

June 19, 2014

Mr. Nile Fellows
Project Manager
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

Subject: Site Investigation Report for St. Louis Park Solvent Plume – Former Flame Metals, Minnesota, MPCA Work Order #300009573; AECOM Project 60314270

Dear Mr. Fellows,

AECOM Technical Services, Inc. (AECOM) has completed the site investigation associated with the St. Louis Park Former Flame Metals site (Site) located at 7317 East Lake Street in St. Louis Park, Minnesota. This Site is part of the St. Louis Park Solvent Plume Superfund site. A Site Location Map is included at Figure 1. An aerial photograph illustrating general Site features is included as Figure 2.

The Minnesota Pollution Control Agency (MPCA) contracted AECOM to perform a Site investigation of chlorinated volatile organic compound (cVOC) impacts previously identified at the Site. The Site investigation was performed by AECOM for the MPCA under Master Contract 63187, Work Order Number 300009573.

The investigation work was requested by the MPCA based on the results of a screening level passive soil vapor screening (PSVS) investigation that was performed at the Site for the MPCA by AECOM in December 2011 and January 2012. The results of the PSVS investigation (AECOM project number 60238996) were provided to the MPCA in a report prepared by AECOM dated March 27, 2012.

1.0 Background

The PSVS was conducted by the MPCA for the Site based on historic use of tetrachloroethene (PCE) as a degreasing solvent for industrial metal heat treating processes at the former Flame Metals facility at the Site.

The results of the PSVS indicated:

- Chlorinated volatile organic compounds (cVOCs) were present in soil gas near the former loading dock area on the northeast portion of the Site building that may be indicative of a potential PCE source area near this location;
- cVOCs were present along the southeast and southern portion of the Site building. Total petroleum hydrocarbons (TPH) were also detected in the soil gas along the southeastern portion of the Site building; and,
- Contaminant concentrations detected in soil gas along the southeastern portion of the Site building that may be indicative of a separate release area located beneath the Site building.

Additional Site investigation including soil, soil gas, and groundwater sampling was recommended to determine the extent and magnitude of cVOC impacts at the Site based on the results of the PSVS investigation.

To further investigate the Site, AECOM proposed to collect five soil vapor samples using direct push installation methods. AECOM also proposed to advance Geoprobe® borings at six locations for the collection of subsurface soil and groundwater samples. This investigation report documents the additional Site investigation work that was completed.

2.0 Scope of Work

AECOM prepared a proposal (AECOM Proposal OPP-230753) dated December 17, 2013 for additional investigation at the Site. Work Order #3000009573 was issued by the MPCA with a Work Order effective date of January 7, 2014. The following scope of work items were identified by AECOM as part of the proposal and are summarized below:

- Prepare a Sampling and Analysis Plan (SAP);
- Complete five direct push borings located in right-of-way (ROW) along west side of Taft Avenue South, west of former Flame Metals Building (7317 Lake Street). Borings to be completed at a depth of eight feet below ground surface;
- Soil vapor samples collected at the eight foot depth and analyzed for Volatile Organic Compounds (VOCs) using method TO-15;
- Complete six additional direct push borings on the Former Flame Metals property as follows:
 - Two borings located near the loading dock area on the north side of the building;
 - Two borings located on the southeast end of the building;
 - Two borings located on the southern end of the building; and,
 - Direct push boring completed to an approximate depth of fifty feet below ground surface in four boring and eighty feet in two borings or boring refusal, whichever comes first. The two deeper borings, one near the loading dock and one at the southeast end of the building, to be extended to bedrock at a depth of approximately 80 feet.
- Soil samples screened with a photoionization detector (PID) using headspace method;
- Soil samples with elevated PID readings analyzed for VOCs using EPA method 8260;
- Soil samples collected from the top of silt or clay deposits and at the bedrock surface;
- Groundwater samples collected from the water table and from the top of low permeability deposits (silt or clay intervals) and at the bedrock surface. Groundwater samples analyzed for VOCs using EPA method 8260;
- Soil vapor, soil and waste characterization samples analyzed by a State Contract Laboratory;
- Groundwater samples analyzed at Minnesota Department of Health (MDH) laboratory; and,
- Write a report summarizing investigation results.

The following tasks were completed by AECOM for the Site investigation based on the scope of work listed above and modifications to the scope of work that were approved by the MPCA during the Site investigation:

- Completed a SAP of the Site investigation activities;
- Facilitated a ROW permit for the soil borings completed on City of St. Louis Park property;
- Cleared underground and overhead utilities prior to subsurface investigation activities by participating in a Site meeting with public and private utility locators. The public and private utility meeting was coordinated by Matrix Environmental;
- Completed six soil borings (SB-1 through SB-6) for the collection of soil and groundwater samples to investigate and further delineate cVOC contamination in the area of the Site;

- Completed seven soil vapor sampling borings (VP-1 through VP-5, SB-1-VP, and SB-3-VP) for the collection of soil vapor samples to investigate potential vapor intrusion issues at the Site and for the residential properties to the west of the Site;
- Collected spatial data from sampling locations; and,
- Evaluated Site investigation data and prepared this Site Investigation Report.

The above tasks are described in further detail in the Sections below.

Deviations from the Work Plan Proposal

AECOM encountered repeated refusal at the two boring locations (SB-2 and SB-3) on the north side of the Former Flame Metals building. AECOM discussed the refusal with the MPCA and the two borings were shifted slightly.

Refusal occurred during advancement of three soil borings (SB-1, SB-3, and SB-5) prior to reaching the targeted completion depth.

Three groundwater samples [SB-1 (71-75), SB-3 (46-50), and SB-3 (68-72)] were not analyzed by the Minnesota Department of Health (MDH) laboratory due to air bubbles in the sample vials. Air bubbles in the sample vials typically form when sediment in the groundwater interacts with the sample preservative (hydrochloric acid) and produces a gas. The MDH lab would not analyze the groundwater samples because the samples did not meet the MDH sample acceptance criteria.

The MPCA requested that two additional soil vapor samples be collected on the Former Flame Metals property to evaluate soil vapor conditions. Two soil vapor samples were collected on the Former Flame Metals property (one on the north side of the on-Site building and one on the south side) as requested by the MPCA.

One soil vapor sample was collected shallower than proposed in the SAP. Soil vapor sample VP-4 was collected at 7-feet below ground surface (bgs) instead of 8-feet bgs because of sample point cave-in. The drilling rods were pulled back to 7-feet bgs and the soil vapor sample was collected.

3.0 Site Investigation Activities and Results

The following sections provide a summary of the Site investigation activities completed and results of this Site investigation.

3.1 Right of Way Permit

AECOM obtained a ROW permit for borings that were completed in the City of St. Louis Park ROW. A copy of the ROW permit is included as Appendix A.

3.3 Utility Clearance

Matrix Environmental (State drilling contractor) coordinated utility clearance for the Site investigation through the Gopher State One Call and a private utility locator prior to initiation of drilling activities and during the Site investigation as boring locations were adjusted.

3.4 Soil Borings

Six soil borings (SB-1 through SB-6) were completed at the Site on January 29 through February 3, 2014. The soil borings were completed to investigate and further delineate cVOC contamination in the area of the Site identified during the PSVS investigation. The soil borings were completed with the dual-tube Geoprobe® sampling system. The soil boring locations are illustrated on Figure 2.

Field Screening

Soil samples were screened continuously in each soil boring with a PID equipped with an 11.7 electron volt (eV) lamp. PID headspace readings are summarized on Table 1 and on the soil boring logs included as Appendix B. Generally, PID readings were below 1.0 part per million (ppm); however, some moderate PID readings up to 128.2 PID units were detected in samples collected from the soil borings. Isolated high PID readings were detected in soil samples collected from boring SB-3. Based on the soil and groundwater sampling results from this investigation (discussed below), these elevated PID detections are likely due to moisture on the PID lamp and are not representative of actual site conditions. The soil screening bags were placed on the dashboard of the field vehicle after collection to allow contaminants to volatilize. The elevated PID readings are likely the result of extracting warm moist air through a cold PID unit (weather was ~0°F during the investigation) causing condensation on the PID lamp and giving a false high reading.

Soil Sampling

An AECOM environmental technician oversaw the drilling activities at the Site. Soil samples were collected on a continuous basis and logged during boring advancement. Soil samples were logged in general accordance with the United Soil Classification System.

Two to three soil samples from each boring (total 15 soil samples) were collected and submitted to Pace Analytical Services, Inc. (Pace) for VOC analysis using EPA method 8260. Analytical soil samples were collected from the interval exhibiting the highest PID headspace reading and from just above the groundwater table interface observed during drilling. If no elevated PID headspace readings were observed, one soil sample was collected from approximately 4-feet bgs and one sample from just above the groundwater table interface observed during drilling. Soil samples were also collected from the top of silt or clay layers that were encountered (even if the layer is below the water table). A methanol blank was submitted with the soil samples to Pace for VOC analysis as a

quality assurance/quality control sample. A description of soil encountered and a summary of samples collected at each drilling location are presented on soil boring logs included as Appendix B.

Site Geology

The geology across the Site was fairly consistent and was composed of fine to coarse sand. Layers of clayey sand were identified in several borings on the southern portion of the property. A clay layer was encountered from 57-feet bgs to the termination depth at soil boring SB-1. Layers of fill material were encountered just below the ground surface in several borings with thickness ranging from 2.5 to 14-feet bgs. Soil sampling was not completed to bedrock; however, groundwater borings SB-1 and SB-3 were completed to refusal (75 and 72-feet bgs, respectively) which is the assumed top of the Platteville bedrock. Soil boring logs with soil classifications are included as Appendix B. A cross section illustrating the geology in the area of the Site is included as Figure 3.

Soil Laboratory Analytical Results

No VOCs were detected in soil samples collected during this Site investigation.

No VOCs were detected in the methanol blank submitted with the soil samples.

Figure 4 illustrates soil samples collected during this investigation. Table 2 summarizes soil samples collected during this investigation. The laboratory analytical report for soil samples collected is included in Appendix C.

3.5 Groundwater Borings

The Geoprobe® 22 screen point sampler tooling was used to facilitate groundwater sample collection. The groundwater samples were collected with a screen point sampler from just below the water table (approximately 12-feet bgs) and from 46-feet to 50-feet bgs. Additionally, two of the groundwater borings were advanced to the Platteville bedrock aquifer for groundwater samples collection (72 and 75-feet bgs). The screen point sampler was advanced to the terminus of each boring. The drilling rods were then pulled back approximately 4-feet to expose the sampler screen. Groundwater was purged from each sampling depth using a check valve sampler and new polyethylene tubing until turbidity clears up and the formation was producing representative formation groundwater. A groundwater sample was then collected from the polyethylene tubing. The drilling rods were then pulled back to the next sampling depth and the purging and sampling procedure was repeated.

Six groundwater borings (SB-1 through SB-6) were completed at the Site on February 3 through 5, 2014 to investigate and further delineate cVOC contamination in the area of the Site. Groundwater boring locations are illustrated on Figure 2. Two to four groundwater samples were collected from each soil boring (15 groundwater samples) and submitted to the MDH laboratory for analysis of VOC analysis using EPA method 8260. Groundwater samples SB-1-W (71-75), SB-3-W (46-50), and SB-3-W (68-72) could not be analyzed by the MDH because an air bubble larger than the allowable volume was present in each of the sample containers upon arrival at the MDH lab.

Sampling information is summarized on the Groundwater Sample Collection Record forms included as Appendix D.

Groundwater Laboratory Analytical Results

Acetone was detected in groundwater sample SB-3-W (13-18) at a concentration of 37 micrograms per liter. No other VOCs were detected in groundwater samples analyzed during this Site investigation.

No VOCs were detected in the field blanks collected during this investigation.

No VOCs were detected in the trip blank submitted with the groundwater samples.

