 0.10 | U | 0.10 | 1.0 |
| Xylenes, Total | 0.19 | U | 0.19 | 1.0 |
| 1,2-Dibromoethane | 0.18 | U | 0.18 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|------------------------------|------|-----------|-------------------|
| 1,2-Dichloroethane-d4 (Surr) | 104 | | 70 - 127 |
| Toluene-d8 (Surr) | 107 | | 80 - 125 |
| 4-Bromofluorobenzene (Surr) | 102 | | 78 - 120 |
| Dibromofluoromethane (Surr) | 104 | | 77 - 120 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M053

Lab Sample ID: 280-59970-3

Date Sampled: 09/11/2014 0915

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4481.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/19/2014 2139 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/19/2014 2139 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|-----------------------------|---------------|-----------|------|-----|
| Acetone | 1.9 | U | 1.9 | 10 |
| Benzene | 0.16 | U | 0.16 | 1.0 |
| Bromobenzene | 0.17 | U | 0.17 | 1.0 |
| Bromochloromethane | 0.10 | U | 0.10 | 1.0 |
| Bromodichloromethane | 0.17 | U | 0.17 | 1.0 |
| Bromoform | 0.19 | U | 0.19 | 1.0 |
| Bromomethane | 0.21 | U | 0.21 | 1.0 |
| 2-Butanone (MEK) | 2.0 | U | 2.0 | 5.0 |
| n-Butylbenzene | 0.32 | U | 0.32 | 1.0 |
| sec-Butylbenzene | 0.17 | U | 0.17 | 1.0 |
| tert-Butylbenzene | 0.16 | U | 0.16 | 1.0 |
| Carbon disulfide | 0.45 | U | 0.45 | 1.0 |
| Carbon tetrachloride | 0.19 | U | 0.19 | 1.0 |
| Chlorobenzene | 0.17 | U | 0.17 | 1.0 |
| Dibromochloromethane | 0.17 | U | 0.17 | 1.0 |
| Chloroethane | 0.41 | U | 0.41 | 1.0 |
| Chloroform | 0.16 | U | 0.16 | 1.0 |
| Chloromethane | 0.30 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 0.17 | U | 0.17 | 1.0 |
| 4-Chlorotoluene | 0.21 | U | 0.21 | 1.0 |
| 1,2-Dibromo-3-Chloropropane | 0.47 | U | 0.47 | 1.0 |
| Dibromomethane | 0.17 | U | 0.17 | 1.0 |
| 1,2-Dichlorobenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3-Dichlorobenzene | 0.13 | U | 0.13 | 1.0 |
| 1,4-Dichlorobenzene | 0.16 | U | 0.16 | 1.0 |
| Dichlorodifluoromethane | 0.31 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.22 | U | 0.22 | 1.0 |
| 1,2-Dichloroethane | 0.13 | U | 0.13 | 1.0 |
| cis-1,2-Dichloroethene | 1.9 | | 0.15 | 1.0 |
| trans-1,2-Dichloroethene | 0.15 | U | 0.15 | 1.0 |
| 1,1-Dichloroethene | 0.23 | U | 0.23 | 1.0 |
| 1,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 0.22 | U | 0.22 | 1.0 |
| 2,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| cis-1,3-Dichloropropene | 0.16 | U | 0.16 | 1.0 |
| trans-1,3-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| 1,1-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| Ethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Hexachlorobutadiene | 0.36 | U | 0.36 | 1.0 |
| 2-Hexanone | 1.7 | U | 1.7 | 5.0 |
| Isopropylbenzene | 0.19 | U | 0.19 | 1.0 |
| 4-Isopropyltoluene | 0.20 | U | 0.20 | 1.0 |
| Methylene Chloride | 0.32 | U | 0.32 | 1.0 |
| 4-Methyl-2-pentanone | 0.98 | U | 0.98 | 5.0 |
| Naphthalene | 0.22 | U | 0.22 | 1.0 |
| n-Propylbenzene | 0.16 | U | 0.16 | 1.0 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M053

Lab Sample ID: 280-59970-3

Date Sampled: 09/11/2014 0915

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4481.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/19/2014 2139 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/19/2014 2139 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---------------------------|---------------|-----------|------|-----|
| Styrene | 0.17 | U | 0.17 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| Tetrachloroethene | 0.20 | U | 0.20 | 1.0 |
| Toluene | 0.17 | U | 0.17 | 1.0 |
| 1,2,3-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,1,1-Trichloroethane | 0.16 | U | 0.16 | 1.0 |
| 1,1,2-Trichloroethane | 0.27 | U | 0.27 | 1.0 |
| Trichloroethene | 0.16 | U | 0.16 | 1.0 |
| Trichlorofluoromethane | 0.29 | U | 0.29 | 1.0 |
| 1,2,3-Trichloropropane | 0.33 | U | 0.33 | 1.0 |
| 1,2,4-Trimethylbenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3,5-Trimethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Vinyl chloride | 0.10 | U | 0.10 | 1.0 |
| Xylenes, Total | 0.19 | U | 0.19 | 1.0 |
| 1,2-Dibromoethane | 0.18 | U | 0.18 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|------------------------------|------|-----------|-------------------|
| 1,2-Dichloroethane-d4 (Surr) | 110 | | 70 - 127 |
| Toluene-d8 (Surr) | 95 | | 80 - 125 |
| 4-Bromofluorobenzene (Surr) | 96 | | 78 - 120 |
| Dibromofluoromethane (Surr) | 106 | | 77 - 120 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M056

Lab Sample ID: 280-59970-4

Date Sampled: 09/11/2014 0845

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4484.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/19/2014 2244 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/19/2014 2244 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|-----------------------------|---------------|-----------|------|-----|
| Acetone | 1.9 | U | 1.9 | 10 |
| Benzene | 0.16 | U | 0.16 | 1.0 |
| Bromobenzene | 0.17 | U | 0.17 | 1.0 |
| Bromochloromethane | 0.10 | U | 0.10 | 1.0 |
| Bromodichloromethane | 0.17 | U | 0.17 | 1.0 |
| Bromoform | 0.19 | U | 0.19 | 1.0 |
| Bromomethane | 0.21 | U | 0.21 | 1.0 |
| 2-Butanone (MEK) | 2.0 | U | 2.0 | 5.0 |
| n-Butylbenzene | 0.32 | U | 0.32 | 1.0 |
| sec-Butylbenzene | 0.17 | U | 0.17 | 1.0 |
| tert-Butylbenzene | 0.16 | U | 0.16 | 1.0 |
| Carbon disulfide | 0.45 | U | 0.45 | 1.0 |
| Carbon tetrachloride | 0.19 | U | 0.19 | 1.0 |
| Chlorobenzene | 0.17 | U | 0.17 | 1.0 |
| Dibromochloromethane | 0.17 | U | 0.17 | 1.0 |
| Chloroethane | 0.41 | U | 0.41 | 1.0 |
| Chloroform | 0.16 | U | 0.16 | 1.0 |
| Chloromethane | 0.30 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 0.17 | U | 0.17 | 1.0 |
| 4-Chlorotoluene | 0.21 | U | 0.21 | 1.0 |
| 1,2-Dibromo-3-Chloropropane | 0.47 | U | 0.47 | 1.0 |
| Dibromomethane | 0.17 | U | 0.17 | 1.0 |
| 1,2-Dichlorobenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3-Dichlorobenzene | 0.13 | U | 0.13 | 1.0 |
| 1,4-Dichlorobenzene | 0.16 | U | 0.16 | 1.0 |
| Dichlorodifluoromethane | 0.31 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.22 | U | 0.22 | 1.0 |
| 1,2-Dichloroethane | 0.13 | U | 0.13 | 1.0 |
| cis-1,2-Dichloroethene | 2.6 | | 0.15 | 1.0 |
| trans-1,2-Dichloroethene | 0.15 | U | 0.15 | 1.0 |
| 1,1-Dichloroethene | 0.23 | U | 0.23 | 1.0 |
| 1,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 0.22 | U | 0.22 | 1.0 |
| 2,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| cis-1,3-Dichloropropene | 0.16 | U | 0.16 | 1.0 |
| trans-1,3-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| 1,1-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| Ethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Hexachlorobutadiene | 0.36 | U | 0.36 | 1.0 |
| 2-Hexanone | 1.7 | U | 1.7 | 5.0 |
| Isopropylbenzene | 0.19 | U | 0.19 | 1.0 |
| 4-Isopropyltoluene | 0.20 | U | 0.20 | 1.0 |
| Methylene Chloride | 0.32 | U | 0.32 | 1.0 |
| 4-Methyl-2-pentanone | 0.98 | U | 0.98 | 5.0 |
| Naphthalene | 0.22 | U | 0.22 | 1.0 |
| n-Propylbenzene | 0.16 | U | 0.16 | 1.0 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1
Sdg Number: 14086436

