LMS/PIN/N02034

Pinellas County, Florida, Site Environmental Restoration Project

Semiannual Progress Report for the 4.5 Acre Site

June Through November 2015

December 2015

U.S. DEPARTMENT OF ENERGY | Legacy Management

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Abbreviations

cDCE	*cis*-1,2-dichloroethene
COPC	contaminant of potential concern
CTL	cleanup target level
DOE	U.S. Department of Energy
FAC	*Florida Administrative Code*
FDEP	Florida Department of Environmental Protection
IRA	Interim Remedial Action
LDA	large-diameter auger
µg/L	micrograms per liter
RPD	relative percent difference
STAR Center	Young - Rainey Science, Technology, and Research Center
TCE	trichloroethene
tDCE	*trans*-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.

The 4.5 Acre Site is located immediately 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 the 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 the 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. A total of 221 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 for Source Removal at the 4.5 Acre Site, Final Report* (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 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. Subsequently, DOE decided to continue monitoring the three wells with contaminant of potential concern (COPC) detections in the site interior. Current monitoring wells are listed in Table 1.

This document is the semiannual progress report for the 4.5 Acre Site for June through November 2015, 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 2015 period:

- Conducted semiannual sampling, which consisted of collecting groundwater samples for VOCs analysis from 11 monitoring wells on September 14, 2015, and measuring water levels in all sampled wells on September 14, 2015.
- 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 only in sampled monitoring wells at the 4.5 Acre Site on September 14, 2015. Typically, water levels would have been measured in all existing monitoring wells, but the site had a considerable amount of standing water on the day water levels were scheduled to be measured, so the decision was made to measure water levels in only sampled wells after the site had dried (4 days later).

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).

For the last several years at the 4.5 Acre Site, shallow groundwater has been interpreted to flow to the west-northwest with a component of flow to the southeast in the southern part of the site. In September 2015, only two shallow monitoring wells were measured, therefore no flow pattern can be interpreted. The contour lines shown on Figure 3 take into account additional data from the areas east and southeast of the 4.5 Acre Site. The flow patterns in the deep surficial aquifer (Figure 4) indicate radial flow from the center of the site, with flow to the west-southwest on the west side of the site.

2.2 Groundwater Sampling

Groundwater samples from the 11 monitoring wells were analyzed for VOCs in September 2015. 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 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.

A new FDEP-approved sampling technique (allowing water to pass through the pump head before sample collection), first implemented with the September 2014 sampling event, was used at all wells. All monitoring wells were micropurged using high-density polyethylene tubing or dedicated Teflon tubing in the well and a peristaltic pump at the surface, and sampling was performed when the field measurements stabilized.

Table 4 lists the September 2015 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. Field measurements were not possible 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 COPCs in samples collected from the 11 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 2015. The COPCs for the 4.5 Acre Site are TCE, cDCE, tDCE, VC, and benzene. Only VC exceeded its cleanup target level (CTL); a VC plume map is included as Figure 6. The laboratory report for samples collected in September 2015 is 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, trip blanks, and equipment blanks. Detected analytes for the duplicate sample collected from the 4.5 Acre Site in September 2015 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 1 duplicate for every 20 or fewer samples. During the September 2015 event, 11 samples were collected and 1 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 11 monitoring wells are shown as Figures 7–17. 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 2015, VC was the only COPC to exceed its CTL, with the maximum detected concentration at 49 micrograms per liter (µg/L) in well PIN20-M059.

In summary, the contaminant plume at the 4.5 Acre Site is stable or decreasing, as shown 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 2015 to May 2016 period, sampling of the 11 monitoring wells will be conducted in March.

5.0 References

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DOE (U.S. Department of Energy), 2008a. *4.5 Acre Site Source Removal Feasibility Study*, DOE-LM/1549-2008, Office of Legacy Management, Grand Junction, Colorado, April.

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DOE (U.S. Department of Energy), 2010. *Injection of Emulsified Soybean Oil at the Northeast Site and 4.5 Acre Site,* LMS/PIN/N01494, Office of Legacy Management, Grand Junction, Colorado, April.

DOE (U.S. Department of Energy), 2013. *4.5 Acre Interim Remedial Action Report*, LMS/PIN/N01828, Office of Legacy Management, Grand Junction, Colorado, September.

Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites, LMS/PRO/S04351, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