Groundwater sample analytical results are illustrated on figure 5. Groundwater analytical results are summarized on Table 3. The laboratory analytical report is included in Appendix C.

Site Hydrogeology

Groundwater at the Site was measured to be approximately 11.5 to 13-feet bgs in the groundwater borings advanced during this investigation. No groundwater flow direction could be identified based on the groundwater level measurements recorded. Groundwater level measurements are presented on the Groundwater Sample Collection Record forms included as Appendix D. The regional groundwater flow direction in the area of the Site is to the east-southeast and south based on data collected during previous projects completed by AECOM.

3.6 Soil Vapor Borings

Seven soil vapor borings (VP-1 through VP-5, SB-1-VP, and SB-3-VP) were completed at the Site on February 5, 2014 to investigate potential VOC contamination west of the Site within the ROW of Taft Avenue South. Soil vapor boring locations are illustrated on Figure 2. Soil vapor borings were advanced at each location at a depth of seven to eight feet bgs. Soil vapor borings were advanced and samples were collected using the following procedures:

- The soil vapor boring Geoprobe® tooling was advanced to approximately seven to eight feet bgs using direct push drilling methods;
- The drilling rods were pulled back approximately 1-foot from the drive-cap to expose the sampling interval (i.e. the void space left when the drilling rods were retracted);
- An adapter connected to new polyethylene tubing was threaded onto the bottom of the drilling rods (the tubing extended several feet above ground surface); and,
- A soil vapor sample was collected (described below).

Collection of soil vapor samples was performed as described below:

- A minimum of two sampling interval volumes (i.e., total volume of the monitoring point and tube) of soil vapor was removed to ensure samples were representative of soil vapor. Purging was completed accurately using a graduated syringe;
- An in-line particulates filter was placed on the top end of the sampling tubing to trap particles and prevent moisture from entering the evacuated Summa canister;
- A sample was collected by attaching the top end of the sampling tubing to an evacuated Summa canister instrumented with a vacuum gauge;

- The initial vacuum gauge reading was noted and recorded, the evacuated canister valve was opened, and the vacuum gauge was monitored to check progress of canister filling;
- The evacuated canister valve was closed after the vacuum gauge indicated that the Summa canister was full;
- The time required for sampling and the final pressure was recorded on the field form and chain-of-custody form; and,
- The top end of the tubing was connected to a PID equipped with an 11.7 eV lamp and the PID reading was recorded on the field form and the chain-of-custody form.

Vapor samples were submitted to Pace for VOC analysis using EPA method TO-15. Sampling information is summarized on the Soil Vapor Sample Collection Record forms included as Appendix D.

Soil Vapor Laboratory Analytical Results

Soil vapor analytical results were compared to the following intrusion screening values (ISVs) as applicable: ten times residential ISVs, ten times industrial ISVs and acute ISVs to determine the potential risk for vapor intrusion to receptors. Samples that were collected from the Former Flame Metals property were compared to the ten times industrial ISVs. Samples that were collected from the ROW of Taft Avenue South were compared to the ten times residential ISVs. All samples were compared to the acute ISVs.

Several VOC compounds were detected in soil vapor samples collected during this investigation. One VOC (1,3-butadiene) was detected above ten times the residential ISV of $3.0 \mu\text{g}/\text{m}^3$ in soil vapor samples VP-1 ($16.1 \mu\text{g}/\text{m}^3$) and VP-2 ($8.7 \mu\text{g}/\text{m}^3$). VP-1 and VP-2 were collected in the ROW of Taft Avenue South. No other VOCs were detected at concentrations above their respective applicable criteria. 1,3-butadiene is commonly used during rubber manufacturing and is found in vehicle exhaust.

One blind duplicate sample was collected for quality control/quality assurance for the soil vapor sampling. Blind duplicate sample DUP-VP-4 was collected at the location of VP-4. The blind duplicate results generally correspond with the results observed for the original samples; however, some results were moderately different between the parent and duplicate samples.

Soil vapor analytical results are summarized on Table 4. The laboratory analytical report is included in Appendix C. Soil vapor analytical results are illustrated on Figure 6.

3.7 Spatial Data Collection

Spatial data for the soil and groundwater boring locations were collected with a Trimble™ global positioning system unit on February 5, 2014. The Trimble™ unit has sub-meter accuracy. The waypoint locations are summarized on Table 5.

3.8 Investigation Derived Waste

Investigation derived waste (IDW) generated during the investigation included soil cuttings and temporary well purge water. Soil cuttings and purge water were containerized in 55-gallon drums. The drums were labeled with generation information and staged at the Site.

One composite soil sample was collected from the drum containing soil cuttings and submitted to Pace for the analysis of Toxicity Characteristic Leaching Procedure (TCLP) VOC, TCLP metals, and total metals. One water sample was collected from the drum containing purge water and submitted to Pace for the analysis of VOC. The laboratory analytical report is included in Appendix C.

Waste profiles for the soil and water were created by Clean Harbors Environmental Services, Inc. (Clean Harbors). The IDW was picked up from the Site on March 12, 2014 by Clean Harbors and transported to their disposal facility. Copies of IDW waste manifests and other disposal documentation are included as Appendix E.

4.0 Conclusions

Soil Impacts

No VOCs were detected in any of the soil samples collected; therefore, no areas of soil contamination were identified during this Site investigation.

Groundwater Impacts

Only one VOC [acetone in sample SB-3-W (13-18) at 37 µg/L] was detected in groundwater samples collected during this investigation. Acetone was detected at a concentration below the applicable criteria. No other VOCs were detected in groundwater samples analyzed during this Site investigation. Acetone is a common laboratory contaminant and may not be representative of Site conditions. No areas of groundwater contamination were identified based on the groundwater samples collected during this Site investigation.

Soil Vapor Impacts

Only one VOC (1,3-butadiene) was detected above the applicable criteria (ten times the residential ISVs) in soil vapor samples collected during this investigation. No other VOCs were detected at concentrations above their respective applicable criteria. The two soil vapor samples that exhibited 1,3-butadiene concentration above applicable criteria were collected in the ROW of Taft Avenue South and are not likely associated with the Former Flame Metals property. 1,3-butadiene is commonly used during rubber manufacturing and is found in vehicle exhaust. The relatively low level VOCs detected in soil vapor samples may also be the results of residual VOCs in the Summa canisters after they were cleaned by Pace. No source areas of soil vapor contamination were identified based on samples collected during this investigation. 1,3-butadiene is also known as “phantom compound” based on recent research provided by the MPCA.

5.0 Recommendations

AECOM recommends that no additional Site investigation be performed on the Former Flame Metals property based on the soil, groundwater, and soil vapor results collected. The MPCA should consider confirmation soil vapor sampling adjacent to soil vapor borings VP-1 and VP-2 and soil vapor sampling on the residential property immediately west of VP-1 and VP-2.

6.0 General Qualifications

The analysis and recommendations in this report are based on the data included herein. The report was prepared in accordance with generally accepted practices exercised by members of the profession currently practicing in this area under similar conditions. No warranty, expressed or implied, is made. The scope of the report is limited to the specific project location described herein and a description of the project represents an understanding of significant aspects in reference to the Site.

We appreciate the opportunity to work with you on this project. If you have questions concerning this Site Investigation Report or wish to discuss other project considerations, please call Daniel Phelps of AECOM at (612) 376-2448 at your convenience. We would enjoy hearing from you.

Sincerely,



Daniel Phelps, P.G.
Project Manager



Robert DeGroot, P.E., P.G.
Principal Engineer

Enc.

List of Figures

Figure 1 – Site Location Map

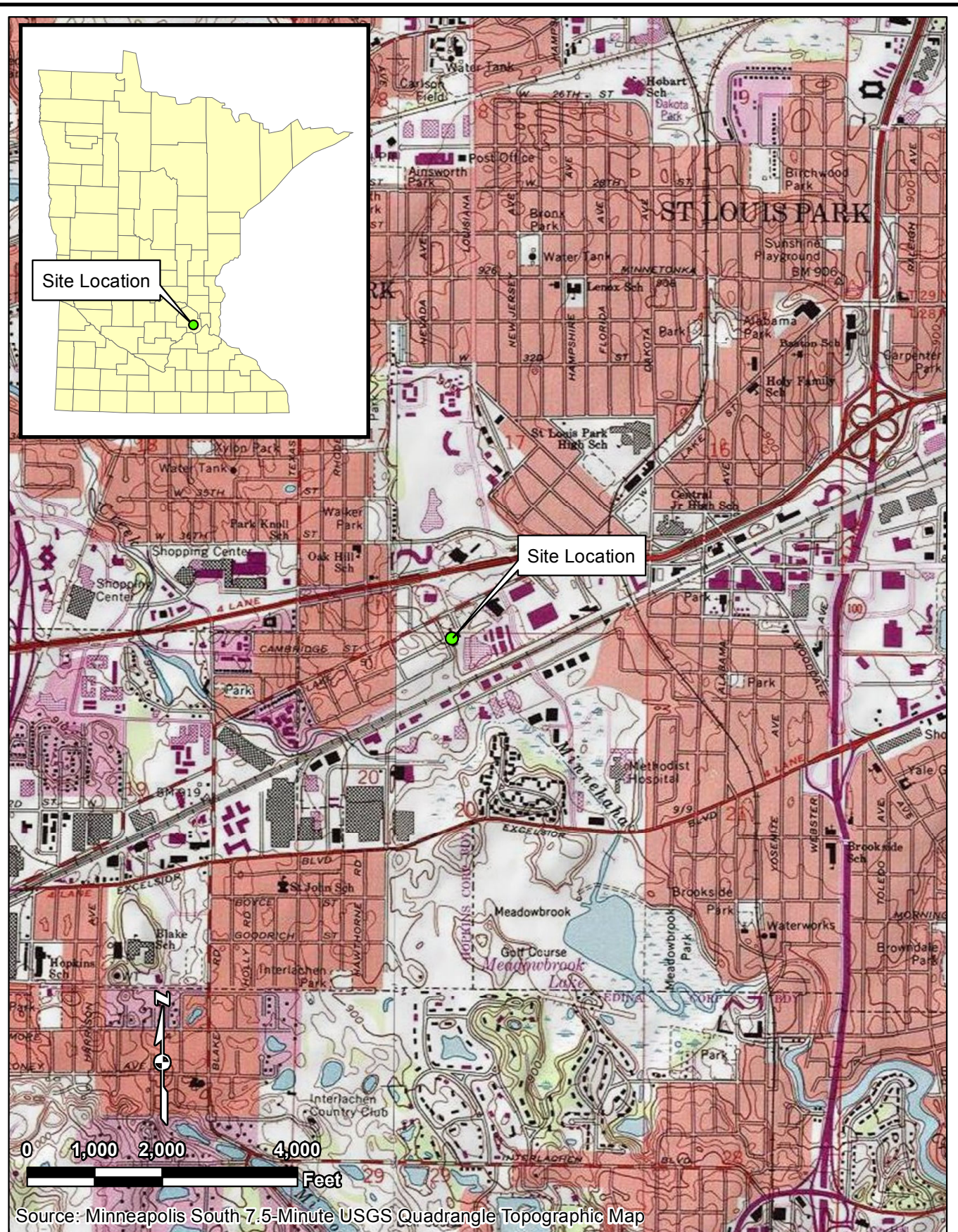
Figure 2 – Site Plan

Figure 3 – Cross Section

Figure 4 – Soil Sample Analytical Results

Figure 5 – Groundwater Sample Analytical Results

Figure 6 – Soil Vapor Sample Analytical Results



Source: Minneapolis South 7.5-Minute USGS Quadrangle Topographic Map

Flame Metals
7317 W Lake Street
 St. Louis Park, Minnesota
 Project No.: 60314270 Date: 1/17/2014