Client Sample ID: PIN20-M056

Lab Sample ID: 280-59970-4
Client Matrix: Water

Date Sampled: 09/11/2014 0845
Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | |
|--------------------------------|----------------------------|------------------------------|
| Analysis Method: 8260B | Analysis Batch: 280-244138 | Instrument ID: VMS_H |
| Prep Method: 5030B | Prep Batch: N/A | Lab File ID: H4484.D |
| Dilution: 1.0 | | Initial Weight/Volume: 20 mL |
| Analysis Date: 09/19/2014 2244 | | Final Weight/Volume: 20 mL |
| Prep Date: 09/19/2014 2244 | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---------------------------|---------------|-----------|------|-----|
| Styrene | 0.17 | U | 0.17 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| Tetrachloroethene | 0.20 | U | 0.20 | 1.0 |
| Toluene | 0.17 | U | 0.17 | 1.0 |
| 1,2,3-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,1,1-Trichloroethane | 0.16 | U | 0.16 | 1.0 |
| 1,1,2-Trichloroethane | 0.27 | U | 0.27 | 1.0 |
| Trichloroethene | 0.16 | U | 0.16 | 1.0 |
| Trichlorofluoromethane | 0.29 | U | 0.29 | 1.0 |
| 1,2,3-Trichloropropane | 0.33 | U | 0.33 | 1.0 |
| 1,2,4-Trimethylbenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3,5-Trimethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Vinyl chloride | 0.10 | U | 0.10 | 1.0 |
| Xylenes, Total | 0.19 | U | 0.19 | 1.0 |
| 1,2-Dibromoethane | 0.18 | U | 0.18 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|------------------------------|------|-----------|-------------------|
| 1,2-Dichloroethane-d4 (Surr) | 107 | | 70 - 127 |
| Toluene-d8 (Surr) | 100 | | 80 - 125 |
| 4-Bromofluorobenzene (Surr) | 99 | | 78 - 120 |
| Dibromofluoromethane (Surr) | 101 | | 77 - 120 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M057

Lab Sample ID: 280-59970-5

Date Sampled: 09/11/2014 1000

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4485.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/19/2014 2305 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/19/2014 2305 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|-----------------------------|---------------|-----------|------|-----|
| Acetone | 1.9 | U | 1.9 | 10 |
| Benzene | 0.16 | U | 0.16 | 1.0 |
| Bromobenzene | 0.17 | U | 0.17 | 1.0 |
| Bromochloromethane | 0.10 | U | 0.10 | 1.0 |
| Bromodichloromethane | 0.17 | U | 0.17 | 1.0 |
| Bromoform | 0.19 | U | 0.19 | 1.0 |
| Bromomethane | 0.21 | U | 0.21 | 1.0 |
| 2-Butanone (MEK) | 2.0 | U | 2.0 | 5.0 |
| n-Butylbenzene | 0.32 | U | 0.32 | 1.0 |
| sec-Butylbenzene | 0.17 | U | 0.17 | 1.0 |
| tert-Butylbenzene | 0.16 | U | 0.16 | 1.0 |
| Carbon disulfide | 0.45 | U | 0.45 | 1.0 |
| Carbon tetrachloride | 0.19 | U | 0.19 | 1.0 |
| Chlorobenzene | 0.17 | U | 0.17 | 1.0 |
| Dibromochloromethane | 0.17 | U | 0.17 | 1.0 |
| Chloroethane | 0.41 | U | 0.41 | 1.0 |
| Chloroform | 0.16 | U | 0.16 | 1.0 |
| Chloromethane | 0.30 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 0.17 | U | 0.17 | 1.0 |
| 4-Chlorotoluene | 0.21 | U | 0.21 | 1.0 |
| 1,2-Dibromo-3-Chloropropane | 0.47 | U | 0.47 | 1.0 |
| Dibromomethane | 0.17 | U | 0.17 | 1.0 |
| 1,2-Dichlorobenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3-Dichlorobenzene | 0.13 | U | 0.13 | 1.0 |
| 1,4-Dichlorobenzene | 0.16 | U | 0.16 | 1.0 |
| Dichlorodifluoromethane | 0.31 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.22 | U | 0.22 | 1.0 |
| 1,2-Dichloroethane | 0.13 | U | 0.13 | 1.0 |
| cis-1,2-Dichloroethene | 1.9 | | 0.15 | 1.0 |
| trans-1,2-Dichloroethene | 0.26 | J | 0.15 | 1.0 |
| 1,1-Dichloroethene | 0.23 | U | 0.23 | 1.0 |
| 1,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 0.22 | U | 0.22 | 1.0 |
| 2,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| cis-1,3-Dichloropropene | 0.16 | U | 0.16 | 1.0 |
| trans-1,3-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| 1,1-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| Ethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Hexachlorobutadiene | 0.36 | U | 0.36 | 1.0 |
| 2-Hexanone | 1.7 | U | 1.7 | 5.0 |
| Isopropylbenzene | 0.19 | U | 0.19 | 1.0 |
| 4-Isopropyltoluene | 0.20 | U | 0.20 | 1.0 |
| Methylene Chloride | 0.32 | U | 0.32 | 1.0 |
| 4-Methyl-2-pentanone | 0.98 | U | 0.98 | 5.0 |
| Naphthalene | 0.22 | U | 0.22 | 1.0 |
| n-Propylbenzene | 0.16 | U | 0.16 | 1.0 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M057