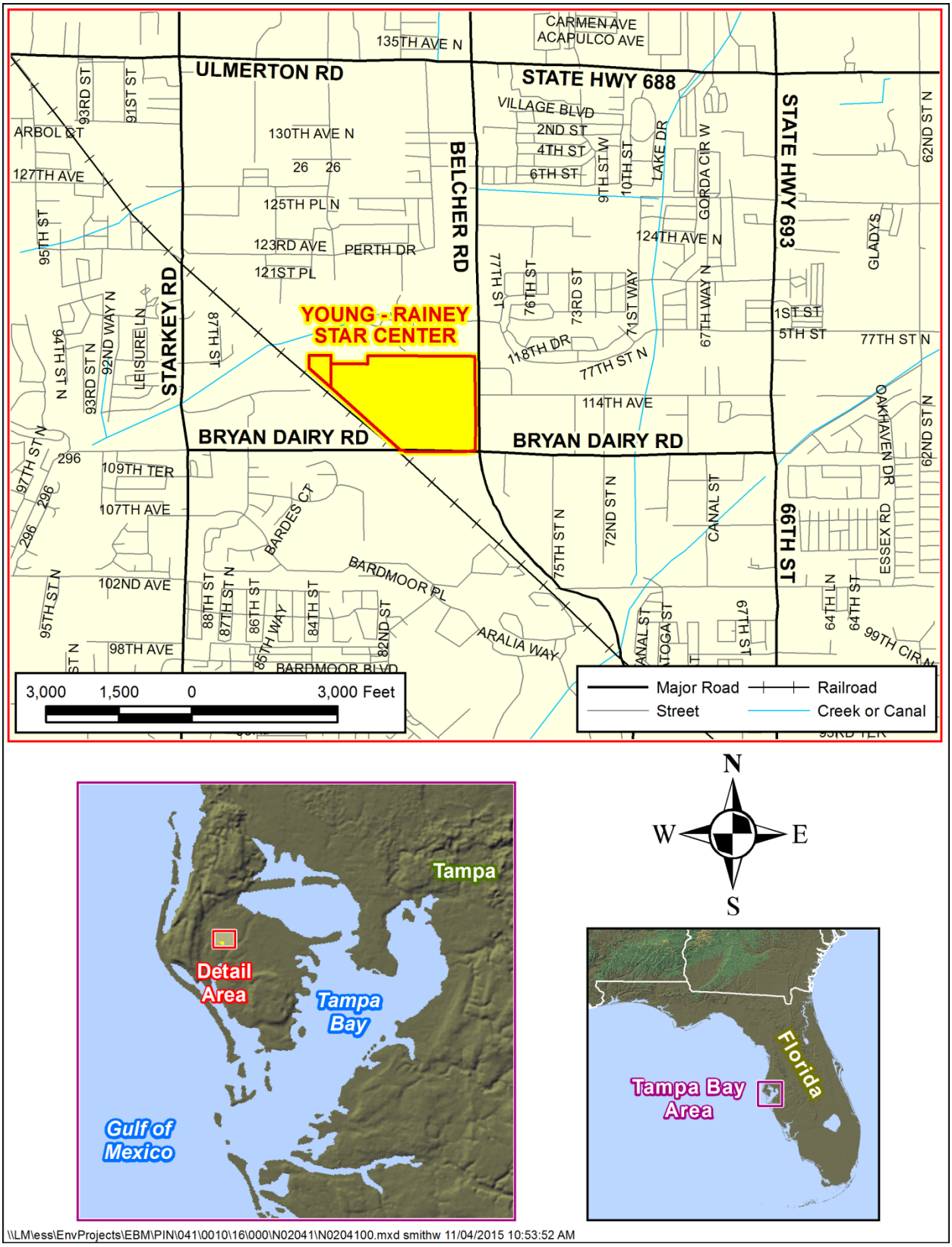

Figure 1. Young - Rainey STAR Center Location

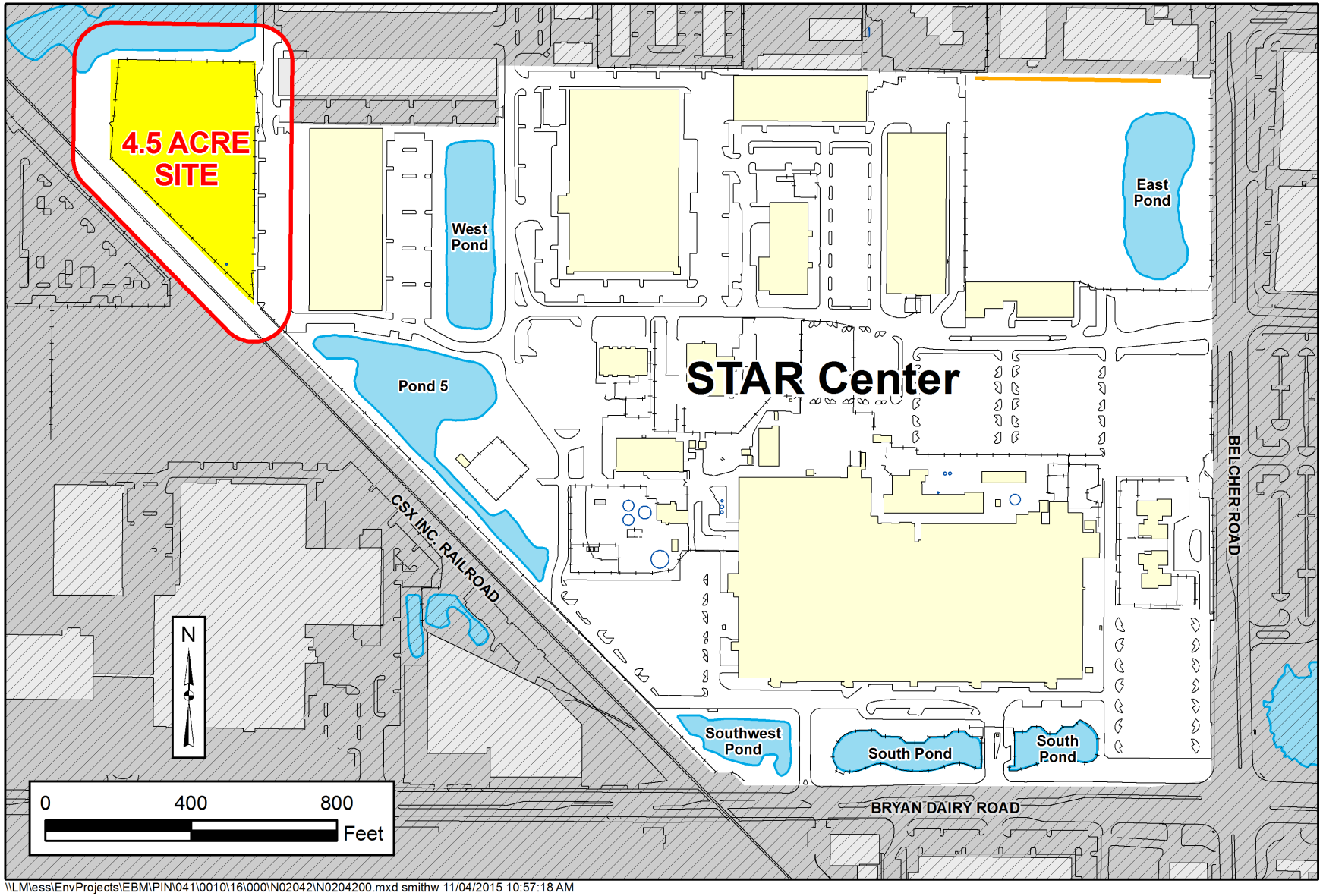

Figure 2. 4.5 Acre Site Location

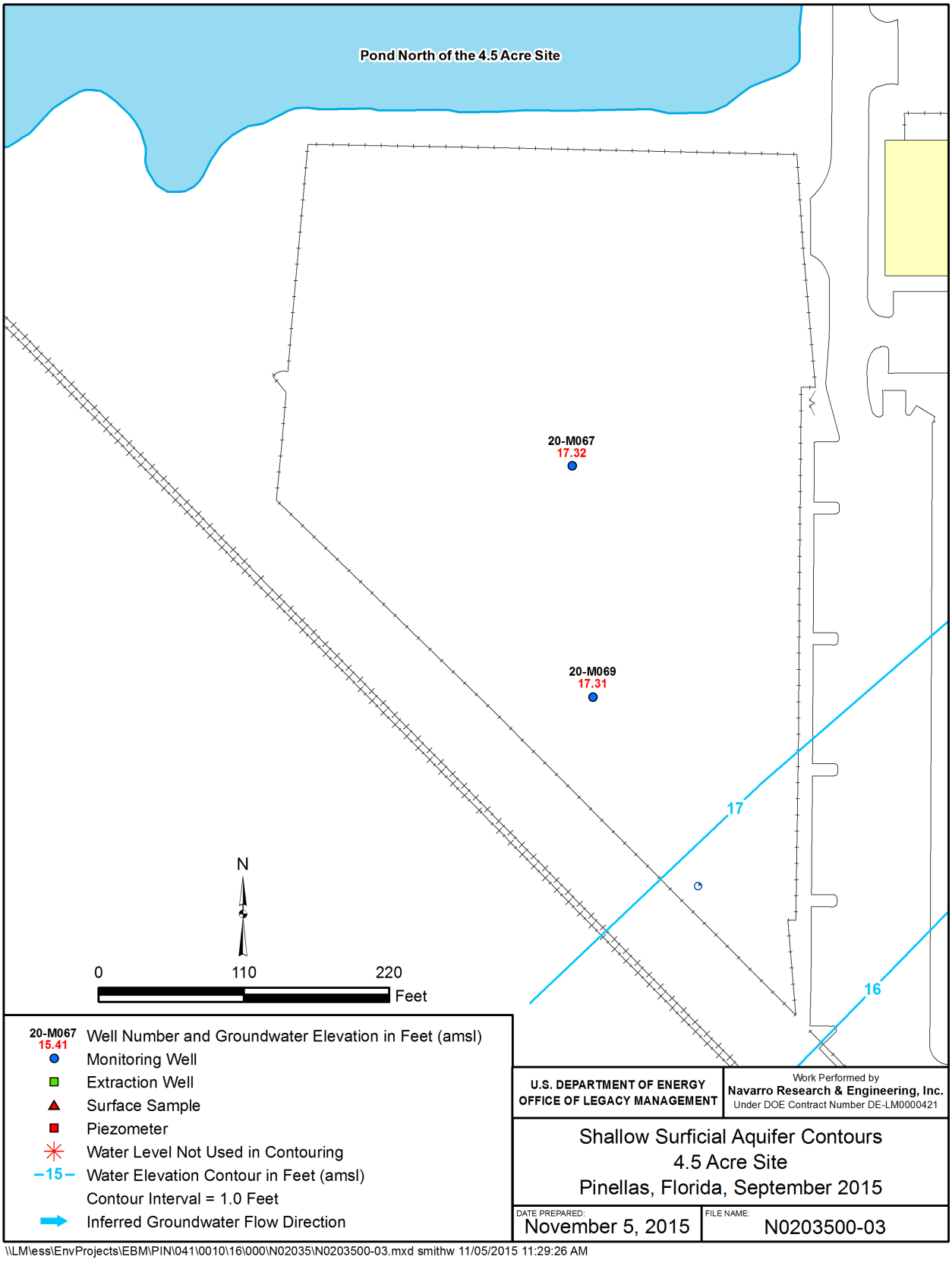

Figure 3. Shallow Surficial Aquifer Flow, September 2015

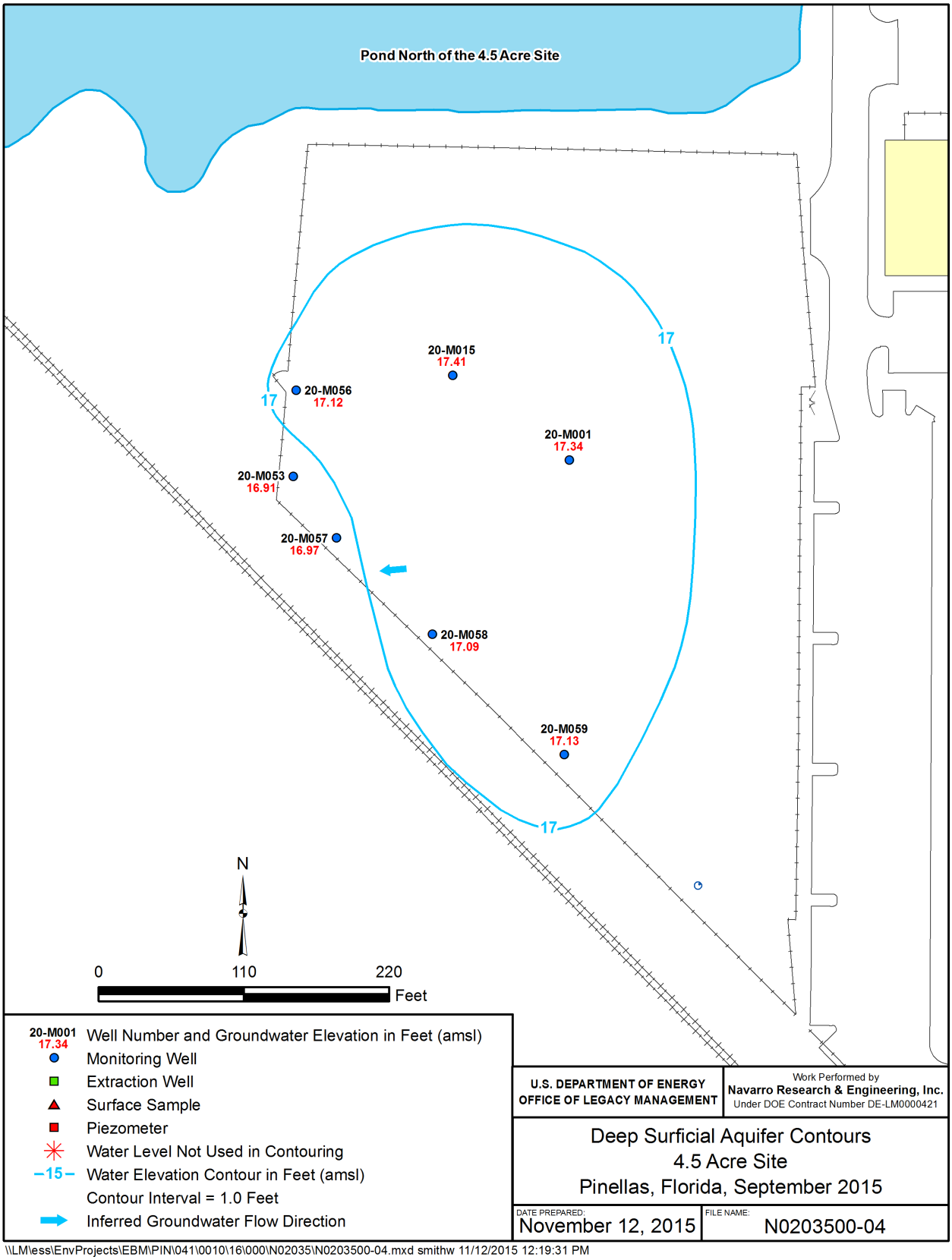

Figure 4. Deep Surficial Aquifer Flow, September 2015

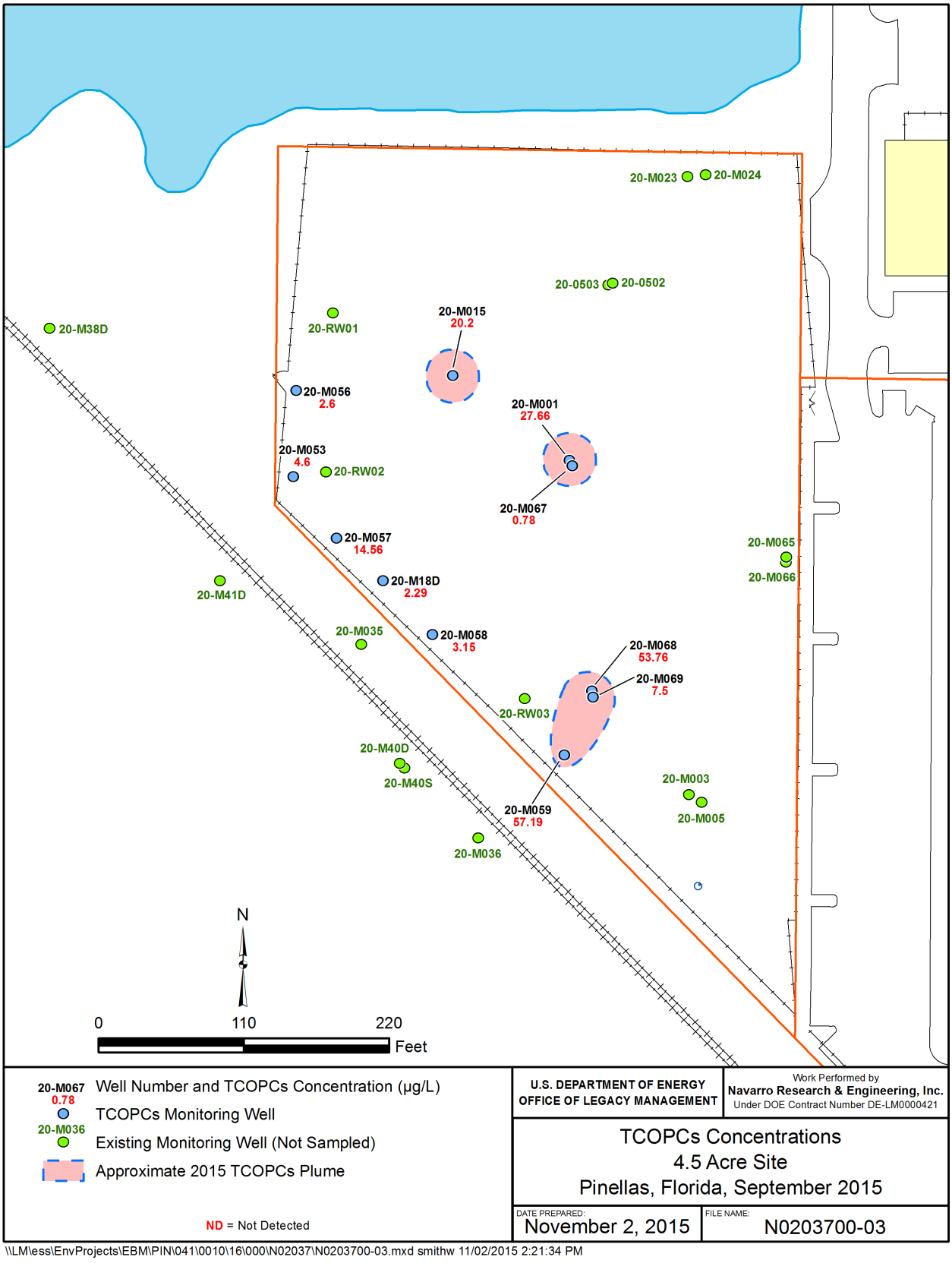

Figure 5. Total COPCs Concentrations, September 2015

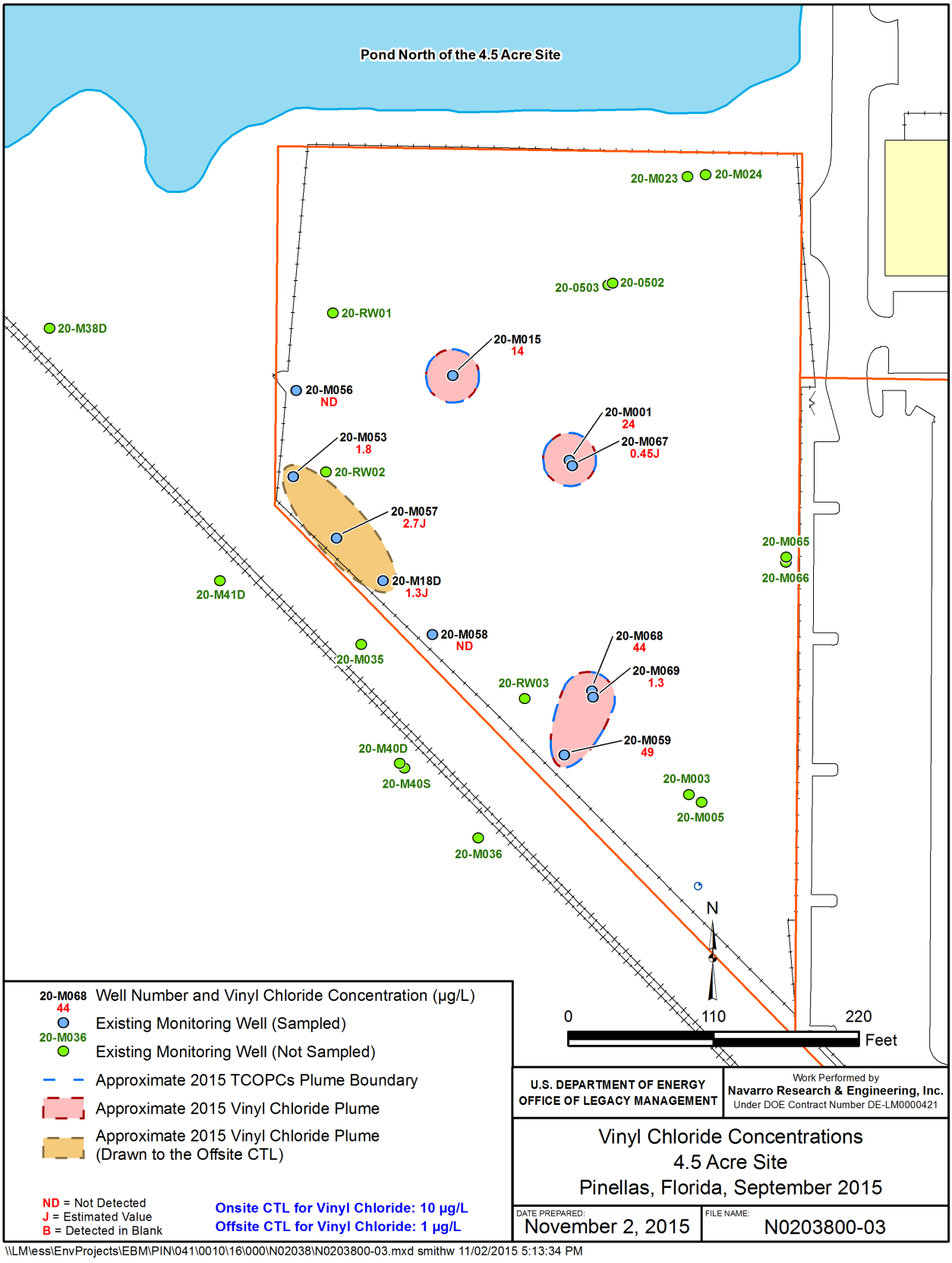

Figure 6. Vinyl Chloride Concentrations, September 2015

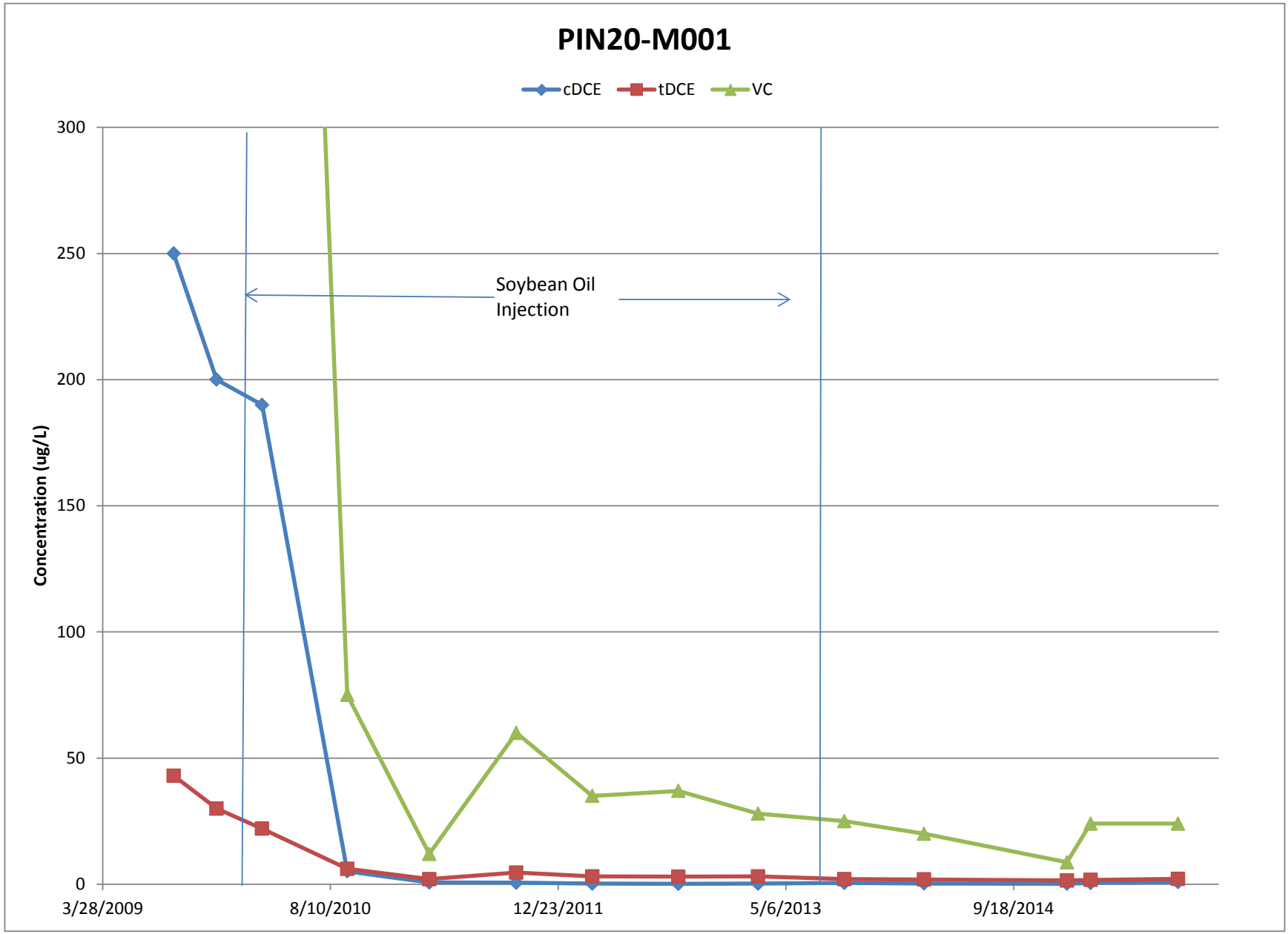

Figure 7. cDCE, tDCE, and VC in Well PIN20-M001, 2009–2015

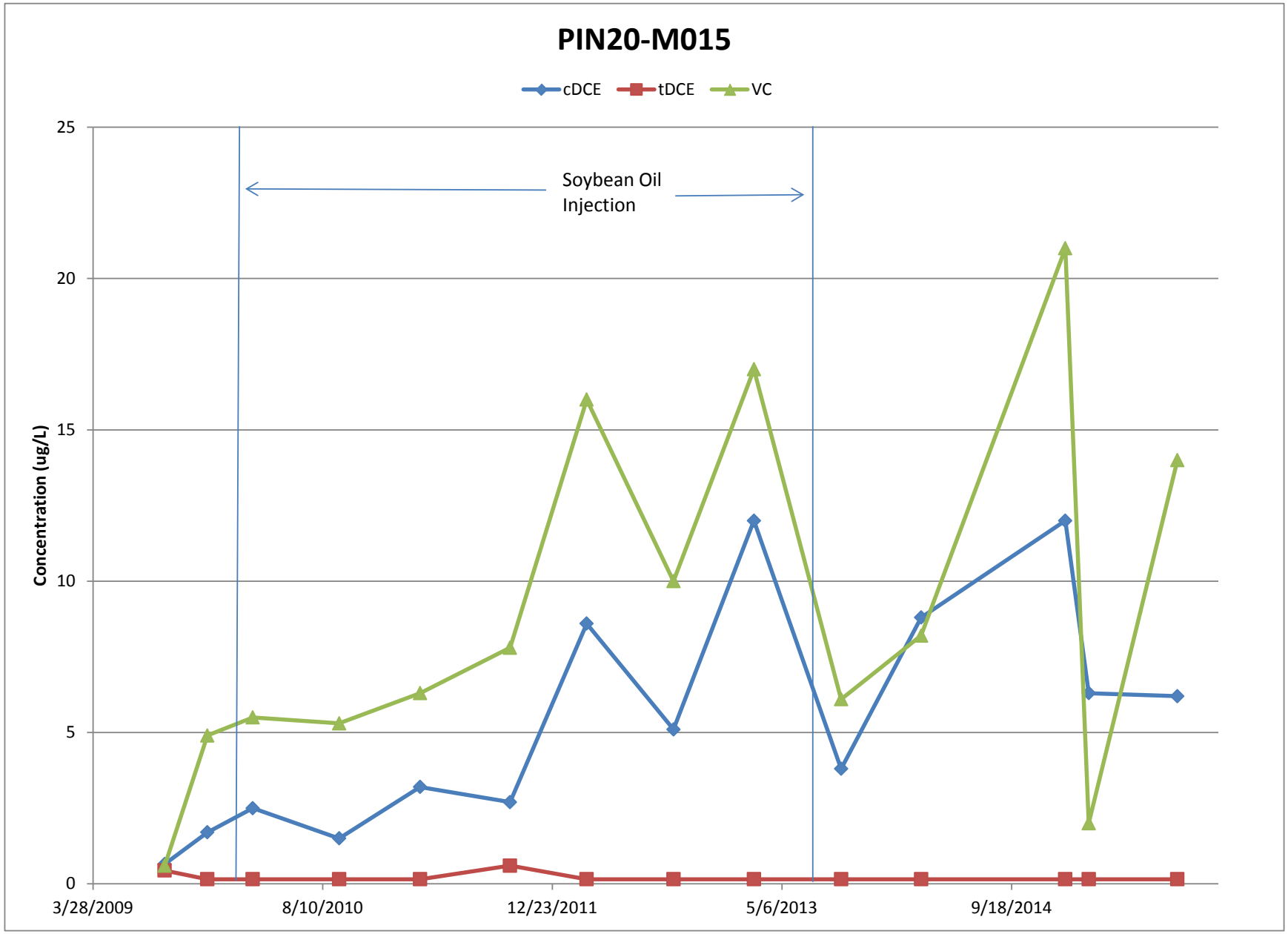

Figure 8. cDCE, tDCE, and VC in Well PIN20-M015, 2009–2015

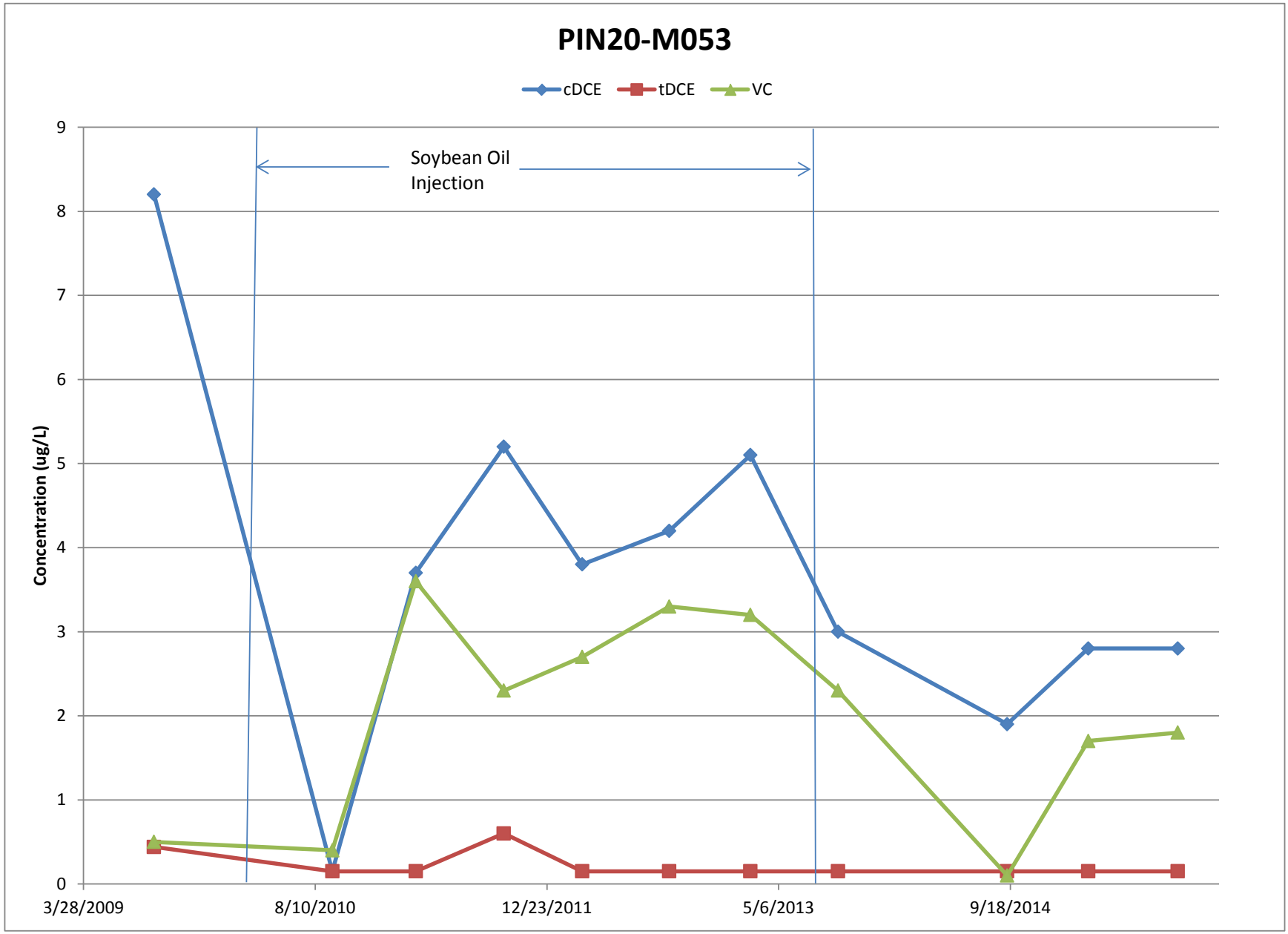

Figure 9. cDCE, tDCE, and VC in Well PIN20-M053, 2009–2015

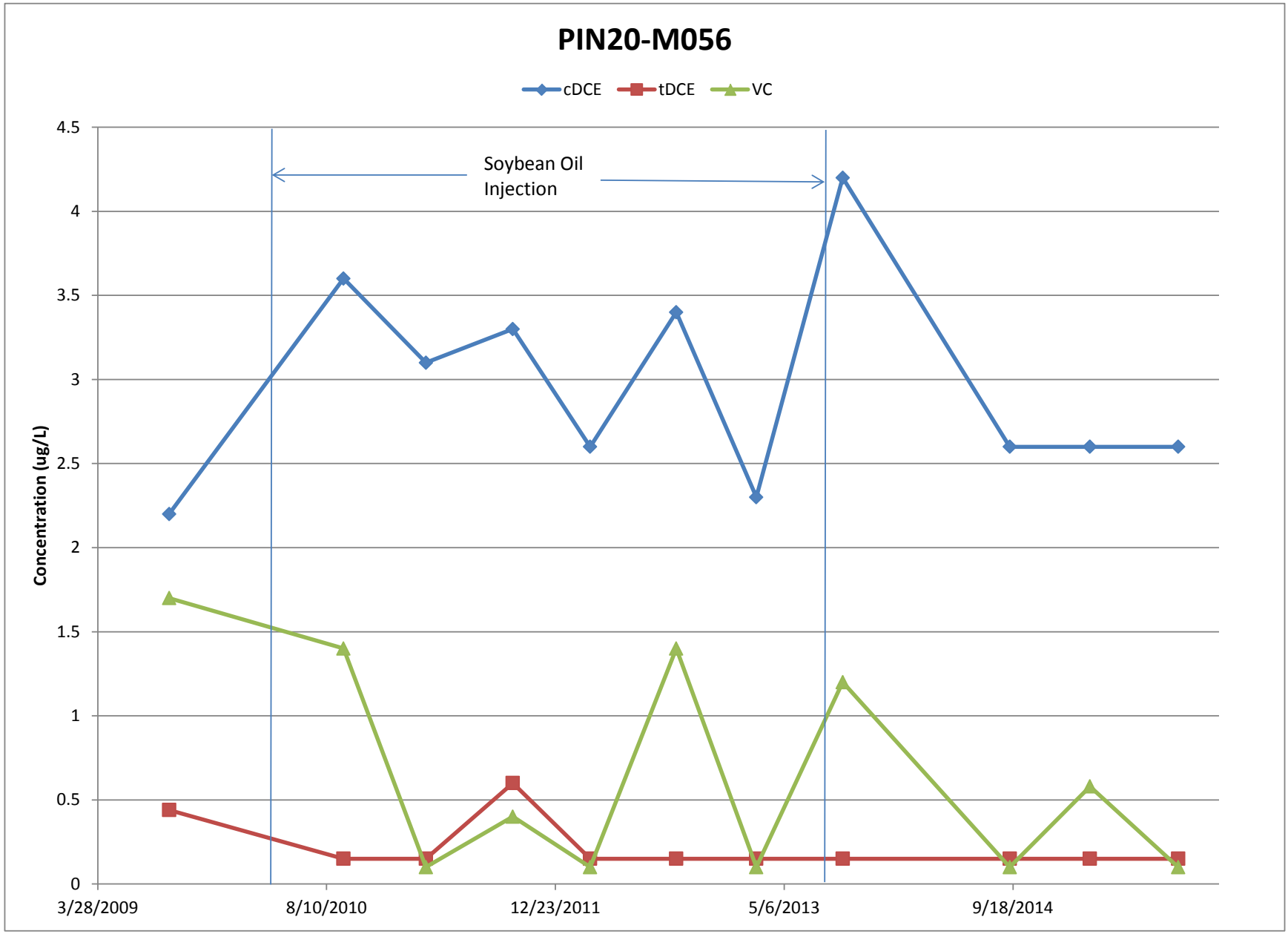

Figure 10. cDCE, tDCE, and VC in Well PIN20-M056, 2009–2015

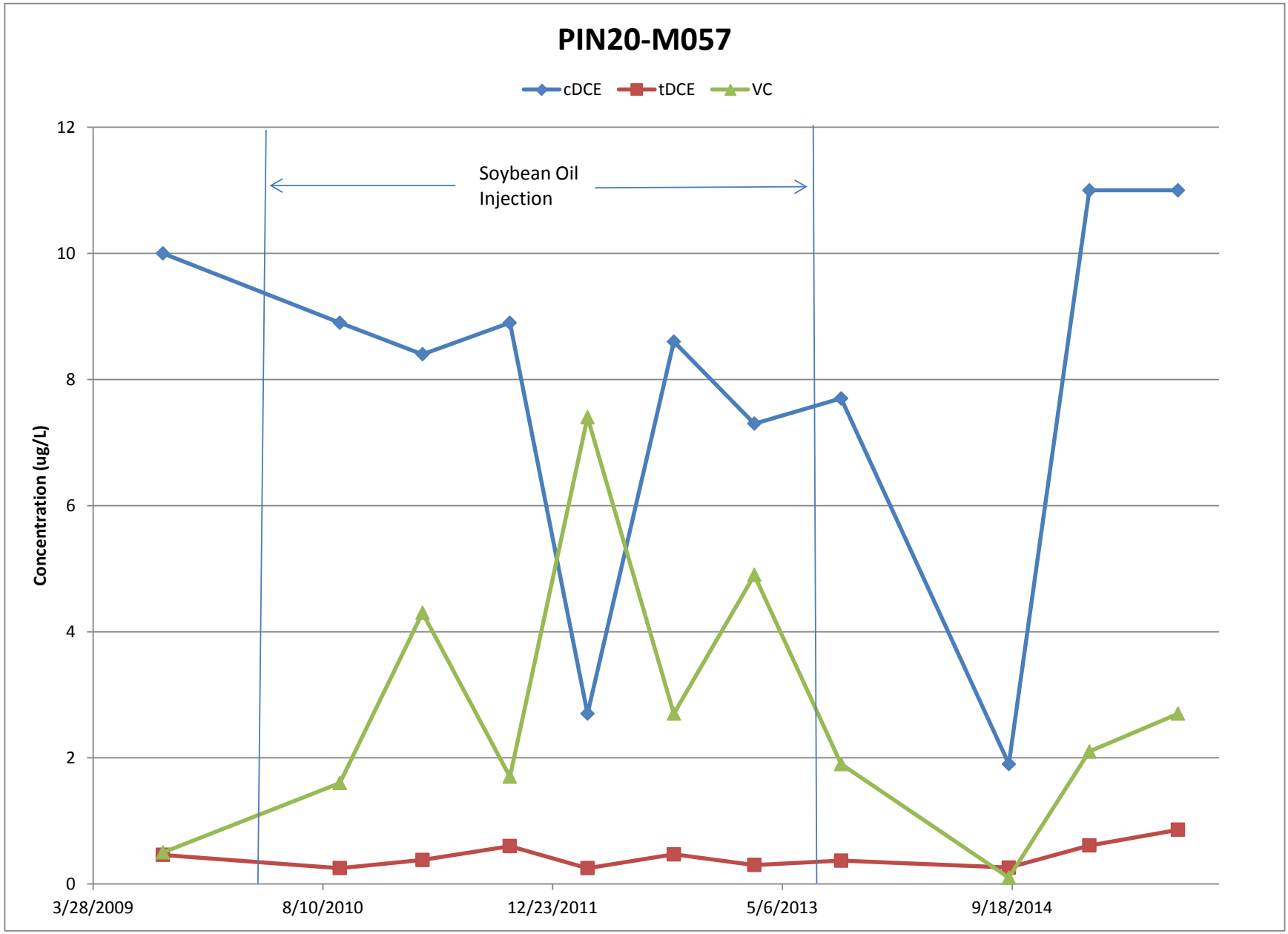

Figure 11. cDCE, tDCE, and VC in Well PIN20-M057, 2009–2015

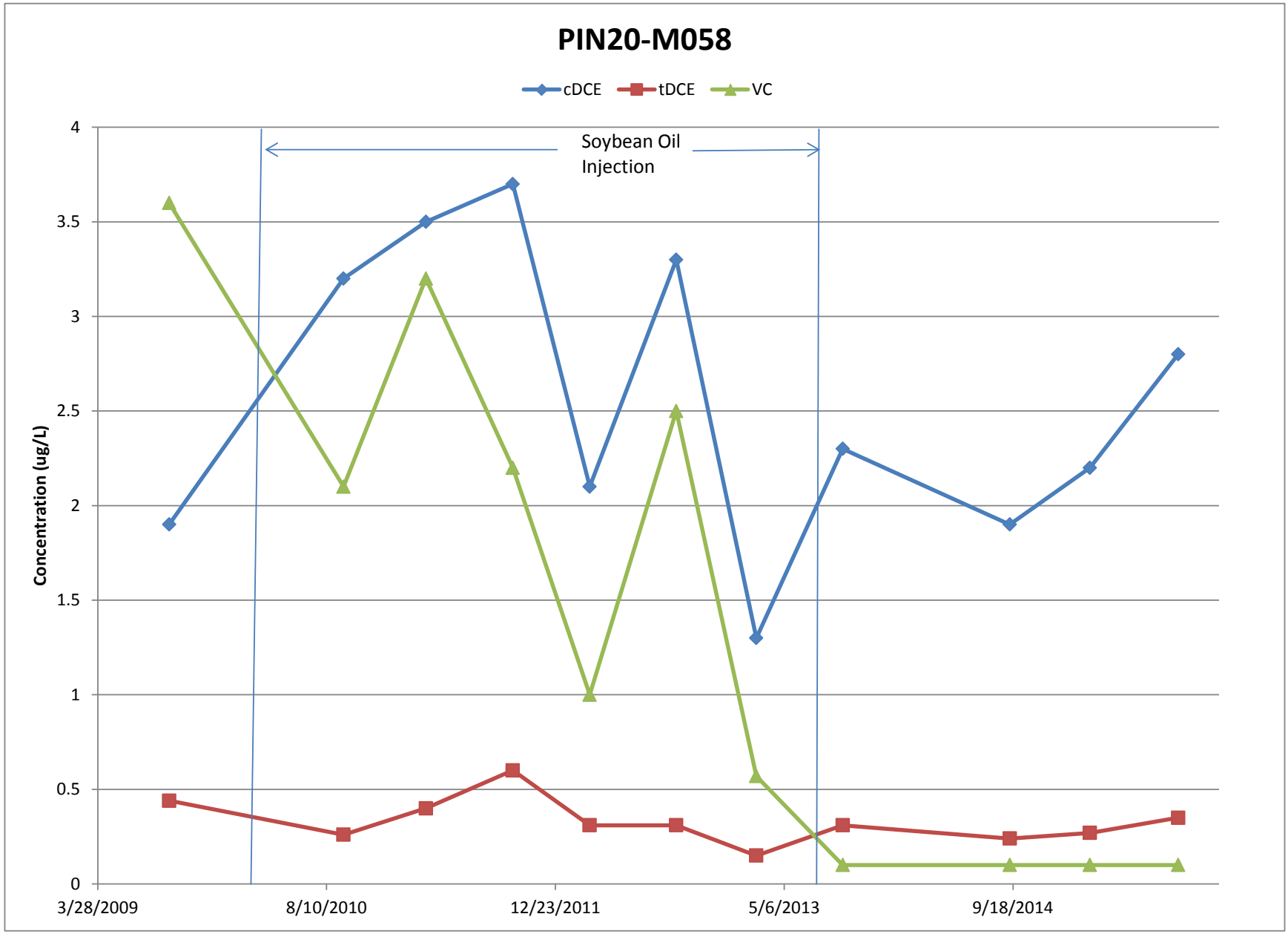

Figure 12. cDCE, tDCE, and VC in Well PIN20-M058, 2009–2015

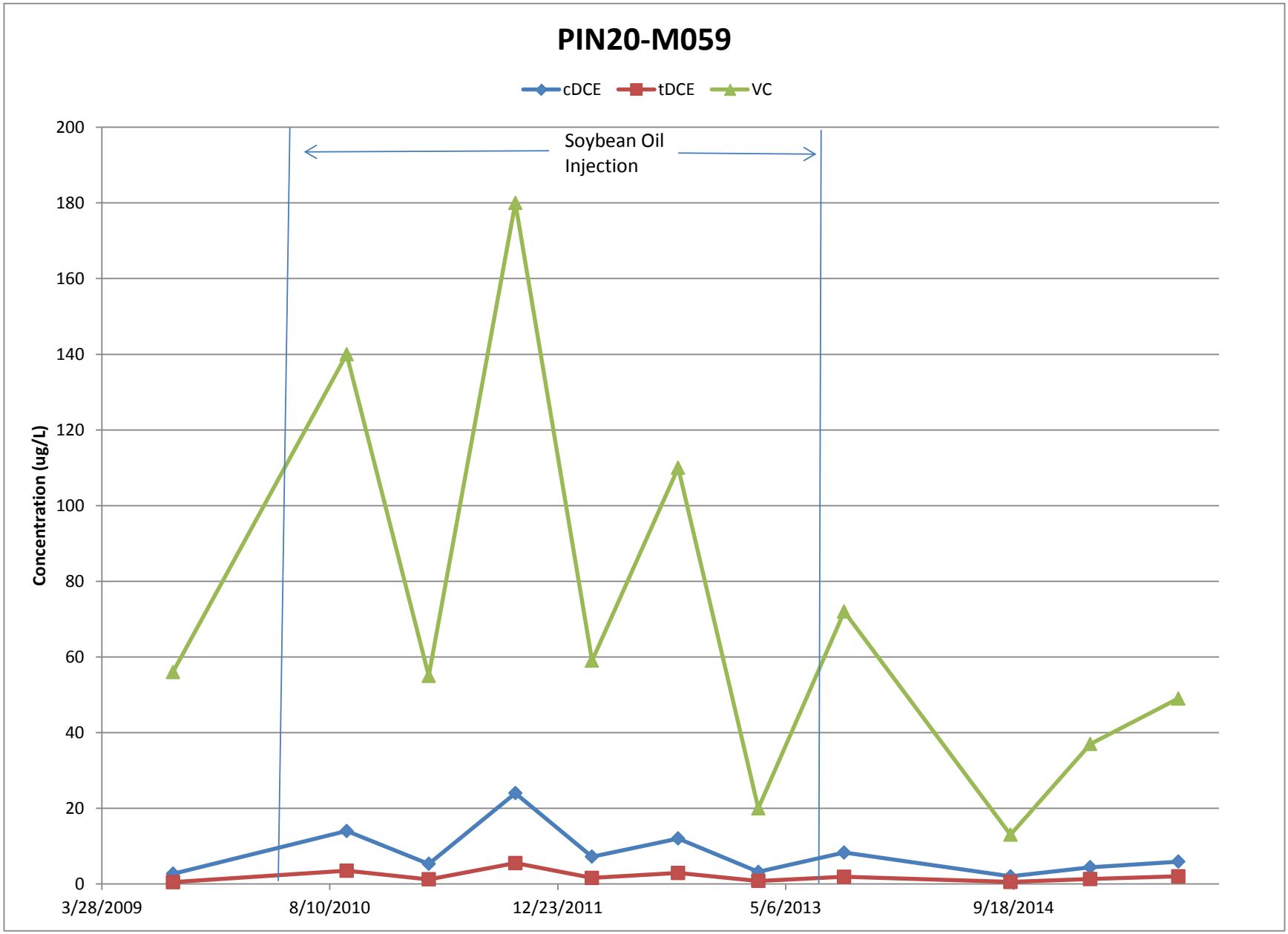

Figure 13. cDCE, tDCE, and VC in Well PIN20-M059, 2009–2015

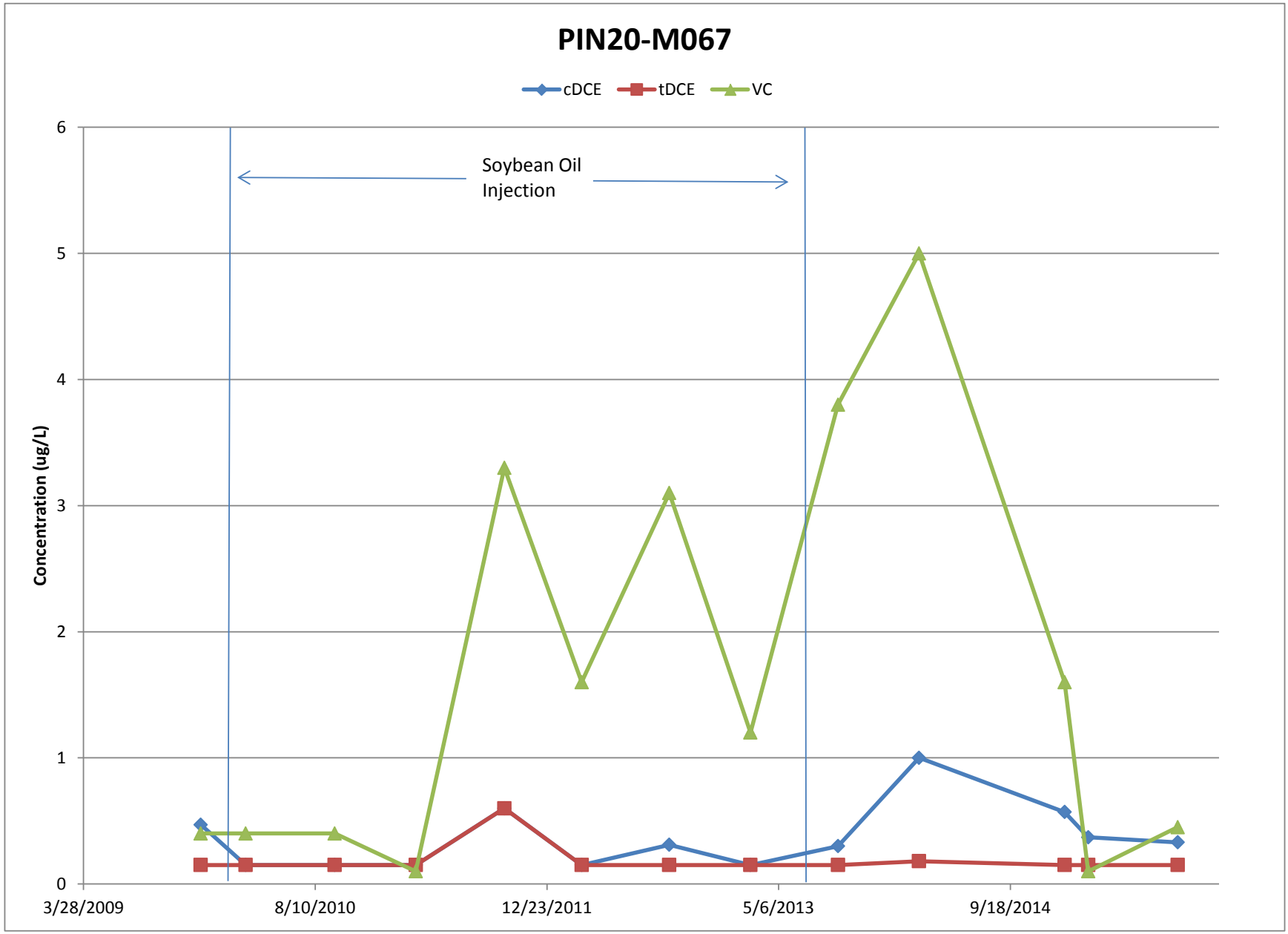