Site Location Map

AECOM

Figure 1

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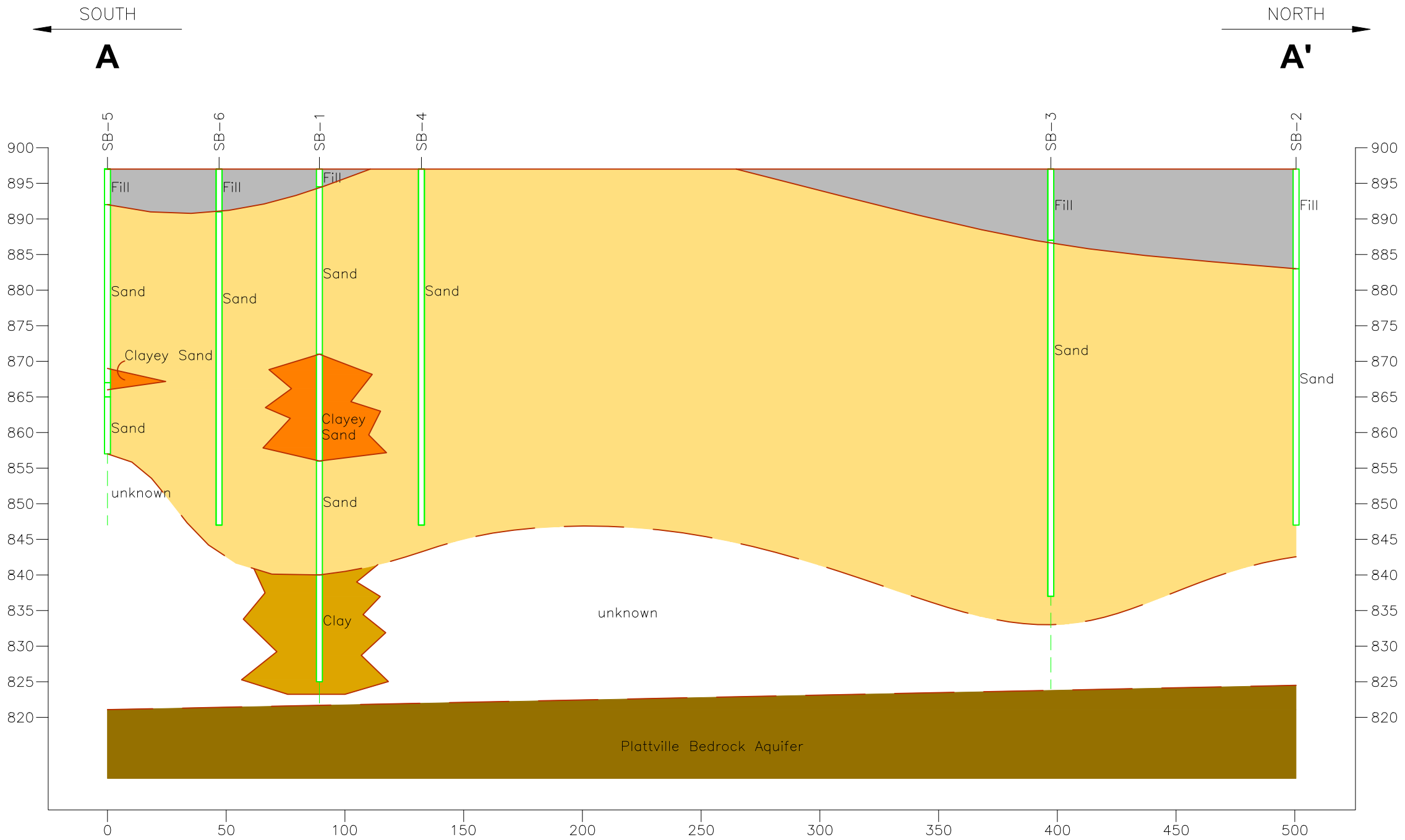


Flame Metals
7317 W Lake Street
St. Louis Park, Minnesota
Project No.: 60314270 Date: 3/31/2014

Proposed Sampling Locations

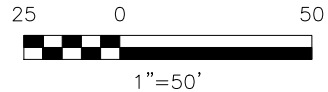
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Figure 2

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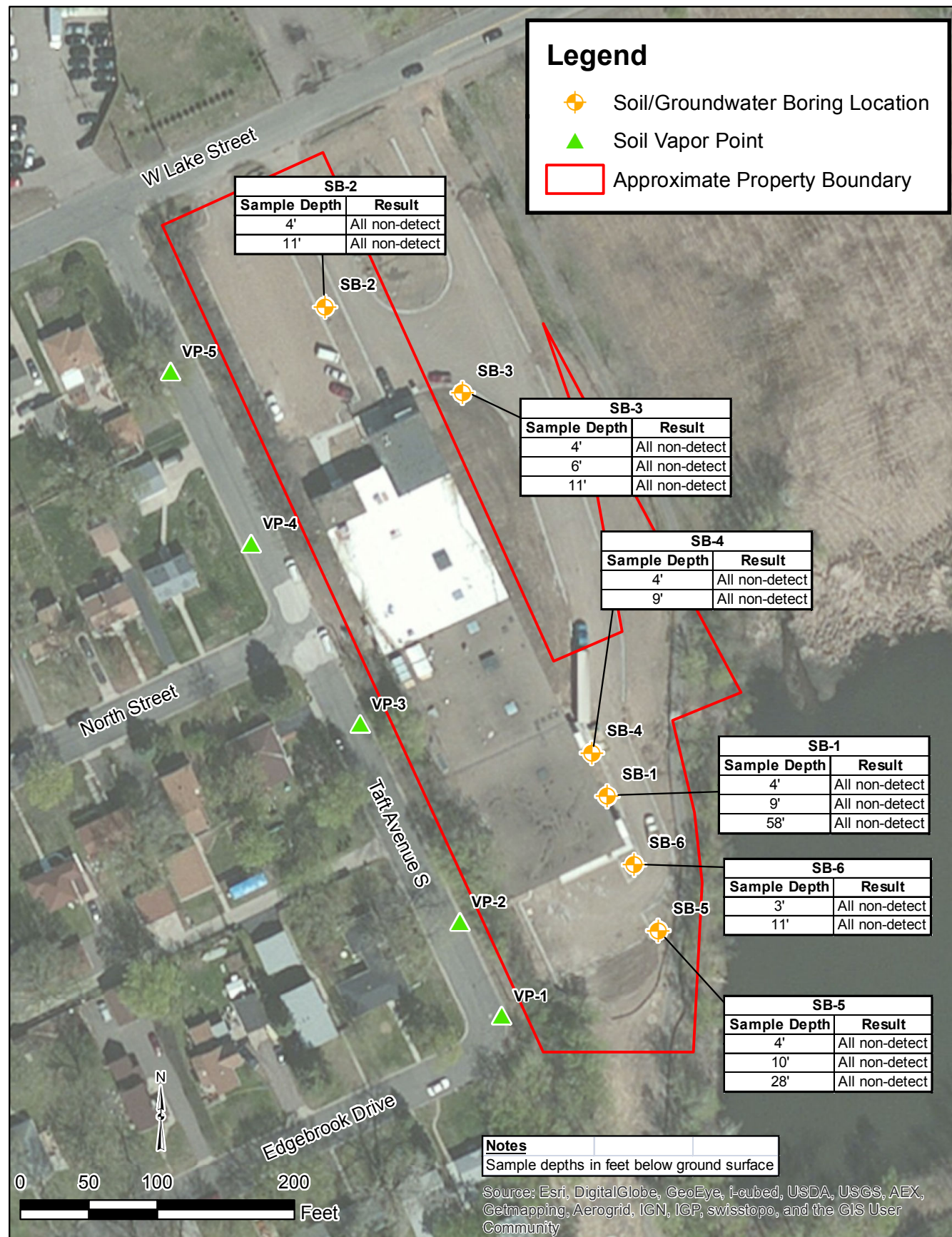
LEGEND

GROUNDWATER BORING



MPCA - Former Flame Metals 7317 East Lake Street, St. Louis Park, MN Project # 60314270			Cross Section A-A'	
DATE: 04/11/14	DRWN: TC/MN.		FIGURE 3	

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Flame Metals
7317 W Lake Street
St. Louis Park, Minnesota
Project No.: 60314270 Date: 4/11/2014

Soil Sample
Analytical Results

AECOM
Figure 4

Legend

-  Soil/Groundwater Boring Location
-  Soil Vapor Point
-  Approximate Property Boundary

SB-2	
Sample Depth	Acetone Result
12-16'	<20
46-50'	<20

SB-3	
Sample Depth	Acetone Result
13-18'	37
46-50'	NA
68-72'	NA

SB-4	
Sample Depth	Acetone Result
11-15'	<20
46-50'	<20

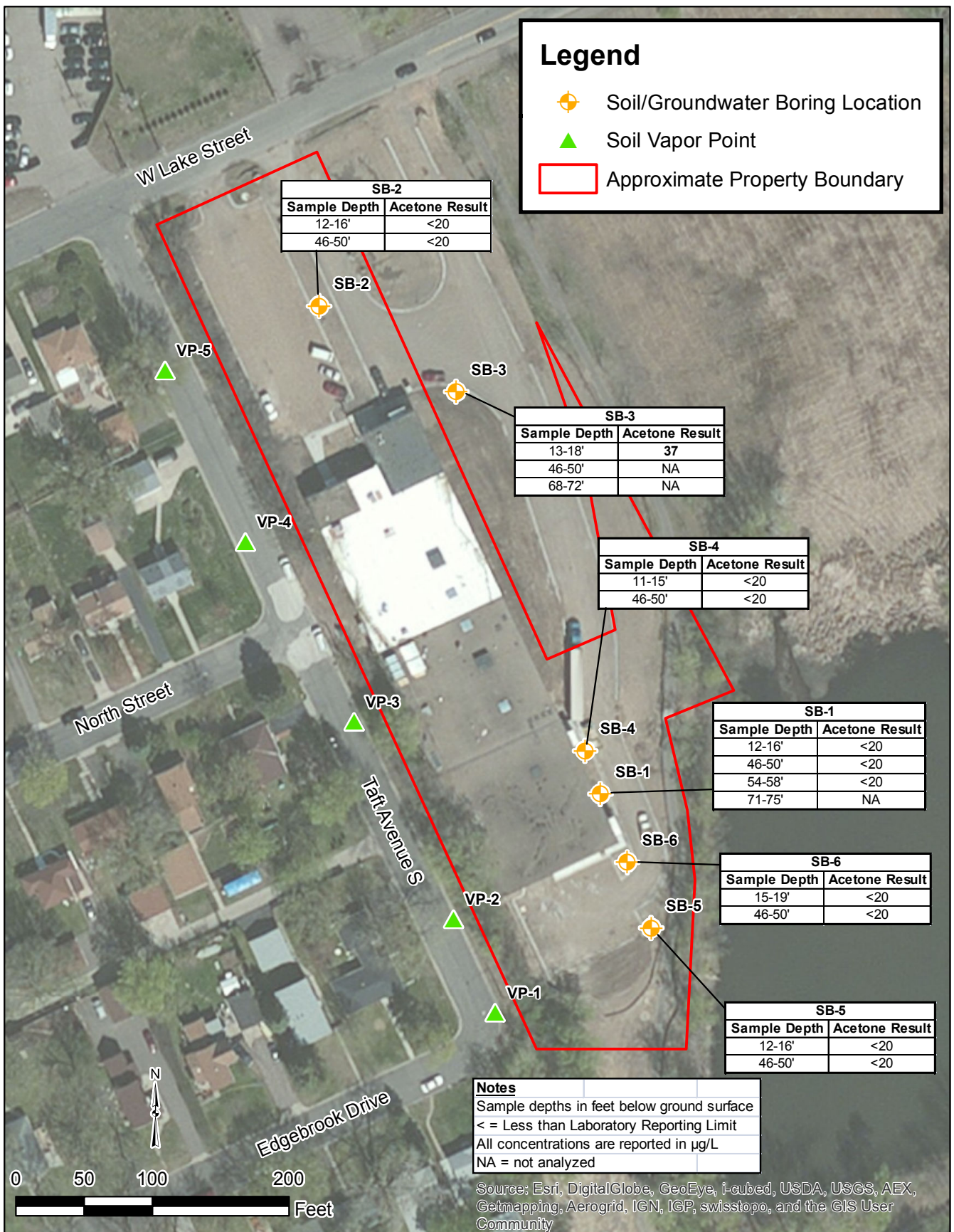
SB-1	
Sample Depth	Acetone Result
12-16'	<20
46-50'	<20
54-58'	<20
71-75'	NA