Lab Sample ID: 280-59970-5

Date Sampled: 09/11/2014 1000

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4485.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/19/2014 2305 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/19/2014 2305 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---------------------------|---------------|-----------|------|-----|
| Styrene | 0.17 | U | 0.17 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| Tetrachloroethene | 0.20 | U | 0.20 | 1.0 |
| Toluene | 0.17 | U | 0.17 | 1.0 |
| 1,2,3-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,1,1-Trichloroethane | 0.16 | U | 0.16 | 1.0 |
| 1,1,2-Trichloroethane | 0.27 | U | 0.27 | 1.0 |
| Trichloroethene | 0.16 | U | 0.16 | 1.0 |
| Trichlorofluoromethane | 0.29 | U | 0.29 | 1.0 |
| 1,2,3-Trichloropropane | 0.33 | U | 0.33 | 1.0 |
| 1,2,4-Trimethylbenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3,5-Trimethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Vinyl chloride | 0.10 | U | 0.10 | 1.0 |
| Xylenes, Total | 0.19 | U | 0.19 | 1.0 |
| 1,2-Dibromoethane | 0.18 | U | 0.18 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|------------------------------|------|-----------|-------------------|
| 1,2-Dichloroethane-d4 (Surr) | 106 | | 70 - 127 |
| Toluene-d8 (Surr) | 99 | | 80 - 125 |
| 4-Bromofluorobenzene (Surr) | 98 | | 78 - 120 |
| Dibromofluoromethane (Surr) | 101 | | 77 - 120 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M058

Lab Sample ID: 280-59970-6

Date Sampled: 09/11/2014 1105

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4486.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/19/2014 2327 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/19/2014 2327 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|-----------------------------|---------------|-----------|------|-----|
| Acetone | 1.9 | U | 1.9 | 10 |
| Benzene | 0.16 | U | 0.16 | 1.0 |
| Bromobenzene | 0.17 | U | 0.17 | 1.0 |
| Bromochloromethane | 0.10 | U | 0.10 | 1.0 |
| Bromodichloromethane | 0.17 | U | 0.17 | 1.0 |
| Bromoform | 0.19 | U | 0.19 | 1.0 |
| Bromomethane | 0.21 | U | 0.21 | 1.0 |
| 2-Butanone (MEK) | 2.0 | U | 2.0 | 5.0 |
| n-Butylbenzene | 0.32 | U | 0.32 | 1.0 |
| sec-Butylbenzene | 0.17 | U | 0.17 | 1.0 |
| tert-Butylbenzene | 0.16 | U | 0.16 | 1.0 |
| Carbon disulfide | 0.45 | U | 0.45 | 1.0 |
| Carbon tetrachloride | 0.19 | U | 0.19 | 1.0 |
| Chlorobenzene | 0.17 | U | 0.17 | 1.0 |
| Dibromochloromethane | 0.17 | U | 0.17 | 1.0 |
| Chloroethane | 0.41 | U | 0.41 | 1.0 |
| Chloroform | 0.16 | U | 0.16 | 1.0 |
| Chloromethane | 0.30 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 0.17 | U | 0.17 | 1.0 |
| 4-Chlorotoluene | 0.21 | U | 0.21 | 1.0 |
| 1,2-Dibromo-3-Chloropropane | 0.47 | U | 0.47 | 1.0 |
| Dibromomethane | 0.17 | U | 0.17 | 1.0 |
| 1,2-Dichlorobenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3-Dichlorobenzene | 0.13 | U | 0.13 | 1.0 |
| 1,4-Dichlorobenzene | 0.16 | U | 0.16 | 1.0 |
| Dichlorodifluoromethane | 0.31 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.22 | U | 0.22 | 1.0 |
| 1,2-Dichloroethane | 0.13 | U | 0.13 | 1.0 |
| cis-1,2-Dichloroethene | 1.9 | | 0.15 | 1.0 |
| trans-1,2-Dichloroethene | 0.24 | J | 0.15 | 1.0 |
| 1,1-Dichloroethene | 0.23 | U | 0.23 | 1.0 |
| 1,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 0.22 | U | 0.22 | 1.0 |
| 2,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| cis-1,3-Dichloropropene | 0.16 | U | 0.16 | 1.0 |
| trans-1,3-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| 1,1-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| Ethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Hexachlorobutadiene | 0.36 | U | 0.36 | 1.0 |
| 2-Hexanone | 1.7 | U | 1.7 | 5.0 |
| Isopropylbenzene | 0.19 | U | 0.19 | 1.0 |
| 4-Isopropyltoluene | 0.20 | U | 0.20 | 1.0 |
| Methylene Chloride | 0.32 | U | 0.32 | 1.0 |
| 4-Methyl-2-pentanone | 0.98 | U | 0.98 | 5.0 |
| Naphthalene | 0.22 | U | 0.22 | 1.0 |
| n-Propylbenzene | 0.16 | U | 0.16 | 1.0 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1
Sdg Number: 14086436

Client Sample ID: PIN20-M058

Lab Sample ID: 280-59970-6
Client Matrix: Water

Date Sampled: 09/11/2014 1105
Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | |
|--------------------------------|----------------------------|------------------------------|
| Analysis Method: 8260B | Analysis Batch: 280-244138 | Instrument ID: VMS_H |
| Prep Method: 5030B | Prep Batch: N/A | Lab File ID: H4486.D |
| Dilution: 1.0 | | Initial Weight/Volume: 20 mL |
| Analysis Date: 09/19/2014 2327 | | Final Weight/Volume: 20 mL |
| Prep Date: 09/19/2014 2327 | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---------------------------|---------------|-----------|------|-----|
| Styrene | 0.17 | U | 0.17 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| Tetrachloroethene | 0.20 | U | 0.20 | 1.0 |
| Toluene | 0.21 | J | 0.17 | 1.0 |
| 1,2,3-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,1,1-Trichloroethane | 0.16 | U | 0.16 | 1.0 |
| 1,1,2-Trichloroethane | 0.27 | U | 0.27 | 1.0 |
| Trichloroethene | 0.16 | U | 0.16 | 1.0 |
| Trichlorofluoromethane | 0.29 | U | 0.29 | 1.0 |
| 1,2,3-Trichloropropane | 0.33 | U | 0.33 | 1.0 |
| 1,2,4-Trimethylbenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3,5-Trimethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Vinyl chloride | 0.10 | U | 0.10 | 1.0 |
| Xylenes, Total | 0.19 | U | 0.19 | 1.0 |
| 1,2-Dibromoethane | 0.18 | U | 0.18 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|------------------------------|------|-----------|-------------------|
| 1,2-Dichloroethane-d4 (Surr) | 115 | | 70 - 127 |
| Toluene-d8 (Surr) | 104 | | 80 - 125 |
| 4-Bromofluorobenzene (Surr) | 99 | | 78 - 120 |
| Dibromofluoromethane (Surr) | 106 | | 77 - 120 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M059