Figure 14. cDCE, tDCE, and VC in Well PIN20-M067, 2009–2015

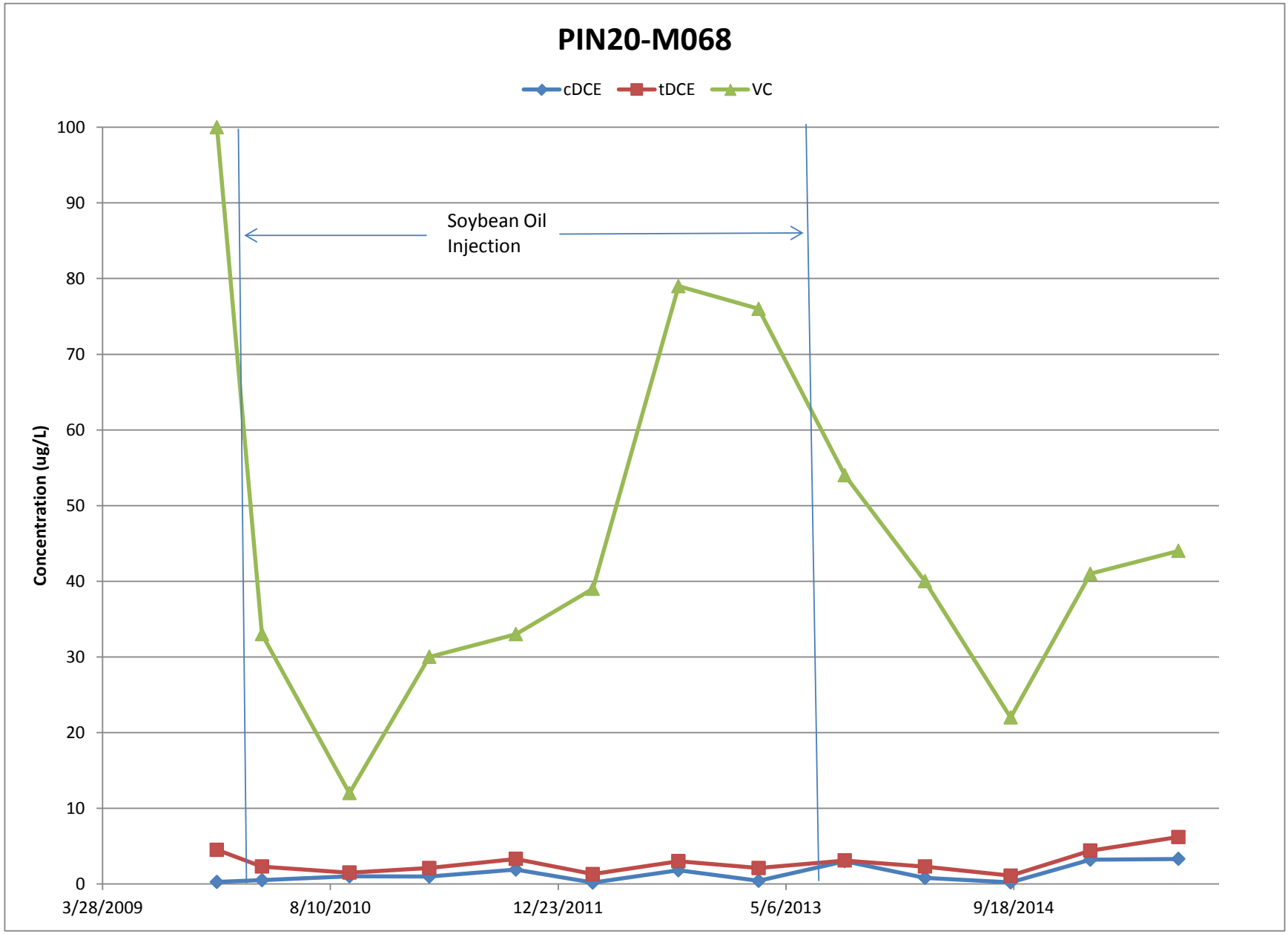

Figure 15. cDCE, tDCE, and VC in Well PIN20-M068, 2009–2015

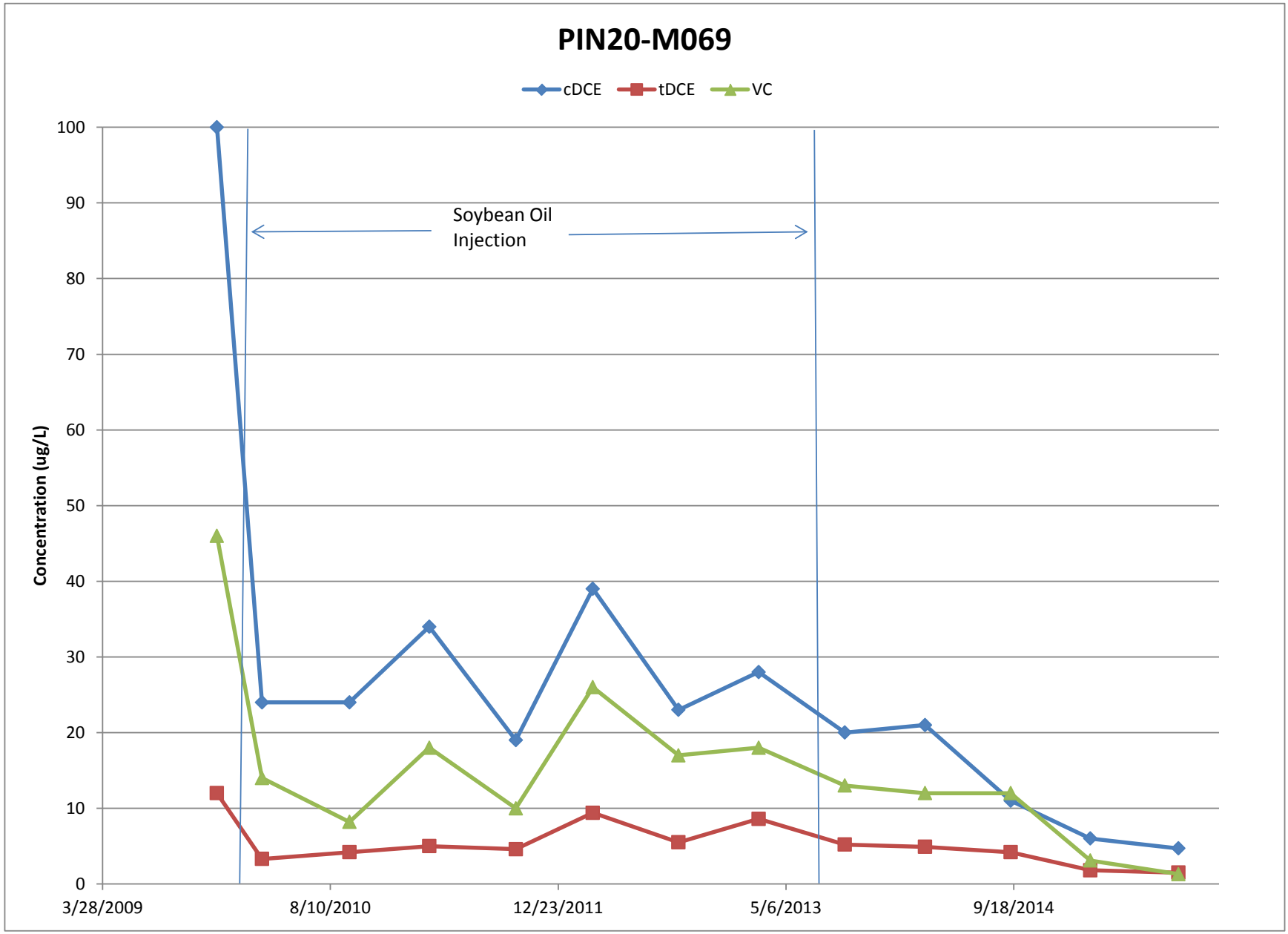

Figure 16. cDCE, tDCE, and VC in Well PIN20-M069, 2009–2015

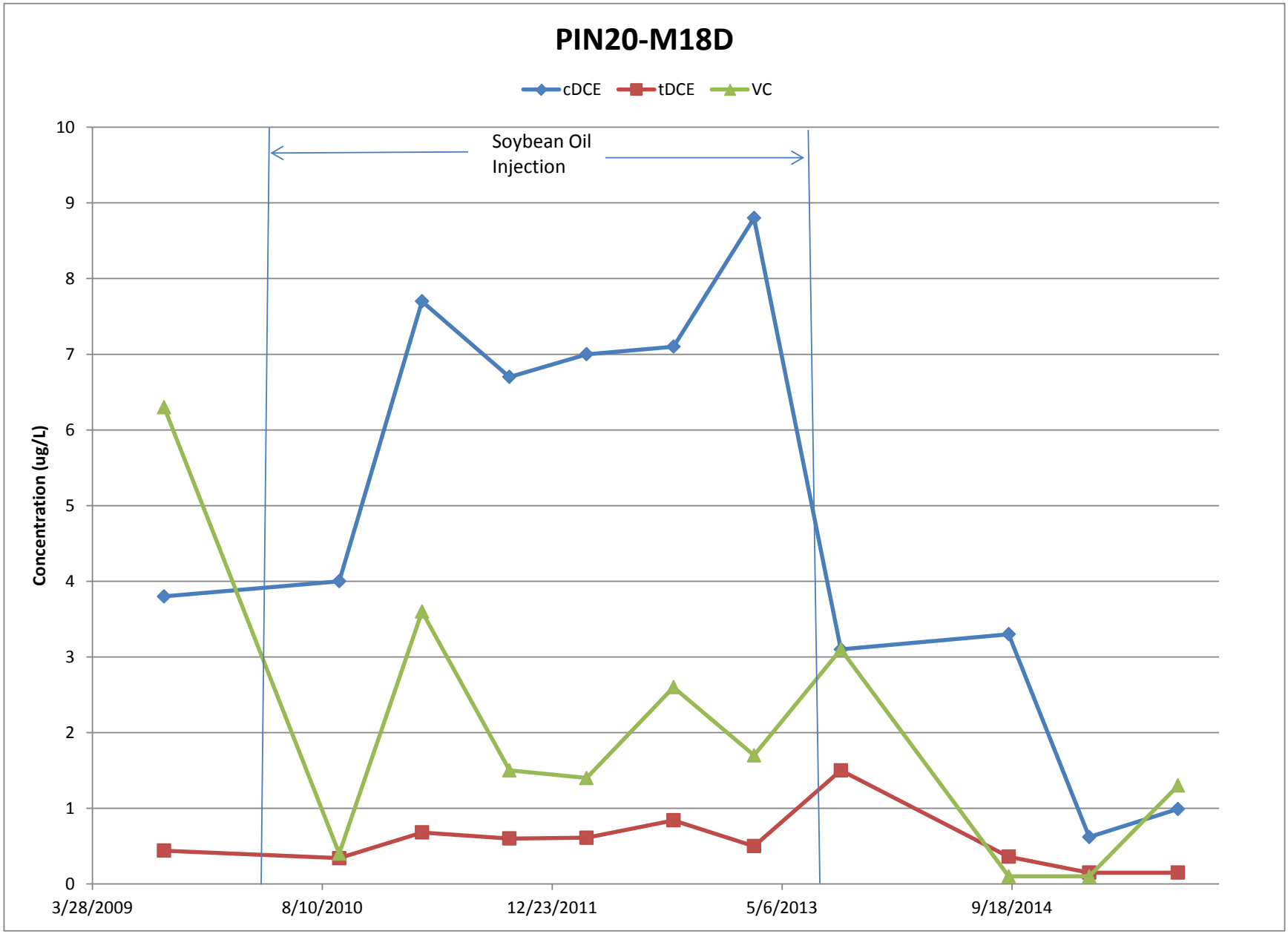

Figure 17. cDCE, tDCE, and VC in Well PIN20-M18D, 2009–2015

Table 1. Current Monitoring Wells

Current Monitoring Wells
PIN20-M001
PIN20-M015
PIN20-M053
PIN20-M056
PIN20-M057
PIN20-M058
PIN20-M059
PIN20-M067
PIN20-M068
PIN20-M069
PIN20-M18D

Table 2. Groundwater Elevation Data at the 4.5 Acre Site, September 2015

Location	Measurement		Water Depth (ft bls)	Groundwater Elevation (ft amsl)
	Date	Time		
PIN20				
M001	9/14/2015	10:30	0.26	17.34
M015	9/14/2015	14:45	0.98	17.41
M053	9/14/2015	13:35	0.29	16.91
M056	9/14/2015	13:50	–0.02	17.12
M057	9/14/2015	12:05	0.93	16.97
M058	9/14/2015	10:55	0.61	17.09
M059	9/14/2015	10:20	0.67	17.13
M067	9/14/2015	11:20	1.38	17.32
M069	9/14/2015	12:00	0.69	17.31

Abbreviations:
ft amsl = feet above mean sea level
ft bls = feet below land surface

Table 3. Surface Water Elevations at the 4.5 Acre Site, September 2015

Location	Measurement		Surface Water Elevation (ft amsl)
	Date	Time	
PIN01	**Pond 5**		
P501	9/10/2015	09:01	14.34
P502	9/10/2015	08:51	14.40