SB-6	
Sample Depth	Acetone Result
15-19'	<20
46-50'	<20

SB-5	
Sample Depth	Acetone Result
12-16'	<20
46-50'	<20

Notes	
Sample depths in feet below ground surface	
< = Less than Laboratory Reporting Limit	
All concentrations are reported in µg/L	
NA = not analyzed	

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

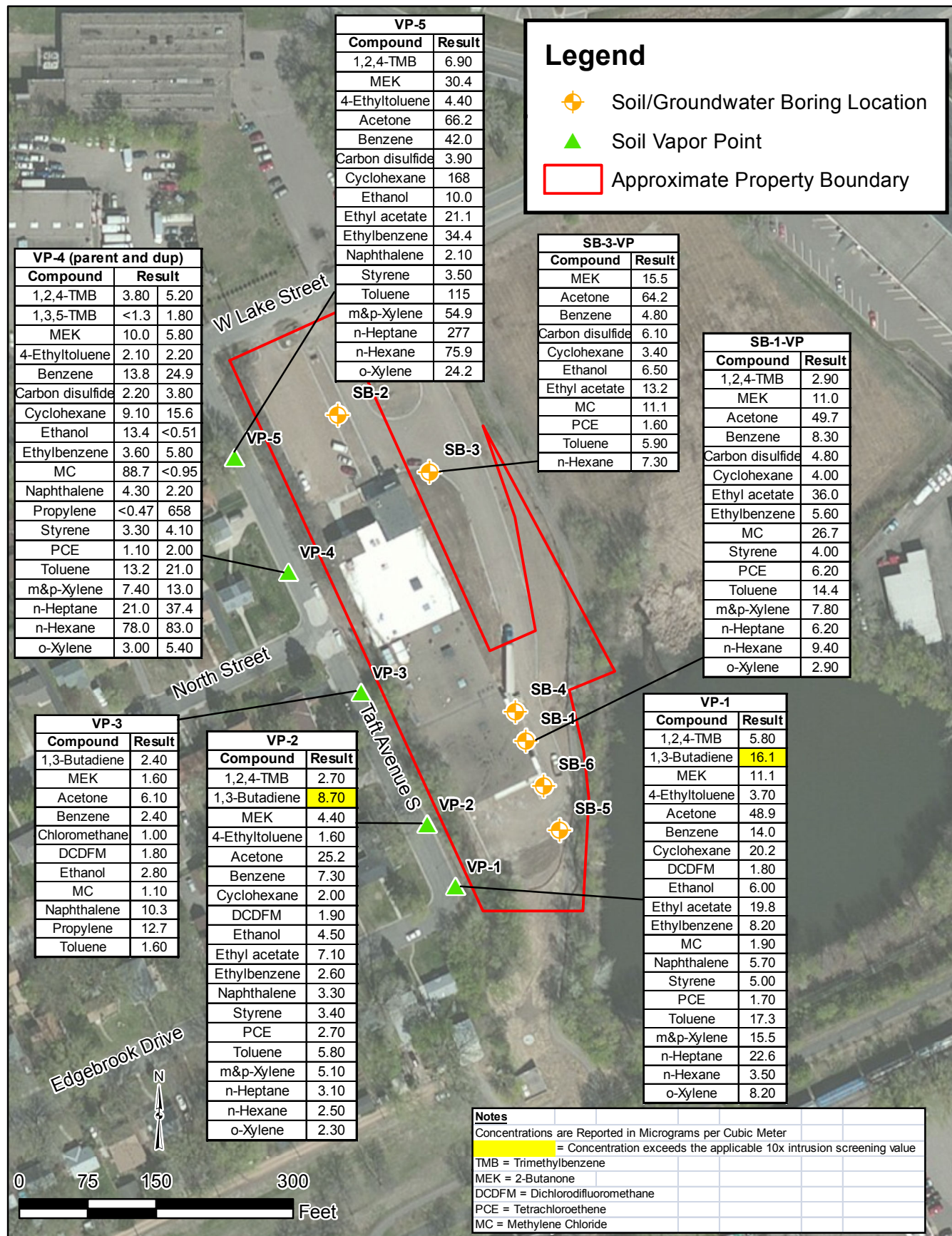


Flame Metals
 7317 W Lake Street
 St. Louis Park, Minnesota
 Project No.: 60314270 Date: 4/11/2014

Groundwater Sample Analytical Results

AECOM

Figure 5



List of Tables

Table 1 – Results of PID Headspace Screening

Table 2 – Soil Analytical Results for VOCs

Table 3 – Groundwater Analytical Results for VOCs from Groundwater Borings

Table 4 – Soil Vapor Analytical Results for VOCs from Soil Vapor Borings

Table 5 – Spatial Data Summary

Table 1
Results of PID Headspace Screening
St. Louis Park Solvent Plume - Former Flame Metals - St. Louis Park, Minnesota
(Results in PID Units)

Depth (ft.)	Soil Boring Identification					
	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6
0-2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2.5-5	33.8	<1.0	<1.0	<1.0	<1.0	27
5-7.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7.5-10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
10-12.5	11.5	<1.0	<1.0	<1.0	<1.0	<1.0
12.5-15	<1.0	1.9	<1.0	<1.0	<1.0	<1.0
15-17.5	104.6	NR	<1.0	<1.0	<1.0	42.7
17.5-20	17.4	NR	<1.0	<1.0	<1.0	<1.0
20-22.5	<1.0	76.6	NR	<1.0	<1.0	11.2
22.5-25	<1.0	NR	NR		<1.0	<1.0
25-27.5	<1.0	27.2	<1.0	<1.0	<1.0	1.5
27.5-30	<1.0	128.2		<1.0	<1.0	1.8
30-32.5	<1.0	1.4	<1.0	<1.0	<1.0	<1.0
32.5-35	<1.0	76.3		<1.0	<1.0	<1.0
35-37.5	<1.0	<1.0	NR	<1.0		<1.0
37.5-40	<1.0	<1.0	NR	<1.0		<1.0
40-42.5	<1.0	24.9	1,007	<1.0		<1.0
42.5-45	<1.0	5.6		<1.0		<1.0
45-47.5	<1.0	65.3	55.6	<1.0		<1.0
47.5-50	<1.0	<1.0		<1.0		<1.0
50-52.5	<1.0		>2,000			
52.5-55	<1.0		>2,000			
55-57.5	<1.0		<1.0			
57.5-60	<1.0		<1.0			
60-62.5	<1.0					
62.5-65	<1.0					
65-67.5	<1.0					
67.5-70	<1.0					
	EOB-70'	EOB-50'	EOB-60'	EOB-50'	EOB-35'	EOB-50'

Notes

PID = photoionization detector

PID Headspace readings were completed in accordance with MPCA polyethylene bag headspace procedures with a PID meter equipped with an 11.7 eV lamp, calibrated onsite daily to 100 parts per million isobutylene gas.

Soil samples were collected on January 29 through February 3, 2014

NR = no recovery

EOB = end of boring

Table 2
Soil Analytical Results for VOCs
St. Louis Park Solvent Plume - Former Flame Metals - St. Louis Park, Minnesota
Partial Listing - Only Compounds Detected are Listed

Sample Identification (Depth in ft.)	SB-1-S (4')	SB-1-S (9')	SB-1-S (58')	SB-2-S (4')	SB-2-S (11')	SB-3-S (4')	SB-3-S (6')	SB-3-S (11')	SB-4-S (4')	SB-4-S (9')	SB-5-S (4')	SB-5-S (10')	SB-5-S (28')	SB-6-S (3')	SB-6-S (11')	MeOH Blank
Date	1/29/2014	1/29/2014	1/29/2014	2/3/2014	2/3/2014	1/31/2014	1/31/2014	1/31/2014	1/30/2014	1/30/2014	1/30/2014	1/30/2014	1/30/2014	1/31/2014	1/31/2014	1/29/2014
Compound	Tier 1 SLV	Tier 1 SRV														
None Detected	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes
Tier 1 SLV = Residential Soil Leaching Value
Tier 1 SRV = Residential Soil Reference Value
NA = not applicable
ND = not detected

Table 3
Groundwater Analytical Results for VOCs from Groundwater Borings
St. Louis Park Solvent Plume - Former Flame Metals - St. Louis Park, Minnesota
Concentrations are Reported in micrograms per liter
Partial Listing - Only Compounds Detected are Listed

Sample Identification				SB-1-W (12-16')	SB-1-W (46-50')	SB-1-W (54-58')	SB-1-W (71-75')	SB-2-W (12-16')	SB-2-W (46-50')	Dup-SB-2-W (46-50')	SB-3-W (13-18')	SB-3-W (46-50')	SB-3-W (68-72')	SB-4-W (11-15')	SB-4-W (46-50')	SB-5-W (12-16')	SB-5-W (46-50')	SB-6-W (15- 19')	Dup-SB-6-W (15-19')	SB-6-W (46-50')	Trip Blank	FB- 020314	FB- 020514
Date				2/3/14	2/3/14	2/3/14	2/3/14	2/5/14	2/5/14	2/5/14	2/5/14	2/5/14	2/5/14	2/4/14	2/4/14	2/3/14	2/3/14	2/3/14	2/3/14	2/3/14	1/29/14	2/3/14	2/5/14
Health Based Guidance Values																							
Compounds	HRL	HBV	RAA																				
Acetone	4,000	NE	NE	<20	<20	<20	NA	<20	<20	<20	37	NA	NA	<20	<20	<20	<20	<20	<20	<20	<20	<20	

Notes
NA = not analyzed
< = Less than Laboratory Reporting Limit
BOLD Text indicates result is above reporting limit
= Concentration exceeds HRL/HBV/RAA
HRL = Health Risk Limit
HBV = Health Based Value
RAA = Risk Assessment Advice
NE = Not Established
* = Laboratory reporting limit is greater than established groundwater standard (HRL/HBV)

Table 4
Soil Vapor Analytical Results for VOCs from Soil Vapor Borings
St. Louis Park Solvent Plume - Former Flame Metals - St. Louis Park, Minnesota
Concentrations are Reported in Micrograms per Cubic Meter
Partial Listing - Only Compounds Detected are Listed