Lab Sample ID: 280-59970-7

Date Sampled: 09/11/2014 1155

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4487.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/19/2014 2348 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/19/2014 2348 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|-----------------------------|---------------|-----------|------|-----|
| Acetone | 1.9 | U | 1.9 | 10 |
| Benzene | 0.22 | J | 0.16 | 1.0 |
| Bromobenzene | 0.17 | U | 0.17 | 1.0 |
| Bromochloromethane | 0.10 | U | 0.10 | 1.0 |
| Bromodichloromethane | 0.17 | U | 0.17 | 1.0 |
| Bromoform | 0.19 | U | 0.19 | 1.0 |
| Bromomethane | 0.21 | U | 0.21 | 1.0 |
| 2-Butanone (MEK) | 2.0 | U | 2.0 | 5.0 |
| n-Butylbenzene | 0.32 | U | 0.32 | 1.0 |
| sec-Butylbenzene | 0.17 | U | 0.17 | 1.0 |
| tert-Butylbenzene | 0.16 | U | 0.16 | 1.0 |
| Carbon disulfide | 0.45 | U | 0.45 | 1.0 |
| Carbon tetrachloride | 0.19 | U | 0.19 | 1.0 |
| Chlorobenzene | 0.17 | U | 0.17 | 1.0 |
| Dibromochloromethane | 0.17 | U | 0.17 | 1.0 |
| Chloroethane | 0.41 | U | 0.41 | 1.0 |
| Chloroform | 0.16 | U | 0.16 | 1.0 |
| Chloromethane | 0.30 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 0.17 | U | 0.17 | 1.0 |
| 4-Chlorotoluene | 0.21 | U | 0.21 | 1.0 |
| 1,2-Dibromo-3-Chloropropane | 0.47 | U | 0.47 | 1.0 |
| Dibromomethane | 0.17 | U | 0.17 | 1.0 |
| 1,2-Dichlorobenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3-Dichlorobenzene | 0.13 | U | 0.13 | 1.0 |
| 1,4-Dichlorobenzene | 0.16 | U | 0.16 | 1.0 |
| Dichlorodifluoromethane | 0.31 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.22 | U | 0.22 | 1.0 |
| 1,2-Dichloroethane | 0.13 | U | 0.13 | 1.0 |
| cis-1,2-Dichloroethene | 2.0 | | 0.15 | 1.0 |
| trans-1,2-Dichloroethene | 0.52 | J | 0.15 | 1.0 |
| 1,1-Dichloroethene | 0.23 | U | 0.23 | 1.0 |
| 1,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 0.22 | U | 0.22 | 1.0 |
| 2,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| cis-1,3-Dichloropropene | 0.16 | U | 0.16 | 1.0 |
| trans-1,3-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| 1,1-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| Ethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Hexachlorobutadiene | 0.36 | U | 0.36 | 1.0 |
| 2-Hexanone | 1.7 | U | 1.7 | 5.0 |
| Isopropylbenzene | 0.19 | U | 0.19 | 1.0 |
| 4-Isopropyltoluene | 0.20 | U | 0.20 | 1.0 |
| Methylene Chloride | 0.32 | U | 0.32 | 1.0 |
| 4-Methyl-2-pentanone | 0.98 | U | 0.98 | 5.0 |
| Naphthalene | 0.22 | U | 0.22 | 1.0 |
| n-Propylbenzene | 0.16 | U | 0.16 | 1.0 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M059

Lab Sample ID: 280-59970-7

Date Sampled: 09/11/2014 1155

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4487.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/19/2014 2348 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/19/2014 2348 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---------------------------|---------------|-----------|------|-----|
| Styrene | 0.17 | U | 0.17 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| Tetrachloroethene | 0.20 | U | 0.20 | 1.0 |
| Toluene | 0.17 | U | 0.17 | 1.0 |
| 1,2,3-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,1,1-Trichloroethane | 0.16 | U | 0.16 | 1.0 |
| 1,1,2-Trichloroethane | 0.27 | U | 0.27 | 1.0 |
| Trichloroethene | 0.16 | U | 0.16 | 1.0 |
| Trichlorofluoromethane | 0.29 | U | 0.29 | 1.0 |
| 1,2,3-Trichloropropane | 0.33 | U | 0.33 | 1.0 |
| 1,2,4-Trimethylbenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3,5-Trimethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Vinyl chloride | 13 | | 0.10 | 1.0 |
| Xylenes, Total | 0.19 | U | 0.19 | 1.0 |
| 1,2-Dibromoethane | 0.18 | U | 0.18 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|------------------------------|------|-----------|-------------------|
| 1,2-Dichloroethane-d4 (Surr) | 111 | | 70 - 127 |
| Toluene-d8 (Surr) | 99 | | 80 - 125 |
| 4-Bromofluorobenzene (Surr) | 99 | | 78 - 120 |
| Dibromofluoromethane (Surr) | 105 | | 77 - 120 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M068

Lab Sample ID: 280-59970-8

Date Sampled: 09/11/2014 1525

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4488.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/20/2014 0009 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/20/2014 0009 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|-----------------------------|---------------|-----------|------|-----|
| Acetone | 1.9 | U | 1.9 | 10 |
| Benzene | 0.36 | J | 0.16 | 1.0 |
| Bromobenzene | 0.17 | U | 0.17 | 1.0 |
| Bromochloromethane | 0.10 | U | 0.10 | 1.0 |
| Bromodichloromethane | 0.17 | U | 0.17 | 1.0 |
| Bromoform | 0.19 | U | 0.19 | 1.0 |
| Bromomethane | 0.21 | U | 0.21 | 1.0 |
| 2-Butanone (MEK) | 2.0 | U | 2.0 | 5.0 |
| n-Butylbenzene | 0.32 | U | 0.32 | 1.0 |
| sec-Butylbenzene | 0.17 | U | 0.17 | 1.0 |
| tert-Butylbenzene | 0.16 | U | 0.16 | 1.0 |
| Carbon disulfide | 0.45 | U | 0.45 | 1.0 |
| Carbon tetrachloride | 0.19 | U | 0.19 | 1.0 |
| Chlorobenzene | 0.17 | U | 0.17 | 1.0 |
| Dibromochloromethane | 0.17 | U | 0.17 | 1.0 |
| Chloroethane | 0.41 | U | 0.41 | 1.0 |
| Chloroform | 0.16 | U | 0.16 | 1.0 |
| Chloromethane | 0.30 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 0.17 | U | 0.17 | 1.0 |
| 4-Chlorotoluene | 0.21 | U | 0.21 | 1.0 |
| 1,2-Dibromo-3-Chloropropane | 0.47 | U | 0.47 | 1.0 |
| Dibromomethane | 0.17 | U | 0.17 | 1.0 |
| 1,2-Dichlorobenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3-Dichlorobenzene | 0.13 | U | 0.13 | 1.0 |
| 1,4-Dichlorobenzene | 0.16 | U | 0.16 | 1.0 |
| Dichlorodifluoromethane | 0.31 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.22 | U | 0.22 | 1.0 |
| 1,2-Dichloroethane | 0.13 | U | 0.13 | 1.0 |
| cis-1,2-Dichloroethene | 0.20 | J | 0.15 | 1.0 |
| trans-1,2-Dichloroethene | 1.1 | U | 0.15 | 1.0 |
| 1,1-Dichloroethene | 0.23 | U | 0.23 | 1.0 |
| 1,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 0.22 | U | 0.22 | 1.0 |
| 2,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| cis-1,3-Dichloropropene | 0.16 | U | 0.16 | 1.0 |
| trans-1,3-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| 1,1-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| Ethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Hexachlorobutadiene | 0.36 | U | 0.36 | 1.0 |
| 2-Hexanone | 1.7 | U | 1.7 | 5.0 |
| Isopropylbenzene | 0.19 | U | 0.19 | 1.0 |
| 4-Isopropyltoluene | 0.20 | U | 0.20 | 1.0 |
| Methylene Chloride | 0.32 | U | 0.32 | 1.0 |
| 4-Methyl-2-pentanone | 0.98 | U | 0.98 | 5.0 |
| Naphthalene | 0.22 | U | 0.22 | 1.0 |
| n-Propylbenzene | 0.16 | U | 0.16 | 1.0 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M068