PIN02	**West Pond**		
W005	9/10/2015	08:48	14.36

Abbreviations:
ft amsl = feet above mean sea level

Table 4. Field Measurements of Samples Collected at the 4.5 Acre Site, September 2015

Location	Screen Depth (ft bls)	Temperature (°C)	Specific Conductance (µmho/cm)[a]	Turbidity (NTU)	pH	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/L)
PIN20							
M001	20–25	–	–	35	–	–	–
M015	20.8–25.8	27.7	1,800	4	6.69	–78	0.9
M053	20–30	–	–	9	–	–	–
M056	19–29	–	–	5	–	–	–
M057	20–30	–	–	9	–	–	–
M058	18–28	–	–	4	–	–	–
M059	19–29	–	–	4	–	–	–
M067	10–20	–	–	38	–	–	–
M068	20–30	–	–	15	–	–	–
M069	10–20	–	–	9	–	–	–
M18D	20–30	–	–	29	–	–	–

Notes:
[a] Temperature corrected to 25 °C.

Abbreviations:
– = not measured
ft bls = feet below land surface
µmho/cm = micromhos per centimeter
mg/L = milligrams/liter
mV = millivolts
NTU = nephelometric turbidity units

Table 5. COPC Concentrations from Current Closure Monitoring Wells 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**	**1,000**	**10**	**10**	
M001	20–25	8/31/2009	<0.5	250	43	2,300	1.4	2,594.4
		12/3/2009	<0.16	200	30	2,100	2	2,332
		3/13/2010	<0.64	190	22	930	1.4J	1,143.4
		9/16/2010	<0.32	5.1	6.1	75	1.2J	87.4
		3/15/2011	<0.16	0.67J	2	12	0.92J	15.59
		9/22/2011	<0.64	<0.6	4.6	60J	<0.64	64.6
		3/7/2012	<0.16	0.24J	3.1	35J	1.1	39.44