Collection Location/Comparison Criteria				Taft/10x Res. ISV						Flame/10x Ind. ISV	
Sample Identification				VP-1	VP-2	VP-3	VP-4	DUP-VP-4	VP-5	SB-1-VP	SB-3-VP
PID Reading Following Sample Collection (in ppm)				<1.0	1.2	NA	7.0	7.0	12	<1.0	<1.0
Date Collected				2/5/14	2/5/14	2/5/14	2/5/14	2/5/14	2/5/14	2/5/14	2/5/14
Compound	10x Res. ISV	10x Ind. ISV	Acute ISV								
1,2,4-Trimethylbenzene	70	200	NE	5.80	2.70	<1.4	3.80	5.20	6.90	2.90	<2.3
1,3,5-Trimethylbenzene	60	200	NE	<1.4	<1.5	<1.4	<1.3	1.80	<1.3	<2.3	<2.3
1,3-Butadiene	3.00	10	NE	16.1	8.70	2.40	<0.60	<0.60	<0.60	<1.0	<1.0
2-Butanone (MEK)	50,000	100,000	10,000	11.1	4.40	1.60	10.0	5.80	30.4	11.0	15.5
4-Ethyltoluene	NE	NE	NE	3.70	1.60	<1.4	2.10	2.20	4.40	<2.3	<2.3
Acetone	310,000	87,000	60,000	48.9	25.2	6.10	<0.64	<0.64	66.2	49.7	64.2
Benzene	45	130	1,000	14.0	7.30	2.40	13.8	24.9	42.0	8.30	4.80
Carbon disulfide	7,000	20,000	6,000	<0.88	<0.94	<0.91	2.20	3.80	3.90	4.80	6.10
Chloromethane	900	3,000	1,000	<0.58	<0.63	1.00	<0.56	<0.56	<0.56	<0.96	<0.96
Cyclohexane	60,000	200,000	NE	20.2	2.00	<1.0	9.10	15.6	168	4.00	3.40
Dichlorodifluoromethane	2,000	6,000	NE	1.80	1.90	1.80	<1.4	<1.4	<1.4	<2.3	<2.3
Ethanol	150,000	420,000	180,000	6.00	4.50	2.80	13.4	<0.51	10.0	<0.87	6.50
Ethyl acetate	30,000	80,000	40,000	19.8	7.10	<1.1	<0.98	<0.98	21.1	36.0	13.2
Ethylbenzene	10,000	30,000	10,000	8.20	2.60	<1.3	3.60	5.80	34.4	5.60	<2.0
Methylene Chloride	200	600	10,000	1.90	<1.1	1.10	88.7	<0.95	<0.95	26.7	11.1
Naphthalene	90	300	NE	5.70	3.30	10.3	4.30	2.20	2.10	<2.5	<2.5
Propylene	30,000	80,000	NE	<0.49	<0.52	12.7	<0.47	658	<0.47	<0.80	<0.80
Styrene	10,000	30,000	21,000	5.00	3.40	<1.3	3.30	4.10	3.50	4.00	<2.0
Tetrachloroethene	200	600	20,000	1.70	2.70	<0.99	1.10	2.00	<0.92	6.20	1.60
Toluene	50,000	100,000	37,000	17.3	5.80	1.60	13.2	21.0	115	14.4	5.90
m&p-Xylene	1,000	3,000	43,000	15.5	5.10	<2.5	7.40	13.0	54.9	7.80	<4.0
n-Heptane	NE	NE	NE	22.6	3.10	<1.2	21.0	37.4	277	6.20	<1.9
n-Hexane	20,000	60,000	NE	3.50	2.50	<1.0	78.0	83.0	75.9	9.40	7.30
o-Xylene	1,000	3,000	43,000	8.20	2.30	<1.3	3.00	5.40	24.2	2.90	<2.0

Notes

PID = photoionization detector

ppm = parts per million

NA = No vapor flowing to photoionization detector. Some sediment is likely clogging soil vapor tubing.

< = Less than Laboratory Reporting Limit

BOLD Text indicates result is above reporting limit

Taft = a soil vapor sample advanced on Taft Avenue South right-of-way and compared to Res. ISV criteria

Flame = a soil vapor sample advanced on the Former Flame Metals property and compared to Ind. ISV criteria

10x Res. ISV = Ten times the residential intrusion screening value for vapor intrusion risk evaluation

10x Ind. ISV = Ten times the industrial intrusion screening value for vapor intrusion risk evaluation

Acute ISV = Acute intrusion screening value for vapor intrusion risk evaluation

16.1 = Concentration exceeds the applicable 10x ISV

NE = criteria not established

* = Laboratory reporting limit is greater than established criteria

Table 5
Spatial Data Summary
St. Louis Park Solvent Plume - Former Flame Metals - St. Louis Park, Minnesota

Location Identification	Date Collected	Northing	Easting
SB-1	2/5/14	16324560.30	1544254.64
SB-2	2/5/14	16324917.46	1544048.43
SB-3	2/5/14	16324854.71	1544148.99
SB-4	2/5/14	16324592.13	1544243.39
SB-5	2/5/14	16324462.34	1544291.86
SB-6	2/5/14	16324510.49	1544274.15
VP-1	2/5/14	16324400.55	1544177.59
VP-2	2/5/14	16324468.96	1544146.90
VP-3	2/5/14	16324613.30	1544074.04
VP-4	2/5/14	16324744.97	1543994.45
VP-5	2/5/14	16324870.44	1543935.70

Notes

Waypoints are presented in UTM's, NAD 83, Zone 15N, feet
Waypoints collected with a Trimble™ GeoXH GPS unit

Appendix A

Right-of-Way Permit



Experience **LIFE** in the Park

January 21, 2014

TO: AECOM Technical Services, Inc.

RE: APPLICATION TO WORK IN PUBLIC RIGHT-OF-WAY

Dollar Amount: \$0.00

SLP Permit Number: SL225245

SLP Location: 7317 Lake St W

Your permit application has been reviewed. The permit is approved subject to the Requirements for Working in the Public Right-of-Way (listed on the back of the permit application) and any notes & conditions listed below:

Notes

- Restoration of the boulevard area shall be completed as soon as the weather allows.
- Any sidewalk removed must be properly barricaded until replacement.
- Replacement of sidewalk shall occur within 5 days of project completion.
- Traffic control shall be provided per the Temporary Traffic Control Zone Layouts Field Manual 2011.

Please note that you are required to contact the City Inspector at 952/924-2555 at least 48 hours prior to the start of work.

If you have any questions, please feel free to call me at 952/924-2548.

Sincerely,

A handwritten signature in black ink, appearing to read "Karen Wall", written in a cursive style.

Karen Wall
Engineering Technician

PERMIT

City of St. Louis Park

5005 Minnetonka Boulevard
St. Louis Park, MN 55416-2290
952-924-2588
www.stlouispark.org



Permit Type:
Permit Number:
Date Issued:

Public Works
SL225245
01/21/2014

Site Address: 7317 Lake St W

Lot: 000 Block: 161 Addition: Rearrangement of St Louis Park
PID: 20-117-21-21-0093
Use:

Description:

Sub Type: Utility work below ground
Work Type: Bituminous
Description: Soil borings

Comments:

Fee Summary:

<u>Description</u>	<u>Amount</u>	<u>Revenue Code</u>
Administrative Fee - Public Works	\$0.00	1501-4211
Total:	\$0.00	

Contractor:

AECOM Technical Services, Inc.
800 LaSalle Ave. Suite #110
Minneapolis MN 55402
(612) 376-2448

- Applicant -

Owner:

M&L Anodizing Properties LLC
7300 Lake St W
St Louis Park MN 55426

Inspections made by the City are a public service and do not constitute any representation, guarantee or warranty, either implied or expressed, to any person as to the condition of the building inspected.

Applicant/Permitee: Signature

Issued By: Signature

INSPECTION RECORD

City of St. Louis Park

5005 Minnetonka Boulevard
St. Louis Park, MN 55416-2290
952-924-2588

www.stlouispark.org

Permit Type:

Public Works

Permit Number:

SL225245

Date Issued:

1/21/2014

Site Address: 7317 Lake St W

Lot: 000 Block: 161 Addition: Rearrangement of St Louis Park

PID: 20-117-21-21-0093

Use:

Sub Type: Utility work below ground

AECOM Technical Services, Inc.

Work Type: Bituminous

(612) 376-2448

Description: Soil borings

Inspection Type	Date	Inspector
Final		

Soil borings on Taft Ave from Lake St to Edgebrook

POST THIS CARD IN AN ACCESSIBLE LOCATION ON THE WORK SITE.

FOR ALL FIRE INSPECTIONS CALL THE FIRE DEPARTMENT AT 952-924-2595

FOR ALL REQUIRED INSPECTIONS CALL THE INSPECTIONS DEPARTMENT AT 952-924-2588

FOR PUBLIC WORKS PERMITS CALL THE PUBLIC WORKS DEPARTMENT AT 952-924-2555

Appendix B

Soil Boring Logs



Boring and Well Construction Log

Boring #: SB-1**Sheet 1 of 1**

Project: SLP Solvent Plume-Former Flame Metals	Contractor: Matrix Environmental	Location: St. Louis Park, MN
Project #: 60314270	Operator: Eric	Northing: 1544266.09 Easting: 16324585.1
Client: MPCA	Drill Rig Type: Geoprobe Rig	Surface Elevation (ft AMSL): 897
Start Date & Time: 01/29/14 0845	Method: Direct Push	Total Depth (ft): 75
Finish Date & Time: 01/29/14 1130	Boring ID: 2"	Logged By: Ben Klaus

Sample					Depth (ft.)	Lithology	USCS Symbol	Soil and Rock Description	Well Diagram
Analytical Sample	Sample Type	Blows/ 6 inch	Rec (ft)	PID (ppm)					

SB-1-S (4)	DP	NA	4.5	<1.0	0	SC	CLAYEY SAND; fine to coarse sand; brown (10YR 4/3); few lean clay; moist	Temp Well			
				33.8	5	SP					
SB-1-S (9)	DP		3.0	<1.0	10	SW	POORLY GRADED SAND; fine sand; trace small to large gravel; brown (10YR 4/3); moist				
				<1.0	10		WELL GRADED SAND; fine to coarse sand; yellowish brown (10YR 5/4); wet				
SB-1-W (12-16)	DP		3.0	11.5	15						
				<1.0	15	trace small to large gravel from 20 to 25'					
	DP		3.0	104.6	20						
				17.4	20						
	DP		1.0	<1.0	25						
				<1.0	25						
	DP		3.5	<1.0	30	SC	CLAYEY SAND; fine sand; some clay; dark brown (10YR 3/3); wet				
				<1.0	30		fine to coarse sand from 31 to 32'				
	DP		2.5	<1.0	35						
				<1.0	35						
	DP		3.0	<1.0	40						
				<1.0	40	SW	WELL GRADED SAND; fine to coarse sand; trace clay; brown (10YR 4/3); wet				
SB-1-W (46-50)	DP		3.5	<1.0	45		Temp Well				
				<1.0	45				few clay from 52 to 53'		
	DP		3.0	<1.0	50						
				<1.0	50						
	DP		3.5	<1.0	55						
				<1.0	55						
SB-1-W (54-58) SB-1-S (58)	DP		4.5	<1.0	60	CL	LEAN CLAY; trace fine sand; very dark grey (10YR 3/1); medium plasticity; wet	Temp Well			
				<1.0	60		fine sand from 65 to 66'				
	DP		5.0	<1.0	65						
				<1.0	65						
	DP		5.0	<1.0	70						
				<1.0	70		No soil samples collected Refusal at assumed bedrock				
SB-1-W (71-75)-Not Analyzed					75		Temp Well				

Remarks and Datum Used:

Soil and groundwater samples were analyzed for volatile organic compounds

AECOM
800 LaSalle Avenue
Suite 110
Minneapolis, MN 55402
Phone: (612) 376-2000

NR = no recovery

AMSL = above mean sea level

NA = not applicable

DP = direct push

Depth to Water Table During Drilling (ft): 10



Boring and Well Construction Log

Boring #: SB-2**Sheet 1 of 1**

Project: SLP Solvent Plume-Former Flame Metals	Contractor: Matrix Environmental	Location: St. Louis Park, MN
Project #: 60314270	Operator: Eric	Northing: 1544059.88 Easting: 16324922.23
Client: MPCA	Drill Rig Type: Geoprobe Rig	Surface Elevation (ft AMSL): 897
Start Date & Time: 02/3/14 0820	Method: Direct Push	Total Depth (ft): 50
Finish Date & Time: 02/3/14 1015	Boring ID: 2"	Logged By: Ben Klaus

Sample					Depth (ft.)	Lithology	USCS Symbol	Soil and Rock Description	Well Diagram
Analytical Sample	Sample Type	Blows/ 6 inch	Rec (ft)	PID (ppm)					