Lab Sample ID: 280-59970-8

Date Sampled: 09/11/2014 1525

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | |
|--------------------------------|----------------------------|------------------------------|
| Analysis Method: 8260B | Analysis Batch: 280-244138 | Instrument ID: VMS_H |
| Prep Method: 5030B | Prep Batch: N/A | Lab File ID: H4488.D |
| Dilution: 1.0 | | Initial Weight/Volume: 20 mL |
| Analysis Date: 09/20/2014 0009 | | Final Weight/Volume: 20 mL |
| Prep Date: 09/20/2014 0009 | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---------------------------|---------------|-----------|------|-----|
| Styrene | 0.17 | U | 0.17 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| Tetrachloroethene | 0.20 | U | 0.20 | 1.0 |
| Toluene | 0.17 | U | 0.17 | 1.0 |
| 1,2,3-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,1,1-Trichloroethane | 0.16 | U | 0.16 | 1.0 |
| 1,1,2-Trichloroethane | 0.27 | U | 0.27 | 1.0 |
| Trichloroethene | 0.16 | U | 0.16 | 1.0 |
| Trichlorofluoromethane | 0.29 | U | 0.29 | 1.0 |
| 1,2,3-Trichloropropane | 0.33 | U | 0.33 | 1.0 |
| 1,2,4-Trimethylbenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3,5-Trimethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Vinyl chloride | 22 | | 0.10 | 1.0 |
| Xylenes, Total | 0.19 | U | 0.19 | 1.0 |
| 1,2-Dibromoethane | 0.18 | U | 0.18 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|------------------------------|------|-----------|-------------------|
| 1,2-Dichloroethane-d4 (Surr) | 108 | | 70 - 127 |
| Toluene-d8 (Surr) | 99 | | 80 - 125 |
| 4-Bromofluorobenzene (Surr) | 102 | | 78 - 120 |
| Dibromofluoromethane (Surr) | 104 | | 77 - 120 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M069

Lab Sample ID: 280-59970-9

Date Sampled: 09/11/2014 1425

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4489.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/20/2014 0031 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/20/2014 0031 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|-----------------------------|---------------|-----------|------|-----|
| Acetone | 1.9 | U | 1.9 | 10 |
| Benzene | 0.16 | U | 0.16 | 1.0 |
| Bromobenzene | 0.17 | U | 0.17 | 1.0 |
| Bromochloromethane | 0.10 | U | 0.10 | 1.0 |
| Bromodichloromethane | 0.17 | U | 0.17 | 1.0 |
| Bromoform | 0.19 | U | 0.19 | 1.0 |
| Bromomethane | 0.21 | U | 0.21 | 1.0 |
| 2-Butanone (MEK) | 2.0 | U | 2.0 | 5.0 |
| n-Butylbenzene | 0.32 | U | 0.32 | 1.0 |
| sec-Butylbenzene | 0.17 | U | 0.17 | 1.0 |
| tert-Butylbenzene | 0.16 | U | 0.16 | 1.0 |
| Carbon disulfide | 0.45 | U | 0.45 | 1.0 |
| Carbon tetrachloride | 0.19 | U | 0.19 | 1.0 |
| Chlorobenzene | 0.17 | U | 0.17 | 1.0 |
| Dibromochloromethane | 0.17 | U | 0.17 | 1.0 |
| Chloroethane | 0.41 | U | 0.41 | 1.0 |
| Chloroform | 0.16 | U | 0.16 | 1.0 |
| Chloromethane | 0.30 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 0.17 | U | 0.17 | 1.0 |
| 4-Chlorotoluene | 0.21 | U | 0.21 | 1.0 |
| 1,2-Dibromo-3-Chloropropane | 0.47 | U | 0.47 | 1.0 |
| Dibromomethane | 0.17 | U | 0.17 | 1.0 |
| 1,2-Dichlorobenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3-Dichlorobenzene | 0.13 | U | 0.13 | 1.0 |
| 1,4-Dichlorobenzene | 0.16 | U | 0.16 | 1.0 |
| Dichlorodifluoromethane | 0.31 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.22 | U | 0.22 | 1.0 |
| 1,2-Dichloroethane | 0.13 | U | 0.13 | 1.0 |
| cis-1,2-Dichloroethene | 11 | | 0.15 | 1.0 |
| trans-1,2-Dichloroethene | 4.2 | | 0.15 | 1.0 |
| 1,1-Dichloroethene | 0.23 | U | 0.23 | 1.0 |
| 1,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 0.22 | U | 0.22 | 1.0 |
| 2,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| cis-1,3-Dichloropropene | 0.16 | U | 0.16 | 1.0 |
| trans-1,3-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| 1,1-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| Ethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Hexachlorobutadiene | 0.36 | U | 0.36 | 1.0 |
| 2-Hexanone | 1.7 | U | 1.7 | 5.0 |
| Isopropylbenzene | 0.19 | U | 0.19 | 1.0 |
| 4-Isopropyltoluene | 0.20 | U | 0.20 | 1.0 |
| Methylene Chloride | 0.32 | U | 0.32 | 1.0 |
| 4-Methyl-2-pentanone | 0.98 | U | 0.98 | 5.0 |
| Naphthalene | 0.22 | U | 0.22 | 1.0 |
| n-Propylbenzene | 0.16 | U | 0.16 | 1.0 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M069

Lab Sample ID: 280-59970-9

Date Sampled: 09/11/2014 1425

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4489.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/20/2014 0031 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/20/2014 0031 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---------------------------|---------------|-----------|------|-----|
| Styrene | 0.17 | U | 0.17 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| Tetrachloroethene | 0.20 | U | 0.20 | 1.0 |
| Toluene | 0.17 | U | 0.17 | 1.0 |
| 1,2,3-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,1,1-Trichloroethane | 0.16 | U | 0.16 | 1.0 |
| 1,1,2-Trichloroethane | 0.27 | U | 0.27 | 1.0 |
| Trichloroethene | 0.16 | U | 0.16 | 1.0 |
| Trichlorofluoromethane | 0.29 | U | 0.29 | 1.0 |
| 1,2,3-Trichloropropane | 0.33 | U | 0.33 | 1.0 |
| 1,2,4-Trimethylbenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3,5-Trimethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Vinyl chloride | 12 | | 0.10 | 1.0 |
| Xylenes, Total | 0.19 | U | 0.19 | 1.0 |
| 1,2-Dibromoethane | 0.18 | U | 0.18 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|------------------------------|------|-----------|-------------------|
| 1,2-Dichloroethane-d4 (Surr) | 111 | | 70 - 127 |
| Toluene-d8 (Surr) | 104 | | 80 - 125 |
| 4-Bromofluorobenzene (Surr) | 103 | | 78 - 120 |
| Dibromofluoromethane (Surr) | 104 | | 77 - 120 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M18D