		9/12/2012	<0.16	<0.15	3	37	0.91J	40.91
		3/6/2013	<0.16	0.24J	3.1	28	1	32.34
		9/11/2013	<0.16	0.49J	2	25	1	28.49
		3/5/2014	<0.16	0.26J	1.9	20	0.73J	22.89
		1/13/2015	<0.16	0.17J	1.5	8.7	0.45J	10.82
		3/6/2015	<0.16	0.52J	1.7	24	0.61J	26.83
		9/14/2015	<0.16	0.84J	2.1	24	0.72J	27.66
M015	20.8–25.8	8/31/2009	<0.5	<0.65	<0.44	0.6J	<0.5	0.6
		12/2/2009	<0.16	1.7	<0.15	4.9	<0.16	6.6
		3/11/2010	<0.16	2.5	<0.15	5.5	<0.16	8
		9/15/2010	<0.16	1.5	<0.15	5.3	<0.16	6.8
		3/10/2011	<0.16	3.2	<0.15	6.3	<0.16	9.5
		9/22/2011	<0.64	2.7J	<0.6	7.8	<0.64	10.5
		3/7/2012	<0.16	8.6	<0.15	16	<0.16	24.6
		9/12/2012	<0.16	5.1	<0.15	10	<0.16	15.1
		3/6/2013	<0.16	12	<0.15	17	<0.16	29
		9/12/2013	<0.16	3.8	<0.15	6.1	<0.16	9.9
		3/5/2014	<0.16	8.8	<0.15	8.2	<0.16	17
		1/13/2015	<0.16	12	<0.15	21	<0.16	33
		3/5/2015	<0.16	6.3	<0.15	2	<0.16	8.3
		9/14/2015	<0.16	6.2	<0.15	14	<0.16	20.2
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

Table 5 (continued). COPC Concentrations from Current Closure Monitoring Wells 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**	**1,000**	**10**	**10**	
M053 (continued)	20–30	9/11/2014	<0.16	1.9	<0.15	<0.1	<0.16	1.9
		3/5/2015	<0.16	2.8	<0.15	1.7	<0.16	4.5
		9/14/2015	<0.16	2.8	<0.15	1.8	<0.16	4.6
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
		3/5/2015	<0.16	2.6	<0.15	0.58J	<0.16	3.18