SB-2-S (4)	DP	NA	2.5	<1.0	0	NA	FILL; fine to coarse sand, Brown (10YR 4/3) to dark brown (10YR 3/3); moist
			2.5	<1.0	5		
DP	2.5		<1.0	5	OL/OH	concrete at 5'	
	2.5		<1.0	10			
SB-2-S (11)	DP		2.0	<1.0	10	CL	LEAN CLAY; black (10YR 2/1) and gray (10YR 5/1); moist to wet at 12'
			1.9		15		
SB-2-W (12-16)	DP		0.0	NA	15	SW	WELL GRADED SAND; fine to coarse sand; trace small gravel; brownsih yellow (10YR 6/6); wet
			0.0	NA	20		
DP	0.7		76.6	20		yellowish brown (10YR 5/4) with few small gravel at 20'	
	1.5		27.2	25			
DP	1.5		128.2	25		trace small gravel	
	3.0		1.4	30			
DP	3.0	76.3	30		pockets of small gravel from 32 to 37.5'		
	2.5	<1.0	35				
DP	2.5	<1.0	35				
	2.5	24.9	40				
DP	2.5	5.6	40				
	2.5	65.3	45				
SB-2-W (46-50)	DP	2.5	<1.0	45			
		2.5	<1.0	50			

Temp Well

Temp Well

Remarks and Datum Used:

Soil and groundwater samples were analyzed for volatile organic compounds

AECOM
800 LaSalle Avenue
Suite 110
Minneapolis, MN 55402
Phone: (612) 376-2000

NR = no recovery

AMSL = above mean sea level

NA = not applicable

DP = direct push

Depth to Water Table During Drilling (ft): 12



Boring and Well Construction Log

Boring #: SB-3**Sheet 1 of 1**

Project: SLP Solvent Plume-Former Flame Metals	Contractor: Matrix Environmental	Location: St. Louis Park, MN
Project #: 60314270	Operator: Eric	Northing: 1544148.99 Easting: 16324869.97
Client: MPCA	Drill Rig Type: Geoprobe Rig	Surface Elevation (ft AMSL): 897
Start Date & Time: 01/31/14 1320	Method: Direct Push	Total Depth (ft): 72
Finish Date & Time: 01/31/14 1645	Boring ID: 2"	Logged By: Ben Klaus

Sample					Depth (ft.)	Lithology	USCS Symbol	Soil and Rock Description	Well Diagram
Analytical Sample	Sample Type	Blows/ 6 inch	Rec (ft)	PID (ppm)					

SB-3-S (4)	DP	NA	4.0	<1.0	0	NA	FILL; fine to coarse sand; trace gravel; brown (10YR 4/3) to black (10YR 2/1); moist		
				<1.0	5				
SB-3-S (6)	DP	NA	3.0	<1.0	5	CL OL/OH	LEAN CLAY; dark grey (10YR 4/1); wet		
				<1.0	10		ORGANIC SOIL; black (10YR 2/1); moist		
SB-3-S (11)	DP	NA	2.5	<1.0	10	SW	WELL GRADED SAND; fine to coarse sand; grey (10YR 5/1); moist to wet at 12'		
				<1.0	15				
SB-3-W (14-18)	DP	NA	2.0	<1.0	20		yellow brown (10YR 5/8) at 19'		
				<1.0	25				
	DP	NA	0.0	NA	25		trace large gravel at 25'		
				<1.0	30				
	DP	NA	0.25	<1.0	30				
				<1.0	35				
	DP	NA	0.0	NA	35				
				<1.0	40				
	DP	NA	1.0	1,007	40		dark yellow brown (10YR 4/4) and some large gravel		
				<1.0	45				
SB-3-W (46-50)-Not Analyzed	DP	NA	0.25	55.6	45				
				<1.0	50				
	DP	NA	1.5	>2,000	50				
				>2,000	55				
	DP	NA	5.0	<1.0	55				
				<1.0	60				
		NA			60		No soil samples collected		
					65				
SB-3-W (68-72)-Not Analyzed		NA			70		Refusal at assumed bedrock		

Remarks and Datum Used:

Soil and groundwater samples were analyzed for volatile organic compounds

AECOM
800 LaSalle Avenue
Suite 110
Minneapolis, MN 55402
Phone: (612) 376-2000

NR = no recovery

AMSL = above mean sea level

NA = not applicable

DP = direct push

Depth to Water Table During Drilling (ft): 12



Boring and Well Construction Log

Boring #: SB-4**Sheet 1 of 1**

Project: SLP Solvent Plume-Former Flame Metals	Contractor: Matrix Environmental	Location: St. Louis Park, MN
Project #: 60314270	Operator: Eric	Northing: 1544249.11 Easting: 16324624.56
Client: MPCA	Drill Rig Type: Geoprobe Rig	Surface Elevation (ft AMSL): 897
Start Date & Time: 01/30/14 0930	Method: Direct Push	Total Depth (ft): 50
Finish Date & Time: 01/30/14 1100	Boring ID: 2"	Logged By: Ben Klaus

Sample					Depth (ft.)	Lithology	USCS Symbol	Soil and Rock Description	Well Diagram
Analytical Sample	Sample Type	Blows/ 6 inch	Rec (ft)	PID (ppm)					

SB-4-S (4)	DP	NA	4.5	<1.0	0	SW	WELL GRADED SAND; fine to coarse sand; yellowish brown (10YR 5/4) to dark brown (10YR 3/3); moist	Temp Well	
				<1.0	5				
SB-4-S (9)	DP		2.5	<1.0	5	SP	POORLY GRADED SAND; fine sand; yellowish brown (10YR 5/4) moist		
				<1.0	10				
SB-4-W (11-15)	DP		2.5	<1.0	10	SW	WELL GRADED SAND; fine to coarse sand; yellowish brown (10YR 5/4); wet		
				<1.0	15				
	DP		2.5	<1.0	15				
				<1.0	20				
	DP		1.0	<1.0	20				
				<1.0	25				
	DP	2.5	<1.0	25	SP	POORLY GRADED SAND; fine sand; trace clay; dark yellowish brown (10YR 4/4) wet			
			<1.0	30					
SB-4-W (46-50)	DP	2.5	<1.0	30					
			<1.0	35					
	DP	2.5	<1.0	35					
			<1.0	40					
	DP	4.5	<1.0	40					
			<1.0	45					
	DP	3.0	<1.0	45					
			<1.0	50					
DP	2.5	<1.0	50						
		<1.0	55						

Remarks and Datum Used:

Soil and groundwater samples were analyzed for volatile organic compounds

AECOM
800 LaSalle Avenue
Suite 110
Minneapolis, MN 55402
Phone: (612) 376-2000

NR = no recovery

AMSL = above mean sea level

NA = not applicable

DP = direct push

Depth to Water Table During Drilling (ft): 10



Boring and Well Construction Log

Boring #: SB-5**Sheet 1 of 1**

Project: SLP Solvent Plume-Former Flame Metals	Contractor: Matrix Environmental	Location: St. Louis Park, MN
Project #: 60314270	Operator: Eric	Northing: 1544287.09 Easting: 16324498.58
Client: MPCA	Drill Rig Type: Geoprobe Rig	Surface Elevation (ft AMSL): 897
Start Date & Time: 01/30/14 1250	Method: Direct Push	Total Depth (ft): 50
Finish Date & Time: 01/30/14 1400	Boring ID: 2"	Logged By: Ben Klaus

Sample					Depth (ft.)	Lithology	USCS Symbol	Soil and Rock Description	Well Diagram
Analytical Sample	Sample Type	Blows/ 6 inch	Rec (ft)	PID (ppm)					

SB-5-S (4)	DP	NA	3.0	<1.0	0	NA	SW	FILL; fine to coarse sand; trace gravel; brown (10YR 4/3); moist			
				<1.0	5			WELL GRADED SAND; fine to coarse sand; brown (10YR 5/3); moist			
SB-5-S (10)	DP		3.0	<1.0	10	SW	SC	wet at 11'			
				<1.0	15			yellowish brown (10YR 5/6)			
SB-5-W (12-16)	DP		2.5	<1.0	20			more coarse sand and trace gravel from 23 to 26'			
				<1.0	25						
SB-5-S (28)	DP		2.5	<1.0	30			CLAYEY SAND; fine grained sand with clay; very dark grey (10YR 3/1); wet			
				<1.0	35			WELL GRADED SAND; fine to coarse sand; trace gravel; yellowish brown (10YR 5/6); wet			
SB-5-W (46-50)	DP		2.5	<1.0	40			No soil samples collected			
				<1.0	45						
								50			

Remarks and Datum Used:

Soil and groundwater samples were analyzed for volatile organic compounds

AECOM
800 LaSalle Avenue
Suite 110
Minneapolis, MN 55402
Phone: (612) 376-2000

NR = no recovery

AMSL = above mean sea level

NA = not applicable

DP = direct push

Depth to Water Table During Drilling (ft): 11



Boring and Well Construction Log

Boring #: SB-6

Sheet 1 of 1

Project: SLP Solvent Plume-Former Flame Metals	Contractor: Matrix Environmental	Location: St. Louis Park, MN
Project #: 60314270	Operator: Eric	Northing: 1544278.92 Easting: 16324544.83
Client: MPCA	Drill Rig Type: Geoprobe Rig	Surface Elevation (ft AMSL): 897
Start Date & Time: 01/31/14 0850	Method: Direct Push	Total Depth (ft): 50
Finish Date & Time: 01/31/14 1245	Boring ID: 2"	Logged By: Ben Klaus

Sample					Depth (ft.)	Lithology	USCS Symbol	Soil and Rock Description	Well Diagram
Analytical Sample	Sample Type	Blows/ 6 inch	Rec (ft)	PID (ppm)					

SB-6-S (3)	DP		3.5	<1.0	0	NA		FILL; fine to coarse sand, Brown (10YR 4/3) to dark brown (10YR 3/3); moist	
				<1.0	5				
	DP		3.5	<1.0	5	SW		WELL GRADED SAND; fine to coarse sand; yellowish brown (10YR 5/4); moist	
				<1.0	10				
SB-6-S (11)	DP		3.5	<1.0	10			wet at 12'	
				<1.0	15				
	DP		2.5	42.7	15			few small gravel from 15 to 15.5'	
				<1.0	20				
SB-6-W (15-19)	DP		2.0	11.2	20			trace small gravel from 22 to 23'	
				<1.0	25				
	DP	NA	2.0	1.5	25			brown (10YR 5/3)	
				1.8	30				
	DP		5.0	<1.0	30			brown (10YR 4/3)	
				<1.0	35				
	DP		2.5	<1.0	35				
				<1.0	40				
	DP		3.0	<1.0	40				
				<1.0	45				
SB-6-W (46-50)	DP		4.0	<1.0	45				
				<1.0	50				

Remarks and Datum Used:

Soil and groundwater samples were analyzed for volatile organic compounds

AECOM
800 LaSalle Avenue
Suite 110
Minneapolis, MN 55402
Phone: (612) 376-2000

NR = no recovery

AMSL = above mean sea level

NA = not applicable

DP = direct push

Depth to Water Table During Drilling (ft): 12

Appendix C

Laboratory Analytical Reports

February 10, 2014

Dan Phelps
AECOM
800 LaSalle Avenue
Minneapolis, MN 55402

RE: Project: MPCA Flame Metals 60314270
Pace Project No.: 10256787

Dear Dan Phelps:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Carol Davy
carol.davy@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Dept of Environmental Management #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
EPA Region 5 #WD-15J
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322

Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10256787001	MeOH Blank	Solid	01/29/14 08:00	02/04/14 09:51
10256787002	SB-1-5 (4')	Solid	01/29/14 09:55	02/04/14 09:51
10256787003	SB-1-5 (9')	Solid	01/29/14 10:05	02/04/14 09:51
10256787004	SB-1-5 (58')	Solid	01/29/14 11:15	02/04/14 09:51
10256787005	SB-5-5 (4')	Solid	01/30/14 13:30	02/04/14 09:51
10256787006	SB-5-5 (10')	Solid	01/30/14 13:35	02/04/14 09:51
10256787007	SB-5-5 (28')	Solid	01/30/14 13:50	02/04/14 09:51
10256787008	SB-4-5 (4')	Solid	01/30/14 10:20	02/04/14 09:51
10256787009	SB-4-5 (9')	Solid	01/30/14 10:25	02/04/14 09:51
10256787010	SB-6-5 (3')	Solid	01/31/14 09:50	02/04/14 09:51
10256787011	SB-6-5 (11')	Solid	01/31/14 09:55	02/04/14 09:51
10256787012	SB-3-5 (4')	Solid	01/31/14 14:00	02/04/14 09:51
10256787013	SB-3-5 (6')	Solid	01/31/14 14:10	02/04/14 09:51
10256787014	SB-3-5 (11')	Solid	01/31/14 14:15	02/04/14 09:51
10256787015	SB-2-5 (4')	Solid	02/03/14 09:30	02/04/14 09:51
10256787016	SB-2-5 (11')	Solid	02/03/14 09:35	02/04/14 09:51

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SAMPLE ANALYTE COUNT

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10256787001	MeOH Blank	EPA 8260	HBP	70
10256787002	SB-1-5 (4')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787003	SB-1-5 (9')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787004	SB-1-5 (58')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787005	SB-5-5 (4')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787006	SB-5-5 (10')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787007	SB-5-5 (28')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787008	SB-4-5 (4')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787009	SB-4-5 (9')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787010	SB-6-5 (3')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787011	SB-6-5 (11')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787012	SB-3-5 (4')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787013	SB-3-5 (6')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787014	SB-3-5 (11')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787015	SB-2-5 (4')	ASTM D2974	JDL	1
		EPA 8260	HBP	70
10256787016	SB-2-5 (11')	ASTM D2974	JDL	1
		EPA 8260	HBP	70

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Method: EPA 8260

Description: 8260 MSV 5030 Med Level

Client: AECOM

Date: February 10, 2014

General Information:

16 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: MeOH Blank **Lab ID: 10256787001** Collected: 01/29/14 08:00 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1000	500	1	02/06/14 16:18	02/06/14 18:23	67-64-1	
Allyl chloride	ND	ug/kg	200	8.8	1	02/06/14 16:18	02/06/14 18:23	107-05-1	
Benzene	ND	ug/kg	20.0	10.0	1	02/06/14 16:18	02/06/14 18:23	71-43-2	
Bromobenzene	ND	ug/kg	50.0	5.8	1	02/06/14 16:18	02/06/14 18:23	108-86-1	
Bromochloromethane	ND	ug/kg	50.0	10.2	1	02/06/14 16:18	02/06/14 18:23	74-97-5	
Bromodichloromethane	ND	ug/kg	50.0	6.4	1	02/06/14 16:18	02/06/14 18:23	75-27-4	
Bromoform	ND	ug/kg	200	100	1	02/06/14 16:18	02/06/14 18:23	75-25-2	
Bromomethane	ND	ug/kg	500	250	1	02/06/14 16:18	02/06/14 18:23	74-83-9	
2-Butanone (MEK)	ND	ug/kg	250	125	1	02/06/14 16:18	02/06/14 18:23	78-93-3	
n-Butylbenzene	ND	ug/kg	50.0	20.0	1	02/06/14 16:18	02/06/14 18:23	104-51-8	
sec-Butylbenzene	ND	ug/kg	50.0	20.0	1	02/06/14 16:18	02/06/14 18:23	135-98-8	
tert-Butylbenzene	ND	ug/kg	50.0	20.0	1	02/06/14 16:18	02/06/14 18:23	98-06-6	
Carbon tetrachloride	ND	ug/kg	50.0	5.0	1	02/06/14 16:18	02/06/14 18:23	56-23-5	
Chlorobenzene	ND	ug/kg	50.0	3.7	1	02/06/14 16:18	02/06/14 18:23	108-90-7	
Chloroethane	ND	ug/kg	500	12.5	1	02/06/14 16:18	02/06/14 18:23	75-00-3	
Chloroform	ND	ug/kg	50.0	7.6	1	02/06/14 16:18	02/06/14 18:23	67-66-3	
Chloromethane	ND	ug/kg	200	15.2	1	02/06/14 16:18	02/06/14 18:23	74-87-3	
2-Chlorotoluene	ND	ug/kg	50.0	25.0	1	02/06/14 16:18	02/06/14 18:23	95-49-8	
4-Chlorotoluene	ND	ug/kg	50.0	25.0	1	02/06/14 16:18	02/06/14 18:23	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	500	73.0	1	02/06/14 16:18	02/06/14 18:23	96-12-8	
Dibromochloromethane	ND	ug/kg	50.0	6.4	1	02/06/14 16:18	02/06/14 18:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	50.0	5.4	1	02/06/14 16:18	02/06/14 18:23	106-93-4	
Dibromomethane	ND	ug/kg	200	7.8	1	02/06/14 16:18	02/06/14 18:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	50.0	25.0	1	02/06/14 16:18	02/06/14 18:23	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	50.0	25.0	1	02/06/14 16:18	02/06/14 18:23	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	50.0	25.0	1	02/06/14 16:18	02/06/14 18:23	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	50.0	15.2	1	02/06/14 16:18	02/06/14 18:23	75-71-8	
1,1-Dichloroethane	ND	ug/kg	50.0	4.1	1	02/06/14 16:18	02/06/14 18:23	75-34-3	
1,2-Dichloroethane	ND	ug/kg	50.0	6.7	1	02/06/14 16:18	02/06/14 18:23	107-06-2	
1,1-Dichloroethene	ND	ug/kg	50.0	7.1	1	02/06/14 16:18	02/06/14 18:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	50.0	8.2	1	02/06/14 16:18	02/06/14 18:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	50.0	6.1	1	02/06/14 16:18	02/06/14 18:23	156-60-5	
Dichlorofluoromethane	ND	ug/kg	500	41.0	1	02/06/14 16:18	02/06/14 18:23	75-43-4	
1,2-Dichloropropane	ND	ug/kg	50.0	5.9	1	02/06/14 16:18	02/06/14 18:23	78-87-5	
1,3-Dichloropropane	ND	ug/kg	50.0	25.0	1	02/06/14 16:18	02/06/14 18:23	142-28-9	
2,2-Dichloropropane	ND	ug/kg	200	49.3	1	02/06/14 16:18	02/06/14 18:23	594-20-7	
1,1-Dichloropropene	ND	ug/kg	50.0	6.4	1	02/06/14 16:18	02/06/14 18:23	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	50.0	3.9	1	02/06/14 16:18	02/06/14 18:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	50.0	4.9	1	02/06/14 16:18	02/06/14 18:23	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	200	11.2	1	02/06/14 16:18	02/06/14 18:23	60-29-7	
Ethylbenzene	ND	ug/kg	50.0	20.0	1	02/06/14 16:18	02/06/14 18:23	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	250	125	1	02/06/14 16:18	02/06/14 18:23	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	50.0	25.0	1	02/06/14 16:18	02/06/14 18:23	98-82-8	
p-Isopropyltoluene	ND	ug/kg	50.0	20.0	1	02/06/14 16:18	02/06/14 18:23	99-87-6	
Methylene Chloride	ND	ug/kg	200	100	1	02/06/14 16:18	02/06/14 18:23	75-09-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: MeOH Blank **Lab ID: 10256787001** Collected: 01/29/14 08:00 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	250	125	1	02/06/14 16:18	02/06/14 18:23	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	50.0	25.0	1	02/06/14 16:18	02/06/14 18:23	1634-04-4	
Naphthalene	ND	ug/kg	200	100	1	02/06/14 16:18	02/06/14 18:23	91-20-3	
n-Propylbenzene	ND	ug/kg	50.0	20.0	1	02/06/14 16:18	02/06/14 18:23	103-65-1	
Styrene	ND	ug/kg	50.0	4.1	1	02/06/14 16:18	02/06/14 18:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	50.0	25.0	1	02/06/14 16:18	02/06/14 18:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	50.0	6.4	1	02/06/14 16:18	02/06/14 18:23	79-34-5	
Tetrachloroethene	ND	ug/kg	50.0	6.6	1	02/06/14 16:18	02/06/14 18:23	127-18-4	
Tetrahydrofuran	ND	ug/kg	2000	60.3	1	02/06/14 16:18	02/06/14 18:23	109-99-9	
Toluene	ND	ug/kg	50.0	20.0	1	02/06/14 16:18	02/06/14 18:23	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	50.0	20.0	1	02/06/14 16:18	02/06/14 18:23	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	50.0	20.0	1	02/06/14 16:18	02/06/14 18:23	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	50.0	3.3	1	02/06/14 16:18	02/06/14 18:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	50.0	4.5	1	02/06/14 16:18	02/06/14 18:23	79-00-5	
Trichloroethene	ND	ug/kg	50.0	7.6	1	02/06/14 16:18	02/06/14 18:23	79-01-6	
Trichlorofluoromethane	ND	ug/kg	200	9.2	1	02/06/14 16:18	02/06/14 18:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	200	14.7	1	02/06/14 16:18	02/06/14 18:23	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	50.0	25.0	1	02/06/14 16:18	02/06/14 18:23	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	50.0	25.0	1	02/06/14 16:18	02/06/14 18:23	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	50.0	25.0	1	02/06/14 16:18	02/06/14 18:23	108-67-8	
Vinyl chloride	ND	ug/kg	20.0	8.0	1	02/06/14 16:18	02/06/14 18:23	75-01-4	
Xylene (Total)	ND	ug/kg	150	60.0	1	02/06/14 16:18	02/06/14 18:23	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99 %		74-125		1	02/06/14 16:18	02/06/14 18:23	17060-07-0	
Toluene-d8 (S)	100 %		75-125		1	02/06/14 16:18	02/06/14 18:23	2037-26-5	
4-Bromofluorobenzene (S)	102 %		75-125		1	02/06/14 16:18	02/06/14 18:23	460-00-4	