Lab Sample ID: 280-59970-10

Date Sampled: 09/11/2014 1030

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4490.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/20/2014 0052 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/20/2014 0052 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|-----------------------------|---------------|-----------|------|-----|
| Acetone | 24 | | 1.9 | 10 |
| Benzene | 0.16 | U | 0.16 | 1.0 |
| Bromobenzene | 0.17 | U | 0.17 | 1.0 |
| Bromochloromethane | 0.10 | U | 0.10 | 1.0 |
| Bromodichloromethane | 0.17 | U | 0.17 | 1.0 |
| Bromoform | 0.19 | U | 0.19 | 1.0 |
| Bromomethane | 0.21 | U | 0.21 | 1.0 |
| 2-Butanone (MEK) | 2.0 | U | 2.0 | 5.0 |
| n-Butylbenzene | 0.32 | U | 0.32 | 1.0 |
| sec-Butylbenzene | 0.17 | U | 0.17 | 1.0 |
| tert-Butylbenzene | 0.16 | U | 0.16 | 1.0 |
| Carbon disulfide | 0.45 | U | 0.45 | 1.0 |
| Carbon tetrachloride | 0.19 | U | 0.19 | 1.0 |
| Chlorobenzene | 0.17 | U | 0.17 | 1.0 |
| Dibromochloromethane | 0.17 | U | 0.17 | 1.0 |
| Chloroethane | 0.41 | U | 0.41 | 1.0 |
| Chloroform | 0.16 | U | 0.16 | 1.0 |
| Chloromethane | 0.30 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 0.17 | U | 0.17 | 1.0 |
| 4-Chlorotoluene | 0.21 | U | 0.21 | 1.0 |
| 1,2-Dibromo-3-Chloropropane | 0.47 | U | 0.47 | 1.0 |
| Dibromomethane | 0.17 | U | 0.17 | 1.0 |
| 1,2-Dichlorobenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3-Dichlorobenzene | 0.13 | U | 0.13 | 1.0 |
| 1,4-Dichlorobenzene | 0.16 | U | 0.16 | 1.0 |
| Dichlorodifluoromethane | 0.31 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.22 | U | 0.22 | 1.0 |
| 1,2-Dichloroethane | 0.13 | U | 0.13 | 1.0 |
| cis-1,2-Dichloroethene | 3.3 | | 0.15 | 1.0 |
| trans-1,2-Dichloroethene | 0.36 | J | 0.15 | 1.0 |
| 1,1-Dichloroethene | 0.23 | U | 0.23 | 1.0 |
| 1,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 0.22 | U | 0.22 | 1.0 |
| 2,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| cis-1,3-Dichloropropene | 0.16 | U | 0.16 | 1.0 |
| trans-1,3-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| 1,1-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| Ethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Hexachlorobutadiene | 0.36 | U | 0.36 | 1.0 |
| 2-Hexanone | 1.7 | U | 1.7 | 5.0 |
| Isopropylbenzene | 0.19 | U | 0.19 | 1.0 |
| 4-Isopropyltoluene | 0.20 | U | 0.20 | 1.0 |
| Methylene Chloride | 0.32 | U | 0.32 | 1.0 |
| 4-Methyl-2-pentanone | 0.98 | U | 0.98 | 5.0 |
| Naphthalene | 0.22 | U | 0.22 | 1.0 |
| n-Propylbenzene | 0.16 | U | 0.16 | 1.0 |

Analytical Data

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Client Sample ID: PIN20-M18D

Lab Sample ID: 280-59970-10

Date Sampled: 09/11/2014 1030

Client Matrix: Water

Date Received: 09/13/2014 0925

8260B Volatile Organic Compounds (GC/MS)

| | | | | | |
|------------------|-----------------|-----------------|------------|------------------------|---------|
| Analysis Method: | 8260B | Analysis Batch: | 280-244138 | Instrument ID: | VMS_H |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | H4490.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 20 mL |
| Analysis Date: | 09/20/2014 0052 | | | Final Weight/Volume: | 20 mL |
| Prep Date: | 09/20/2014 0052 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---------------------------|---------------|-----------|------|-----|
| Styrene | 0.17 | U | 0.17 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| Tetrachloroethene | 0.20 | U | 0.20 | 1.0 |
| Toluene | 1.2 | | 0.17 | 1.0 |
| 1,2,3-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,1,1-Trichloroethane | 0.16 | U | 0.16 | 1.0 |
| 1,1,2-Trichloroethane | 0.27 | U | 0.27 | 1.0 |
| Trichloroethene | 0.16 | U | 0.16 | 1.0 |
| Trichlorofluoromethane | 0.29 | U | 0.29 | 1.0 |
| 1,2,3-Trichloropropane | 0.33 | U | 0.33 | 1.0 |
| 1,2,4-Trimethylbenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3,5-Trimethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Vinyl chloride | 0.10 | U | 0.10 | 1.0 |
| Xylenes, Total | 0.19 | U | 0.19 | 1.0 |
| 1,2-Dibromoethane | 0.18 | U | 0.18 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|------------------------------|------|-----------|-------------------|
| 1,2-Dichloroethane-d4 (Surr) | 112 | | 70 - 127 |
| Toluene-d8 (Surr) | 100 | | 80 - 125 |
| 4-Bromofluorobenzene (Surr) | 99 | | 78 - 120 |
| Dibromofluoromethane (Surr) | 103 | | 77 - 120 |

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

| Lab Sample ID | Client Sample ID | DBFM %Rec | DCA %Rec | TOL %Rec | BFB %Rec |
|------------------|------------------|--------------|-------------|-------------|-------------|
| 280-59970-1 | PIN20-2456 | 104 | 104 | 105 | 101 |
| 280-59970-2 | PIN99-2522 | 104 | 104 | 107 | 102 |
| 280-59970-3 | PIN20-M053 | 106 | 110 | 95 | 96 |
| 280-59970-4 | PIN20-M056 | 101 | 107 | 100 | 99 |
| 280-59970-5 | PIN20-M057 | 101 | 106 | 99 | 98 |
| 280-59970-6 | PIN20-M058 | 106 | 115 | 104 | 99 |
| 280-59970-7 | PIN20-M059 | 105 | 111 | 99 | 99 |
| 280-59970-8 | PIN20-M068 | 104 | 108 | 99 | 102 |
| 280-59970-9 | PIN20-M069 | 104 | 111 | 104 | 103 |
| 280-59970-10 | PIN20-M18D | 103 | 112 | 100 | 99 |
| MB 280-244138/6 | | 104 | 108 | 105 | 101 |
| LCS 280-244138/4 | | 103 | 114 | 111 | 95 |
| 280-59970-1 MS | PIN20-2456 MS | 103 | 113 | 104 | 94 |
| 280-59970-1 MSD | PIN20-2456 MSD | 104 | 94 | 106 | 93 |

| Surrogate | Acceptance Limits |
|------------------------------------|-------------------|
| DBFM = Dibromofluoromethane (Surr) | 77-120 |
| DCA = 1,2-Dichloroethane-d4 (Surr) | 70-127 |
| TOL = Toluene-d8 (Surr) | 80-125 |
| BFB = 4-Bromofluorobenzene (Surr) | 78-120 |

Quality Control Results

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Method Blank - Batch: 280-244138

Method: 8260B

Preparation: 5030B

Lab Sample ID: MB 280-244138/6
 Client Matrix: Water
 Dilution: 1.0
 Analysis Date: 09/19/2014 2006
 Prep Date: 09/19/2014 2006
 Leach Date: N/A