		9/14/2015	<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
		3/5/2015	<0.16	11	0.61J	2.1	<0.16	13.71
		9/14/2015	<0.16	11J	0.86J	2.7J	<0.16	14.56
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
		3/5/2015	<0.16	2.2	0.27J	<0.1	<0.16	2.47
		9/14/2015	<0.16	2.8	0.35J	<0.1	<0.16	3.15

Table 5 (continued). COPC Concentrations from Current Closure Monitoring Wells 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**	**1,000**	**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
		3/5/2015	<0.16	4.4	1.3	37	0.26J	42.96
		9/14/2015	<0.16	5.9	2	49	0.29J	57.19
M067	10–20	12/6/2009	<0.16	0.47J	<0.15	<0.4	<0.16	0.47
		3/13/2010	<0.16	<0.15	<0.15	<0.4	<0.16	ND
		9/21/2010	<0.16	<0.15	<0.15	<0.4	<0.16	ND
		3/15/2011	<0.16	<0.15	<0.15	<0.1	<0.16	ND
		9/22/2011	<0.64	<0.6	<0.6	3.3J	<0.64	3.3
		3/7/2012	<0.16	<0.15	<0.15	1.6	<0.16	1.6
		9/12/2012	<0.16	0.31J	<0.15	3.1	<0.16	3.41
		3/6/2013	<0.16	<0.15	<0.15	1.2	<0.16	1.2
		9/11/2013	<0.16	0.3J	<0.15	3.8	<0.16	4.1
		3/5/2014	<0.16	1	0.18J	5	<0.16	6.18
		1/13/2015	<0.16	0.57J	<0.15	1.6	<0.16	2.17
		3/5/2015	<0.16	0.37J	<0.15	<0.1	<0.16	0.37
		9/14/2015	<0.16	0.33J	<0.15	0.45J	<0.16	0.78
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
		3/5/2015	<0.16	3.2	4.4	41	0.25J	48.85
		9/14/2015	<0.16	3.3	6.2	44	0.26J	53.76

Table 5 (continued). COPC Concentrations from Current Closure Monitoring Wells 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**	**1,000**	**10**	**10**	
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
		3/5/2015	<0.16	6	1.8	3.1	<0.16	10.9
		9/14/2015	<0.16	4.7	1.5	1.3	<0.16	7.5
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
		3/5/2015	<0.16	0.62J	<0.15	<0.1	<0.16	0.62
		9/14/2015	<0.16	0.99J	<0.15	1.3J	<0.16	2.29

Notes:
[a] The "<" 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 for Duplicate Samples, September 2015 (reported in µg/L)

Sample ID	Duplicate ID	Analyte	Result	Duplicate Result	MDL	RPD
PIN20-M059	PIN20-2456	*cis*-1,2-Dichloroethene	5.9	5.8	0.15	1.7
PIN20-M059	PIN20-2456	*trans*-1,2-Dichloroethene	2.0	1.9	0.15	5.1
PIN20-M059	PIN20-2456	Vinyl Chloride	49	51	0.10	4.0

Abbreviations:
MDL = method detection limit
µg/L = micrograms per liter
RPD = relative percent difference

Appendix A

Laboratory Reports

September 2015 Semiannual Monitoring

ANALYTICAL REPORT

Job Number: 280-74249-1

SDG Number: 15087321

Job Description: Pinellas Monitoring

For:
S.M. Stoller Corporation
2597 Legacy Way
Grand Junction, CO 81503

Attention: Mr. Steve Donivan

Approved for release.
Donna R Rydberg
Senior Project Manager
9/30/2015 5:14 PM

Designee for
DiLea R Bindel, Project Manager I
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0173
dilea.bindel@testamericainc.com
09/30/2015

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, 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.

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 15087321

Report Number: 280-74249-1

With the 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. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

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 9/16/2015 at 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.5ºC and 4.9º C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples PIN20-2456 (280-74249-1), PIN20-M001 (280-74249-2), PIN20-M015 (280-74249-3), PIN20-M053 (280-74249-4), PIN20-M056 (280-74249-5), PIN20-M057 (280-74249-6), PIN20-M058 (280-74249-7), PIN20-M059 (280-74249-8), PIN20-M067 (280-74249-9), PIN20-M068 (280-74249-10), PIN20-M069 (280-74249-11) and PIN20-M18D (280-74249-12) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 09/25/2015.

The recovery for surrogate Dibromofluoromethane was outside the surrogate recovery criteria high in sample PIN20-M057 (280-74249-6). All other surrogate were in control. The matrix of this sample is suspected to have interfered with surrogate recoveries, the sample was re-analyzed with similar results, therefore data was reported.

A low concentration of 1,2,4-Trichlorobenzene was detected in method blank MB 280-296464/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". Because the concentration in the method blank is not present at a level greater than half the reporting limit, corrective action is deemed unnecessary.

The LCS associated with batch 280-296464 exhibited a percent recovery outside the control limits, biased high for 1,1-Dichloropropene at 138% (limit 65-135%). This marginal exceedance has been determined to be sporadic, not systematic; therefore, corrective action is deemed unnecessary. The associated sample results were flagged "*". This spike analyte is not part of the project spike list but is being narrated as this is a target compound for the client.

Several spike recoveries were outside the recovery criteria in batch 280-296464, performed on sample PIN20-M18D (280-74249-12). The associated sample was flagged F1 for each of these compounds. Although all the compounds were flagged in the sample not all compounds are part of the specific spike list used for this project.

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

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-74249-1

SDG No.: 15087321

Instrument ID: VMS_P Analysis Batch Number: 294051

Lab Sample ID: STD003 280-294051/13 IC Client Sample ID:

Date Analyzed: 09/09/15 11:17 Lab File ID: P8265.D GC Column: DB-624 (60.25 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloroethane	7.55	Assign Peak	seifertj	09/09/15 11:58
2-Pentanone	8.09	Assign Peak	seifertj	09/09/15 13:50

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-74249-1

SDG No.: 15087321

Instrument ID: VMS_P Analysis Batch Number: 296464

Lab Sample ID: 280-74249-12 MS Client Sample ID: PIN20-M18D MS

Date Analyzed: 09/25/15 12:50 Lab File ID: P0060.D GC Column: DB-624 (60.25 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	5.07	Split Peak	seifertj	09/28/15 17:43

Lab Sample ID: 280-74249-12 MSD Client Sample ID: PIN20-M18D MSD

Date Analyzed: 09/25/15 13:10 Lab File ID: P0061.D GC Column: DB-624 (60.25 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	5.08	Split Peak	seifertj	09/28/15 17:42

Lab Sample ID: 280-74249-10 Client Sample ID: PIN20-M068

Date Analyzed: 09/25/15 16:26 Lab File ID: P0071.D GC Column: DB-624 (60.25 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.82	Split Peak	seifertj	09/28/15 17:50

SAMPLE SUMMARY

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-74249-1	PIN20-2456	Water	09/14/2015 1100	09/16/2015 0930
280-74249-2	PIN20-M001	Water	09/14/2015 1030	09/16/2015 0930
280-74249-3	PIN20-M015	Water	09/14/2015 1445	09/16/2015 0930
280-74249-4	PIN20-M053	Water	09/14/2015 1335	09/16/2015 0930
280-74249-5	PIN20-M056	Water	09/14/2015 1350	09/16/2015 0930
280-74249-6	PIN20-M057	Water	09/14/2015 1205	09/16/2015 0930
280-74249-7	PIN20-M058	Water	09/14/2015 1055	09/16/2015 0930
280-74249-8	PIN20-M059	Water	09/14/2015 1020	09/16/2015 0930
280-74249-9	PIN20-M067	Water	09/14/2015 1120	09/16/2015 0930
280-74249-10	PIN20-M068	Water	09/14/2015 1540	09/16/2015 0930
280-74249-11	PIN20-M069	Water	09/14/2015 1200	09/16/2015 0930
280-74249-12	PIN20-M18D	Water	09/14/2015 1135	09/16/2015 0930
280-74249-12MS	PIN20-M18D	Water	09/14/2015 1135	09/16/2015 0930
280-74249-12MSD	PIN20-M18D	Water	09/14/2015 1135	09/16/2015 0930

EXECUTIVE SUMMARY - Detections

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-74249-1	**PIN20-2456**					
Acetone		3.2	J	10	ug/L	8260B
Benzene		0.26	J	1.0	ug/L	8260B
cis-1,2-Dichloroethene		5.8		1.0	ug/L	8260B
trans-1,2-Dichloroethene		1.9		1.0	ug/L	8260B
Styrene		0.27	J	1.0	ug/L	8260B
Vinyl chloride		51		1.0	ug/L	8260B
280-74249-2	**PIN20-M001**					
Acetone		2.8	J	10	ug/L	8260B
Benzene		0.72	J	1.0	ug/L	8260B
cis-1,2-Dichloroethene		0.84	J	1.0	ug/L	8260B
trans-1,2-Dichloroethene		2.1		1.0	ug/L	8260B
1,1-Dichloropropene		0.63	J *	1.0	ug/L	8260B
Styrene		0.26	J	1.0	ug/L	8260B
Vinyl chloride		24		1.0	ug/L	8260B
280-74249-3	**PIN20-M015**					
Acetone		3.5	J	10	ug/L	8260B
cis-1,2-Dichloroethene		6.2		1.0	ug/L	8260B
Vinyl chloride		14		1.0	ug/L	8260B
280-74249-4	**PIN20-M053**					
Acetone		5.2	J	10	ug/L	8260B
cis-1,2-Dichloroethene		2.8		1.0	ug/L	8260B
Vinyl chloride		1.8		1.0	ug/L	8260B
280-74249-5	**PIN20-M056**					
Acetone		3.0	J	10	ug/L	8260B
cis-1,2-Dichloroethene		2.6		1.0	ug/L	8260B
280-74249-6	**PIN20-M057**					
Acetone		5.2	J	10	ug/L	8260B
cis-1,2-Dichloroethene		11		1.0	ug/L	8260B
trans-1,2-Dichloroethene		0.86	J	1.0	ug/L	8260B
Vinyl chloride		2.7		1.0	ug/L	8260B

EXECUTIVE SUMMARY - Detections

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-74249-7	**PIN20-M058**					
Acetone		3.4	J	10	ug/L	8260B
cis-1,2-Dichloroethene		2.8		1.0	ug/L	8260B
trans-1,2-Dichloroethene		0.35	J	1.0	ug/L	8260B
280-74249-8	**PIN20-M059**					
Acetone		3.1	J	10	ug/L	8260B
Benzene		0.29	J	1.0	ug/L	8260B
cis-1,2-Dichloroethene		5.9		1.0	ug/L	8260B
trans-1,2-Dichloroethene		2.0		1.0	ug/L	8260B
Vinyl chloride		49		1.0	ug/L	8260B
280-74249-9	**PIN20-M067**					
Acetone		4.7	J	10	ug/L	8260B
cis-1,2-Dichloroethene		0.33	J	1.0	ug/L	8260B
Vinyl chloride		0.45	J	1.0	ug/L	8260B
280-74249-10	**PIN20-M068**					
Acetone		3.8	J	10	ug/L	8260B
Benzene		0.26	J	1.0	ug/L	8260B
cis-1,2-Dichloroethene		3.3		1.0	ug/L	8260B
trans-1,2-Dichloroethene		6.2		1.0	ug/L	8260B
Vinyl chloride		44		1.0	ug/L	8260B
280-74249-11	**PIN20-M069**					
Acetone		4.4	J	10	ug/L	8260B
cis-1,2-Dichloroethene		4.7		1.0	ug/L	8260B
trans-1,2-Dichloroethene		1.5		1.0	ug/L	8260B
Vinyl chloride		1.3		1.0	ug/L	8260B
280-74249-12	**PIN20-M18D**					
Acetone		2.8	J	10	ug/L	8260B
cis-1,2-Dichloroethene		0.99	J	1.0	ug/L	8260B
Toluene		0.31	J	1.0	ug/L	8260B
Vinyl chloride		1.3		1.0	ug/L	8260B

METHOD SUMMARY

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

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: 280-74249-1
Sdg Number: 15087321

Method	Analyst	Analyst ID
SW846 8260B	Seifert, Judy L	JLS

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: PIN20-2456

Lab Sample ID: 280-74249-1
Client Matrix: Water

Date Sampled: 09/14/2015 1100
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0062.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1329			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1329				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	3.2	J	1.9	10
Benzene	0.26	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	5.8		0.15	1.0
trans-1,2-Dichloroethene	1.9		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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: PIN20-2456

Lab Sample ID: 280-74249-1
Client Matrix: Water

Date Sampled: 09/14/2015 1100
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0062.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1329			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1329				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Styrene	0.27	J	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	51		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)	96		70 - 127
Toluene-d8 (Surr)	107		80 - 125
4-Bromofluorobenzene (Surr)	97		78 - 120
Dibromofluoromethane (Surr)	105		77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M001**

Lab Sample ID: 280-74249-2
Client Matrix: Water

Date Sampled: 09/14/2015 1030
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0063.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1349			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1349				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	2.8	J	1.9	10
Benzene	0.72	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	0.84	J	0.15	1.0
trans-1,2-Dichloroethene	2.1		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	0.63	J *	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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M001**

Lab Sample ID: 280-74249-2
Client Matrix: Water

Date Sampled: 09/14/2015 1030
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0063.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1349			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1349				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Styrene	0.26	J	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	24		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)	105		70 - 127
Toluene-d8 (Surr)	115		80 - 125
4-Bromofluorobenzene (Surr)	107		78 - 120
Dibromofluoromethane (Surr)	116		77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: PIN20-M015

Lab Sample ID: 280-74249-3
Client Matrix: Water

Date Sampled: 09/14/2015 1445
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0064.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1409			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1409				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	3.5	J	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	6.2		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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: PIN20-M015

Lab Sample ID: 280-74249-3
Client Matrix: Water

Date Sampled: 09/14/2015 1445
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0064.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1409			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1409				

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	14		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)	101		70 - 127
Toluene-d8 (Surr)	106		80 - 125
4-Bromofluorobenzene (Surr)	102		78 - 120
Dibromofluoromethane (Surr)	109		77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M053**

Lab Sample ID: 280-74249-4
Client Matrix: Water

Date Sampled: 09/14/2015 1335
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0065.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1428			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1428				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	5.2	J	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	2.8		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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: PIN20-M053