Analysis Batch: 280-244138
 Prep Batch: N/A
 Leach Batch: N/A
 Units: ug/L

Instrument ID: VMS_H
 Lab File ID: H4477.D
 Initial Weight/Volume: 20 mL
 Final Weight/Volume: 20 mL

| Analyte | Result | Qual | MDL | RL |
|-----------------------------|--------|------|------|-----|
| Acetone | 1.9 | U | 1.9 | 10 |
| Benzene | 0.16 | U | 0.16 | 1.0 |
| Bromobenzene | 0.17 | U | 0.17 | 1.0 |
| Bromochloromethane | 0.10 | U | 0.10 | 1.0 |
| Bromodichloromethane | 0.17 | U | 0.17 | 1.0 |
| Bromoform | 0.19 | U | 0.19 | 1.0 |
| Bromomethane | 0.21 | U | 0.21 | 1.0 |
| 2-Butanone (MEK) | 2.0 | U | 2.0 | 5.0 |
| n-Butylbenzene | 0.32 | U | 0.32 | 1.0 |
| sec-Butylbenzene | 0.17 | U | 0.17 | 1.0 |
| tert-Butylbenzene | 0.16 | U | 0.16 | 1.0 |
| Carbon disulfide | 0.45 | U | 0.45 | 1.0 |
| Carbon tetrachloride | 0.19 | U | 0.19 | 1.0 |
| Chlorobenzene | 0.17 | U | 0.17 | 1.0 |
| Dibromochloromethane | 0.17 | U | 0.17 | 1.0 |
| Chloroethane | 0.41 | U | 0.41 | 1.0 |
| Chloroform | 0.16 | U | 0.16 | 1.0 |
| Chloromethane | 0.30 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 0.17 | U | 0.17 | 1.0 |
| 4-Chlorotoluene | 0.21 | U | 0.21 | 1.0 |
| 1,2-Dibromo-3-Chloropropane | 0.47 | U | 0.47 | 1.0 |
| Dibromomethane | 0.17 | U | 0.17 | 1.0 |
| 1,2-Dichlorobenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3-Dichlorobenzene | 0.13 | U | 0.13 | 1.0 |
| 1,4-Dichlorobenzene | 0.16 | U | 0.16 | 1.0 |
| Dichlorodifluoromethane | 0.31 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.22 | U | 0.22 | 1.0 |
| 1,2-Dichloroethane | 0.13 | U | 0.13 | 1.0 |
| cis-1,2-Dichloroethene | 0.15 | U | 0.15 | 1.0 |
| trans-1,2-Dichloroethene | 0.15 | U | 0.15 | 1.0 |
| 1,1-Dichloroethene | 0.23 | U | 0.23 | 1.0 |
| 1,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 0.22 | U | 0.22 | 1.0 |
| 2,2-Dichloropropane | 0.18 | U | 0.18 | 1.0 |
| cis-1,3-Dichloropropene | 0.16 | U | 0.16 | 1.0 |
| trans-1,3-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| 1,1-Dichloropropene | 0.19 | U | 0.19 | 1.0 |
| Ethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Hexachlorobutadiene | 0.36 | U | 0.36 | 1.0 |
| 2-Hexanone | 1.7 | U | 1.7 | 5.0 |
| Isopropylbenzene | 0.19 | U | 0.19 | 1.0 |
| 4-Isopropyltoluene | 0.20 | U | 0.20 | 1.0 |
| Methylene Chloride | 0.32 | U | 0.32 | 1.0 |
| 4-Methyl-2-pentanone | 0.98 | U | 0.98 | 5.0 |
| Naphthalene | 0.22 | U | 0.22 | 1.0 |

Quality Control Results

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Method Blank - Batch: 280-244138

Method: 8260B

Preparation: 5030B

Lab Sample ID: MB 280-244138/6
 Client Matrix: Water
 Dilution: 1.0
 Analysis Date: 09/19/2014 2006
 Prep Date: 09/19/2014 2006
 Leach Date: N/A

Analysis Batch: 280-244138
 Prep Batch: N/A
 Leach Batch: N/A
 Units: ug/L

Instrument ID: VMS_H
 Lab File ID: H4477.D
 Initial Weight/Volume: 20 mL
 Final Weight/Volume: 20 mL

| Analyte | Result | Qual | MDL | RL |
|---------------------------|--------|------|------|-----|
| n-Propylbenzene | 0.16 | U | 0.16 | 1.0 |
| Styrene | 0.17 | U | 0.17 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 0.21 | U | 0.21 | 1.0 |
| Tetrachloroethene | 0.20 | U | 0.20 | 1.0 |
| Toluene | 0.17 | U | 0.17 | 1.0 |
| 1,2,3-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.21 | U | 0.21 | 1.0 |
| 1,1,1-Trichloroethane | 0.16 | U | 0.16 | 1.0 |
| 1,1,2-Trichloroethane | 0.27 | U | 0.27 | 1.0 |
| Trichloroethene | 0.16 | U | 0.16 | 1.0 |
| Trichlorofluoromethane | 0.29 | U | 0.29 | 1.0 |
| 1,2,3-Trichloropropane | 0.33 | U | 0.33 | 1.0 |
| 1,2,4-Trimethylbenzene | 0.15 | U | 0.15 | 1.0 |
| 1,3,5-Trimethylbenzene | 0.16 | U | 0.16 | 1.0 |
| Vinyl chloride | 0.10 | U | 0.10 | 1.0 |
| Xylenes, Total | 0.19 | U | 0.19 | 1.0 |
| 1,2-Dibromoethane | 0.18 | U | 0.18 | 1.0 |

| Surrogate | % Rec | Acceptance Limits |
|------------------------------|-------|-------------------|
| 1,2-Dichloroethane-d4 (Surr) | 108 | 70 - 127 |
| Toluene-d8 (Surr) | 105 | 80 - 125 |
| 4-Bromofluorobenzene (Surr) | 101 | 78 - 120 |
| Dibromofluoromethane (Surr) | 104 | 77 - 120 |

Quality Control Results

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

Lab Control Sample - Batch: 280-244138

Method: 8260B

Preparation: 5030B

| | | |
|---------------------------------|----------------------------|------------------------------|
| Lab Sample ID: LCS 280-244138/4 | Analysis Batch: 280-244138 | Instrument ID: VMS_H |
| Client Matrix: Water | Prep Batch: N/A | Lab File ID: H4476.D |
| Dilution: 1.0 | Leach Batch: N/A | Initial Weight/Volume: 20 mL |
| Analysis Date: 09/19/2014 1945 | Units: ug/L | Final Weight/Volume: 20 mL |
| Prep Date: 09/19/2014 1945 | | |
| Leach Date: N/A | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|------------------------------|--------------|--------|--------|-------------------|------|
| Benzene | 5.00 | 5.09 | 102 | 74 - 135 | |
| Bromodichloromethane | 5.00 | 5.23 | 105 | 73 - 135 | |
| Carbon tetrachloride | 5.00 | 5.96 | 119 | 67 - 135 | |
| Chlorobenzene | 5.00 | 5.10 | 102 | 76 - 135 | |
| Chloroform | 5.00 | 5.58 | 112 | 76 - 120 | |
| 1,3-Dichlorobenzene | 5.00 | 4.99 | 100 | 74 - 135 | |
| 1,1-Dichloroethane | 5.00 | 5.01 | 100 | 75 - 135 | |
| trans-1,2-Dichloroethene | 5.00 | 5.05 | 101 | 75 - 135 | |
| 1,1-Dichloroethene | 5.00 | 4.93 | 99 | 71 - 136 | |
| 1,2-Dichloropropane | 5.00 | 4.87 | 97 | 71 - 120 | |
| Ethylbenzene | 5.00 | 5.21 | 104 | 72 - 120 | |
| Methylene Chloride | 5.00 | 5.01 | 100 | 54 - 141 | |
| Tetrachloroethene | 5.00 | 5.45 | 109 | 70 - 135 | |
| Toluene | 5.00 | 5.10 | 102 | 73 - 120 | |
| 1,1,1-Trichloroethane | 5.00 | 5.70 | 114 | 70 - 135 | |
| Trichloroethene | 5.00 | 5.36 | 107 | 73 - 135 | |
| Surrogate | | % Rec | | Acceptance Limits | |
| 1,2-Dichloroethane-d4 (Surr) | | 114 | | 70 - 127 | |
| Toluene-d8 (Surr) | | 111 | | 80 - 125 | |
| 4-Bromofluorobenzene (Surr) | | 95 | | 78 - 120 | |
| Dibromofluoromethane (Surr) | | 103 | | 77 - 120 | |

Quality Control Results

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-244138**

**Method: 8260B
Preparation: 5030B**

| | | |
|--------------------------------|----------------------------|------------------------------|
| MS Lab Sample ID: 280-59970-1 | Analysis Batch: 280-244138 | Instrument ID: VMS_H |
| Client Matrix: Water | Prep Batch: N/A | Lab File ID: H4482.D |
| Dilution: 1.0 | Leach Batch: N/A | Initial Weight/Volume: 20 mL |
| Analysis Date: 09/19/2014 2200 | | Final Weight/Volume: 20 mL |
| Prep Date: 09/19/2014 2200 | | 20 mL |
| Leach Date: N/A | | |

| | | |
|--------------------------------|----------------------------|------------------------------|
| MSD Lab Sample ID: 280-59970-1 | Analysis Batch: 280-244138 | Instrument ID: VMS_H |
| Client Matrix: Water | Prep Batch: N/A | Lab File ID: H4483.D |
| Dilution: 1.0 | Leach Batch: N/A | Initial Weight/Volume: 20 mL |
| Analysis Date: 09/19/2014 2222 | | Final Weight/Volume: 20 mL |
| Prep Date: 09/19/2014 2222 | | 20 mL |
| Leach Date: N/A | | |

| Analyte | % Rec. | | Limit | RPD | RPD Limit | MS Qual | MSD Qual |
|------------------------------|--------|----------|-----------|-----|-----------|-------------------|----------|
| | MS | MSD | | | | | |
| Benzene | 101 | 100 | 74 - 135 | 1 | 20 | | |
| Bromodichloromethane | 104 | 105 | 73 - 135 | 1 | 20 | | |
| Carbon tetrachloride | 116 | 119 | 67 - 135 | 3 | 21 | | |
| Chlorobenzene | 101 | 99 | 76 - 135 | 2 | 20 | | |
| Chloroform | 111 | 111 | 76 - 120 | 0 | 20 | | |
| 1,3-Dichlorobenzene | 93 | 106 | 74 - 135 | 13 | 20 | | |
| 1,1-Dichloroethane | 101 | 99 | 75 - 135 | 2 | 21 | | |
| trans-1,2-Dichloroethene | 100 | 98 | 75 - 135 | 1 | 24 | | |
| 1,1-Dichloroethene | 97 | 96 | 71 - 136 | 1 | 20 | | |
| 1,2-Dichloropropane | 98 | 94 | 71 - 120 | 5 | 20 | | |
| Ethylbenzene | 98 | 98 | 72 - 120 | 0 | 26 | | |
| Methylene Chloride | 101 | 91 | 54 - 141 | 11 | 20 | | |
| Tetrachloroethene | 102 | 103 | 70 - 135 | 1 | 20 | | |
| Toluene | 103 | 103 | 73 - 120 | 0 | 20 | | |
| 1,1,1-Trichloroethane | 114 | 113 | 70 - 135 | 0 | 20 | | |
| Trichloroethene | 106 | 107 | 73 - 135 | 1 | 20 | | |
| Surrogate | | MS % Rec | MSD % Rec | | | Acceptance Limits | |
| 1,2-Dichloroethane-d4 (Surr) | | 113 | 94 | | | 70 - 127 | |
| Toluene-d8 (Surr) | | 104 | 106 | | | 80 - 125 | |
| 4-Bromofluorobenzene (Surr) | | 94 | 93 | | | 78 - 120 | |
| Dibromofluoromethane (Surr) | | 103 | 104 | | | 77 - 120 | |

Quality Control Results

Client: S.M. Stoller Corporation

Job Number: 280-59970-1
Sdg Number: 14086436

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-244138**

**Method: 8260B
Preparation: 5030B**

MS Lab Sample ID: 280-59970-1 Units: ug/L
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/19/2014 2200
Prep Date: 09/19/2014 2200
Leach Date: N/A

MSD Lab Sample ID: 280-59970-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/19/2014 2222
Prep Date: 09/19/2014 2222
Leach Date: N/A

| Analyte | Sample Result/Qual | | MS Spike Amount | MSD Spike Amount | MS Result/Qual | MSD Result/Qual |
|--------------------------|--------------------|---|-----------------|------------------|----------------|-----------------|
| Benzene | 0.21 | J | 5.00 | 5.00 | 5.25 | 5.22 |
| Bromodichloromethane | 0.17 | U | 5.00 | 5.00 | 5.20 | 5.25 |
| Carbon tetrachloride | 0.19 | U | 5.00 | 5.00 | 5.80 | 5.97 |
| Chlorobenzene | 0.17 | U | 5.00 | 5.00 | 5.05 | 4.96 |
| Chloroform | 0.16 | U | 5.00 | 5.00 | 5.55 | 5.54 |
| 1,3-Dichlorobenzene | 0.13 | U | 5.00 | 5.00 | 4.66 | 5.31 |
| 1,1-Dichloroethane | 0.22 | U | 5.00 | 5.00 | 5.07 | 4.96 |
| trans-1,2-Dichloroethene | 0.56 | J | 5.00 | 5.00 | 5.55 | 5.48 |
| 1,1-Dichloroethene | 0.23 | U | 5.00 | 5.00 | 4.85 | 4.81 |
| 1,2-Dichloropropane | 0.18 | U | 5.00 | 5.00 | 4.91 | 4.69 |
| Ethylbenzene | 0.16 | U | 5.00 | 5.00 | 4.89 | 4.90 |
| Methylene Chloride | 0.32 | U | 5.00 | 5.00 | 5.05 | 4.55 |
| Tetrachloroethene | 0.20 | U | 5.00 | 5.00 | 5.09 | 5.13 |
| Toluene | 0.17 | U | 5.00 | 5.00 | 5.15 | 5.16 |
| 1,1,1-Trichloroethane | 0.16 | U | 5.00 | 5.00 | 5.69 | 5.67 |
| Trichloroethene | 0.16 | U | 5.00 | 5.00 | 5.28 | 5.34 |

Quality Control Results

Client: S.M. Stoller Corporation

Job Number: 280-59970-1

Sdg Number: 14086436

QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|----------------------------------|------------------------|--------------|---------------|--------|------------|
| GC/MS VOA | | | | | |
| Analysis Batch:280-244138 | | | | | |
| LCS 280-244138/4 | Lab Control Sample | T | Water | 8260B | |
| MB 280-244138/6 | Method Blank | T | Water | 8260B | |
| 280-59970-1 | PIN20-2456 | T | Water | 8260B | |
| 280-59970-1MS | Matrix Spike | T | Water | 8260B | |
| 280-59970-1MSD | Matrix Spike Duplicate | T | Water | 8260B | |
| 280-59970-2 | PIN99-2522 | T | Water | 8260B | |
| 280-59970-3 | PIN20-M053 | T | Water | 8260B | |
| 280-59970-4 | PIN20-M056 | T | Water | 8260B | |
| 280-59970-5 | PIN20-M057 | T | Water | 8260B | |
| 280-59970-6 | PIN20-M058 | T | Water | 8260B | |
| 280-59970-7 | PIN20-M059 | T | Water | 8260B | |
| 280-59970-8 | PIN20-M068 | T | Water | 8260B | |
| 280-59970-9 | PIN20-M069 | T | Water | 8260B | |
| 280-59970-10 | PIN20-M18D | T | Water | 8260B | |

Report Basis

T = Total