Lab Sample ID: 280-74249-4
Client Matrix: Water

Date Sampled: 09/14/2015 1335
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0065.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1428			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1428				

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	1.8		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)	99		70 - 127
Toluene-d8 (Surr)	107		80 - 125
4-Bromofluorobenzene (Surr)	98		78 - 120
Dibromofluoromethane (Surr)	105		77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M056**

Lab Sample ID: 280-74249-5
Client Matrix: Water

Date Sampled: 09/14/2015 1350
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0066.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1448			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1448				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	3.0	J	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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: PIN20-M056

Lab Sample ID: 280-74249-5
Client Matrix: Water

Date Sampled: 09/14/2015 1350
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0066.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1448			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1448				

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)	103		70 - 127
Toluene-d8 (Surr)	109		80 - 125
4-Bromofluorobenzene (Surr)	100		78 - 120
Dibromofluoromethane (Surr)	110		77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M057**

Lab Sample ID: 280-74249-6
Client Matrix: Water

Date Sampled: 09/14/2015 1205
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0067.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1508			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1508				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	5.2	J	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	0.86	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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M057**

Lab Sample ID: 280-74249-6
Client Matrix: Water

Date Sampled: 09/14/2015 1205
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0067.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1508			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1508				

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	2.7		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)	117		70 - 127
Toluene-d8 (Surr)	121		80 - 125
4-Bromofluorobenzene (Surr)	112		78 - 120
Dibromofluoromethane (Surr)	124	X	77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M058**

Lab Sample ID: 280-74249-7
Client Matrix: Water

Date Sampled: 09/14/2015 1055
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0068.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1527			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1527				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	3.4	J	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	2.8		0.15	1.0
trans-1,2-Dichloroethene	0.35	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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: PIN20-M058

Lab Sample ID: 280-74249-7
Client Matrix: Water

Date Sampled: 09/14/2015 1055
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0068.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1527			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1527				

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)	105		70 - 127
Toluene-d8 (Surr)	109		80 - 125
4-Bromofluorobenzene (Surr)	103		78 - 120
Dibromofluoromethane (Surr)	113		77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M059**

Lab Sample ID: 280-74249-8
Client Matrix: Water

Date Sampled: 09/14/2015 1020
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0069.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1547			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1547				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	3.1	J	1.9	10
Benzene	0.29	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	5.9		0.15	1.0
trans-1,2-Dichloroethene	2.0		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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M059**

Lab Sample ID: 280-74249-8
Client Matrix: Water

Date Sampled: 09/14/2015 1020
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0069.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1547			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1547				

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	49		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)	101		70 - 127
Toluene-d8 (Surr)	108		80 - 125
4-Bromofluorobenzene (Surr)	100		78 - 120
Dibromofluoromethane (Surr)	106		77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M067**

Lab Sample ID: 280-74249-9
Client Matrix: Water

Date Sampled: 09/14/2015 1120
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0070.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1607			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1607				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	4.7	J	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	0.33	J	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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M067**

Lab Sample ID: 280-74249-9
Client Matrix: Water

Date Sampled: 09/14/2015 1120
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0070.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1607			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1607				

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	0.45	J	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)	110		80 - 125
4-Bromofluorobenzene (Surr)	101		78 - 120
Dibromofluoromethane (Surr)	107		77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M068**

Lab Sample ID: 280-74249-10
Client Matrix: Water

Date Sampled: 09/14/2015 1540
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0071.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1626			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1626				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	3.8	J	1.9	10
Benzene	0.26	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	3.3		0.15	1.0
trans-1,2-Dichloroethene	6.2		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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: PIN20-M068

Lab Sample ID: 280-74249-10
Client Matrix: Water

Date Sampled: 09/14/2015 1540
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0071.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1626			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1626				

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	44		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)	114		70 - 127
Toluene-d8 (Surr)	120		80 - 125
4-Bromofluorobenzene (Surr)	112		78 - 120
Dibromofluoromethane (Surr)	119		77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M069**

Lab Sample ID: 280-74249-11
Client Matrix: Water

Date Sampled: 09/14/2015 1200
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0072.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1646			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1646				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	4.4	J	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	4.7		0.15	1.0
trans-1,2-Dichloroethene	1.5		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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: PIN20-M069

Lab Sample ID: 280-74249-11
Client Matrix: Water

Date Sampled: 09/14/2015 1200
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0072.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1646			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1646				

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	1.3		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)	109		80 - 125
4-Bromofluorobenzene (Surr)	106		78 - 120
Dibromofluoromethane (Surr)	108		77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: **PIN20-M18D**

Lab Sample ID: 280-74249-12
Client Matrix: Water

Date Sampled: 09/14/2015 1135
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0059.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1231			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1231				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	2.8	J	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 F1	0.19	1.0
Chlorobenzene	0.17	U	0.17	1.0
Dibromochloromethane	0.17	U	0.17	1.0
Chloroethane	0.41	U F1	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	0.99	J	0.15	1.0
trans-1,2-Dichloroethene	0.15	U F1	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 * F1	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 F1	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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Client Sample ID: PIN20-M18D

Lab Sample ID: 280-74249-12
Client Matrix: Water

Date Sampled: 09/14/2015 1135
Date Received: 09/16/2015 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P0059.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1231			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1231				

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	0.31	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	1.3		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)	97		70 - 127
Toluene-d8 (Surr)	107		80 - 125
4-Bromofluorobenzene (Surr)	104		78 - 120
Dibromofluoromethane (Surr)	107		77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

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
280-74249-1	PIN20-2456	105	96	107	97
280-74249-2	PIN20-M001	116	105	115	107
280-74249-3	PIN20-M015	109	101	106	102
280-74249-4	PIN20-M053	105	99	107	98
280-74249-5	PIN20-M056	110	103	109	100
280-74249-6	PIN20-M057	124X	117	121	112
280-74249-7	PIN20-M058	113	105	109	103
280-74249-8	PIN20-M059	106	101	108	100
280-74249-9	PIN20-M067	107	104	110	101
280-74249-10	PIN20-M068	119	114	120	112
280-74249-11	PIN20-M069	108	104	109	106
280-74249-12	PIN20-M18D	107	97	107	104
MB 280-296464/6		106	101	112	101
LCS 280-296464/4		101	99	107	98
280-74249-12 MS	PIN20-M18D MS	104	98	106	97
280-74249-12 MSD	PIN20-M18D MSD	103	98	102	96

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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Method Blank - Batch: 280-296464

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 280-296464/6	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P0055.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1059	Units:	ug/L	Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1059				
Leach Date:	N/A				

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

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Method Blank - Batch: 280-296464

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 280-296464/6	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P0055.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1059	Units:	ug/L	Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1059				
Leach Date:	N/A				

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	0.235	J	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)	101	70 - 127
Toluene-d8 (Surr)	112	80 - 125
4-Bromofluorobenzene (Surr)	101	78 - 120
Dibromofluoromethane (Surr)	106	77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Lab Control Sample - Batch: 280-296464

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 280-296464/4	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P0056.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1122	Units:	ug/L	Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1122				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	5.00	6.17	123	65 - 135	
Bromodichloromethane	5.00	5.78	116	65 - 135	
Carbon tetrachloride	5.00	6.38	128	65 - 135	
Chlorobenzene	5.00	5.88	118	65 - 135	
Chloroform	5.00	5.95	119	65 - 135	
1,3-Dichlorobenzene	5.00	5.90	118	65 - 135	
1,1-Dichloroethane	5.00	6.04	121	65 - 135	
trans-1,2-Dichloroethene	5.00	6.48	130	65 - 135	
1,1-Dichloroethene	5.00	6.13	123	65 - 136	
1,2-Dichloropropane	5.00	5.75	115	64 - 135	
Ethylbenzene	5.00	6.11	122	65 - 135	
Methylene Chloride	5.00	5.83	117	54 - 141	
Tetrachloroethene	5.00	6.21	124	65 - 135	
Toluene	5.00	6.47	129	65 - 135	
1,1,1-Trichloroethane	5.00	6.08	122	65 - 135	
Trichloroethene	5.00	6.01	120	65 - 135	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99	70 - 127
Toluene-d8 (Surr)	107	80 - 125
4-Bromofluorobenzene (Surr)	98	78 - 120
Dibromofluoromethane (Surr)	101	77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-296464

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	280-74249-12	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P0060.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1250			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1250				20 mL
Leach Date:	N/A				

MSD Lab Sample ID:	280-74249-12	Analysis Batch:	280-296464	Instrument ID:	VMS_P
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P0061.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2015 1310			Final Weight/Volume:	20 mL
Prep Date:	09/25/2015 1310				20 mL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	127	124	65 - 135	2	20		
Bromodichloromethane	126	126	65 - 135	1	20		
Carbon tetrachloride	136	132	65 - 135	3	21	F1	
Chlorobenzene	118	115	65 - 135	2	20		
Chloroform	123	121	65 - 135	2	20		
1,3-Dichlorobenzene	119	116	65 - 135	2	20		
1,1-Dichloroethane	125	123	65 - 135	2	21		
trans-1,2-Dichloroethene	136	134	65 - 135	2	24	F1	
1,1-Dichloroethene	126	126	65 - 136	0	20		
1,2-Dichloropropane	120	118	64 - 135	2	20		
Ethylbenzene	123	120	65 - 135	3	20		
Methylene Chloride	116	119	54 - 141	2	26		
Tetrachloroethene	123	121	65 - 135	2	20		
Toluene	132	128	65 - 135	2	20		
1,1,1-Trichloroethane	130	129	65 - 135	1	20		
Trichloroethene	122	121	65 - 135	0	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98	98	70 - 127
Toluene-d8 (Surr)	106	102	80 - 125
4-Bromofluorobenzene (Surr)	97	96	78 - 120
Dibromofluoromethane (Surr)	104	103	77 - 120

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-296464

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	280-74249-12	Units: ug/L	MSD Lab Sample ID:	280-74249-12
Client Matrix:	Water		Client Matrix:	Water
Dilution:	1.0		Dilution:	1.0
Analysis Date:	09/25/2015 1250		Analysis Date:	09/25/2015 1310
Prep Date:	09/25/2015 1250		Prep Date:	09/25/2015 1310
Leach Date:	N/A		Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual
Benzene	0.16	U	5.00	5.00	6.33		6.21
Bromodichloromethane	0.17	U	5.00	5.00	6.29		6.32
Carbon tetrachloride	0.19	U	5.00	5.00	6.78	F1	6.58
Chlorobenzene	0.17	U	5.00	5.00	5.91		5.77
Chloroform	0.16	U	5.00	5.00	6.16		6.05
1,3-Dichlorobenzene	0.13	U	5.00	5.00	5.93		5.80
1,1-Dichloroethane	0.22	U	5.00	5.00	6.25		6.13
trans-1,2-Dichloroethene	0.15	U	5.00	5.00	6.81	F1	6.71
1,1-Dichloroethene	0.23	U	5.00	5.00	6.30		6.30
1,2-Dichloropropane	0.18	U	5.00	5.00	5.98		5.89
Ethylbenzene	0.16	U	5.00	5.00	6.14		5.99
Methylene Chloride	0.32	U	5.00	5.00	5.82		5.93
Tetrachloroethene	0.20	U	5.00	5.00	6.14		6.04
Toluene	0.31	J	5.00	5.00	6.89		6.72
1,1,1-Trichloroethane	0.16	U	5.00	5.00	6.51		6.45
Trichloroethene	0.16	U	5.00	5.00	6.08		6.07

DATA REPORTING QUALIFIERS

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Indicates the analyte was analyzed for but not detected.
	*	LCS or LCSD is outside acceptance limits.
	F1	MS and/or MSD Recovery is outside acceptance limits.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	X	Surrogate is outside control limits

Client: S.M. Stoller Corporation

Job Number: 280-74249-1
Sdg Number: 15087321

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:280-296464					
LCS 280-296464/4	Lab Control Sample	T	Water	8260B	
MB 280-296464/6	Method Blank	T	Water	8260B	
280-74249-1	PIN20-2456	T	Water	8260B	
280-74249-2	PIN20-M001	T	Water	8260B	
280-74249-3	PIN20-M015	T	Water	8260B	
280-74249-4	PIN20-M053	T	Water	8260B	
280-74249-5	PIN20-M056	T	Water	8260B	
280-74249-6	PIN20-M057	T	Water	8260B	
280-74249-7	PIN20-M058	T	Water	8260B	
280-74249-8	PIN20-M059	T	Water	8260B	
280-74249-9	PIN20-M067	T	Water	8260B	
280-74249-10	PIN20-M068	T	Water	8260B	
280-74249-11	PIN20-M069	T	Water	8260B	
280-74249-12	PIN20-M18D	T	Water	8260B	
280-74249-12MS	Matrix Spike	T	Water	8260B	
280-74249-12MSD	Matrix Spike Duplicate	T	Water	8260B	

Report Basis
T = Total