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-1-5 (4') **Lab ID: 10256787002** Collected: 01/29/14 09:55 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	2.5 %		0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1010	507	1	02/06/14 16:18	02/06/14 19:15	67-64-1	
Allyl chloride	ND	ug/kg	203	8.9	1	02/06/14 16:18	02/06/14 19:15	107-05-1	
Benzene	ND	ug/kg	20.3	10.1	1	02/06/14 16:18	02/06/14 19:15	71-43-2	
Bromobenzene	ND	ug/kg	50.7	5.9	1	02/06/14 16:18	02/06/14 19:15	108-86-1	
Bromochloromethane	ND	ug/kg	50.7	10.3	1	02/06/14 16:18	02/06/14 19:15	74-97-5	
Bromodichloromethane	ND	ug/kg	50.7	6.5	1	02/06/14 16:18	02/06/14 19:15	75-27-4	
Bromoform	ND	ug/kg	203	101	1	02/06/14 16:18	02/06/14 19:15	75-25-2	
Bromomethane	ND	ug/kg	507	253	1	02/06/14 16:18	02/06/14 19:15	74-83-9	
2-Butanone (MEK)	ND	ug/kg	253	127	1	02/06/14 16:18	02/06/14 19:15	78-93-3	
n-Butylbenzene	ND	ug/kg	50.7	20.3	1	02/06/14 16:18	02/06/14 19:15	104-51-8	
sec-Butylbenzene	ND	ug/kg	50.7	20.3	1	02/06/14 16:18	02/06/14 19:15	135-98-8	
tert-Butylbenzene	ND	ug/kg	50.7	20.3	1	02/06/14 16:18	02/06/14 19:15	98-06-6	
Carbon tetrachloride	ND	ug/kg	50.7	5.1	1	02/06/14 16:18	02/06/14 19:15	56-23-5	
Chlorobenzene	ND	ug/kg	50.7	3.8	1	02/06/14 16:18	02/06/14 19:15	108-90-7	
Chloroethane	ND	ug/kg	507	12.7	1	02/06/14 16:18	02/06/14 19:15	75-00-3	
Chloroform	ND	ug/kg	50.7	7.7	1	02/06/14 16:18	02/06/14 19:15	67-66-3	
Chloromethane	ND	ug/kg	203	15.4	1	02/06/14 16:18	02/06/14 19:15	74-87-3	
2-Chlorotoluene	ND	ug/kg	50.7	25.3	1	02/06/14 16:18	02/06/14 19:15	95-49-8	
4-Chlorotoluene	ND	ug/kg	50.7	25.3	1	02/06/14 16:18	02/06/14 19:15	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	507	74.0	1	02/06/14 16:18	02/06/14 19:15	96-12-8	
Dibromochloromethane	ND	ug/kg	50.7	6.5	1	02/06/14 16:18	02/06/14 19:15	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	50.7	5.5	1	02/06/14 16:18	02/06/14 19:15	106-93-4	
Dibromomethane	ND	ug/kg	203	7.9	1	02/06/14 16:18	02/06/14 19:15	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	50.7	25.3	1	02/06/14 16:18	02/06/14 19:15	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	50.7	25.3	1	02/06/14 16:18	02/06/14 19:15	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	50.7	25.3	1	02/06/14 16:18	02/06/14 19:15	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	50.7	15.4	1	02/06/14 16:18	02/06/14 19:15	75-71-8	
1,1-Dichloroethane	ND	ug/kg	50.7	4.2	1	02/06/14 16:18	02/06/14 19:15	75-34-3	
1,2-Dichloroethane	ND	ug/kg	50.7	6.8	1	02/06/14 16:18	02/06/14 19:15	107-06-2	
1,1-Dichloroethene	ND	ug/kg	50.7	7.2	1	02/06/14 16:18	02/06/14 19:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	50.7	8.3	1	02/06/14 16:18	02/06/14 19:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	50.7	6.2	1	02/06/14 16:18	02/06/14 19:15	156-60-5	
Dichlorofluoromethane	ND	ug/kg	507	41.6	1	02/06/14 16:18	02/06/14 19:15	75-43-4	
1,2-Dichloropropane	ND	ug/kg	50.7	6.0	1	02/06/14 16:18	02/06/14 19:15	78-87-5	
1,3-Dichloropropane	ND	ug/kg	50.7	25.3	1	02/06/14 16:18	02/06/14 19:15	142-28-9	
2,2-Dichloropropane	ND	ug/kg	203	50.0	1	02/06/14 16:18	02/06/14 19:15	594-20-7	
1,1-Dichloropropene	ND	ug/kg	50.7	6.5	1	02/06/14 16:18	02/06/14 19:15	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	50.7	4.0	1	02/06/14 16:18	02/06/14 19:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	50.7	5.0	1	02/06/14 16:18	02/06/14 19:15	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	203	11.4	1	02/06/14 16:18	02/06/14 19:15	60-29-7	
Ethylbenzene	ND	ug/kg	50.7	20.3	1	02/06/14 16:18	02/06/14 19:15	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	253	127	1	02/06/14 16:18	02/06/14 19:15	87-68-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-1-5 (4') **Lab ID: 10256787002** Collected: 01/29/14 09:55 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	50.7	25.3	1	02/06/14 16:18	02/06/14 19:15	98-82-8	
p-Isopropyltoluene	ND	ug/kg	50.7	20.3	1	02/06/14 16:18	02/06/14 19:15	99-87-6	
Methylene Chloride	ND	ug/kg	203	101	1	02/06/14 16:18	02/06/14 19:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	253	127	1	02/06/14 16:18	02/06/14 19:15	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	50.7	25.3	1	02/06/14 16:18	02/06/14 19:15	1634-04-4	
Naphthalene	ND	ug/kg	203	101	1	02/06/14 16:18	02/06/14 19:15	91-20-3	
n-Propylbenzene	ND	ug/kg	50.7	20.3	1	02/06/14 16:18	02/06/14 19:15	103-65-1	
Styrene	ND	ug/kg	50.7	4.1	1	02/06/14 16:18	02/06/14 19:15	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	50.7	25.3	1	02/06/14 16:18	02/06/14 19:15	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	50.7	6.5	1	02/06/14 16:18	02/06/14 19:15	79-34-5	
Tetrachloroethene	ND	ug/kg	50.7	6.7	1	02/06/14 16:18	02/06/14 19:15	127-18-4	
Tetrahydrofuran	ND	ug/kg	2030	61.1	1	02/06/14 16:18	02/06/14 19:15	109-99-9	
Toluene	ND	ug/kg	50.7	20.3	1	02/06/14 16:18	02/06/14 19:15	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	50.7	20.3	1	02/06/14 16:18	02/06/14 19:15	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	50.7	20.3	1	02/06/14 16:18	02/06/14 19:15	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	50.7	3.4	1	02/06/14 16:18	02/06/14 19:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	50.7	4.5	1	02/06/14 16:18	02/06/14 19:15	79-00-5	
Trichloroethene	ND	ug/kg	50.7	7.7	1	02/06/14 16:18	02/06/14 19:15	79-01-6	
Trichlorofluoromethane	ND	ug/kg	203	9.3	1	02/06/14 16:18	02/06/14 19:15	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	203	14.9	1	02/06/14 16:18	02/06/14 19:15	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	50.7	25.3	1	02/06/14 16:18	02/06/14 19:15	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	50.7	25.3	1	02/06/14 16:18	02/06/14 19:15	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	50.7	25.3	1	02/06/14 16:18	02/06/14 19:15	108-67-8	
Vinyl chloride	ND	ug/kg	20.3	8.1	1	02/06/14 16:18	02/06/14 19:15	75-01-4	
Xylene (Total)	ND	ug/kg	152	60.8	1	02/06/14 16:18	02/06/14 19:15	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100 %		74-125		1	02/06/14 16:18	02/06/14 19:15	17060-07-0	
Toluene-d8 (S)	100 %		75-125		1	02/06/14 16:18	02/06/14 19:15	2037-26-5	
4-Bromofluorobenzene (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 19:15	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-1-5 (9') **Lab ID: 10256787003** Collected: 01/29/14 10:05 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	3.6	%	0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1030	517	1	02/06/14 16:18	02/06/14 19:32	67-64-1	
Allyl chloride	ND	ug/kg	207	9.1	1	02/06/14 16:18	02/06/14 19:32	107-05-1	
Benzene	ND	ug/kg	20.7	10.3	1	02/06/14 16:18	02/06/14 19:32	71-43-2	
Bromobenzene	ND	ug/kg	51.7	6.0	1	02/06/14 16:18	02/06/14 19:32	108-86-1	
Bromochloromethane	ND	ug/kg	51.7	10.5	1	02/06/14 16:18	02/06/14 19:32	74-97-5	
Bromodichloromethane	ND	ug/kg	51.7	6.6	1	02/06/14 16:18	02/06/14 19:32	75-27-4	
Bromoform	ND	ug/kg	207	103	1	02/06/14 16:18	02/06/14 19:32	75-25-2	
Bromomethane	ND	ug/kg	517	258	1	02/06/14 16:18	02/06/14 19:32	74-83-9	
2-Butanone (MEK)	ND	ug/kg	258	129	1	02/06/14 16:18	02/06/14 19:32	78-93-3	
n-Butylbenzene	ND	ug/kg	51.7	20.7	1	02/06/14 16:18	02/06/14 19:32	104-51-8	
sec-Butylbenzene	ND	ug/kg	51.7	20.7	1	02/06/14 16:18	02/06/14 19:32	135-98-8	
tert-Butylbenzene	ND	ug/kg	51.7	20.7	1	02/06/14 16:18	02/06/14 19:32	98-06-6	
Carbon tetrachloride	ND	ug/kg	51.7	5.2	1	02/06/14 16:18	02/06/14 19:32	56-23-5	
Chlorobenzene	ND	ug/kg	51.7	3.8	1	02/06/14 16:18	02/06/14 19:32	108-90-7	
Chloroethane	ND	ug/kg	517	12.9	1	02/06/14 16:18	02/06/14 19:32	75-00-3	
Chloroform	ND	ug/kg	51.7	7.9	1	02/06/14 16:18	02/06/14 19:32	67-66-3	
Chloromethane	ND	ug/kg	207	15.7	1	02/06/14 16:18	02/06/14 19:32	74-87-3	
2-Chlorotoluene	ND	ug/kg	51.7	25.8	1	02/06/14 16:18	02/06/14 19:32	95-49-8	
4-Chlorotoluene	ND	ug/kg	51.7	25.8	1	02/06/14 16:18	02/06/14 19:32	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	517	75.4	1	02/06/14 16:18	02/06/14 19:32	96-12-8	
Dibromochloromethane	ND	ug/kg	51.7	6.6	1	02/06/14 16:18	02/06/14 19:32	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	51.7	5.6	1	02/06/14 16:18	02/06/14 19:32	106-93-4	
Dibromomethane	ND	ug/kg	207	8.1	1	02/06/14 16:18	02/06/14 19:32	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	51.7	25.8	1	02/06/14 16:18	02/06/14 19:32	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	51.7	25.8	1	02/06/14 16:18	02/06/14 19:32	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	51.7	25.8	1	02/06/14 16:18	02/06/14 19:32	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	51.7	15.7	1	02/06/14 16:18	02/06/14 19:32	75-71-8	
1,1-Dichloroethane	ND	ug/kg	51.7	4.2	1	02/06/14 16:18	02/06/14 19:32	75-34-3	
1,2-Dichloroethane	ND	ug/kg	51.7	7.0	1	02/06/14 16:18	02/06/14 19:32	107-06-2	
1,1-Dichloroethene	ND	ug/kg	51.7	7.3	1	02/06/14 16:18	02/06/14 19:32	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	51.7	8.5	1	02/06/14 16:18	02/06/14 19:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	51.7	6.3	1	02/06/14 16:18	02/06/14 19:32	156-60-5	
Dichlorofluoromethane	ND	ug/kg	517	42.4	1	02/06/14 16:18	02/06/14 19:32	75-43-4	
1,2-Dichloropropane	ND	ug/kg	51.7	6.1	1	02/06/14 16:18	02/06/14 19:32	78-87-5	
1,3-Dichloropropane	ND	ug/kg	51.7	25.8	1	02/06/14 16:18	02/06/14 19:32	142-28-9	
2,2-Dichloropropane	ND	ug/kg	207	50.9	1	02/06/14 16:18	02/06/14 19:32	594-20-7	
1,1-Dichloropropene	ND	ug/kg	51.7	6.6	1	02/06/14 16:18	02/06/14 19:32	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	51.7	4.1	1	02/06/14 16:18	02/06/14 19:32	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	51.7	5.1	1	02/06/14 16:18	02/06/14 19:32	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	207	11.6	1	02/06/14 16:18	02/06/14 19:32	60-29-7	
Ethylbenzene	ND	ug/kg	51.7	20.7	1	02/06/14 16:18	02/06/14 19:32	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	258	129	1	02/06/14 16:18	02/06/14 19:32	87-68-3	

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-1-5 (9') **Lab ID: 10256787003** Collected: 01/29/14 10:05 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	51.7	25.8	1	02/06/14 16:18	02/06/14 19:32	98-82-8	
p-Isopropyltoluene	ND	ug/kg	51.7	20.7	1	02/06/14 16:18	02/06/14 19:32	99-87-6	
Methylene Chloride	ND	ug/kg	207	103	1	02/06/14 16:18	02/06/14 19:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	258	129	1	02/06/14 16:18	02/06/14 19:32	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	51.7	25.8	1	02/06/14 16:18	02/06/14 19:32	1634-04-4	
Naphthalene	ND	ug/kg	207	103	1	02/06/14 16:18	02/06/14 19:32	91-20-3	
n-Propylbenzene	ND	ug/kg	51.7	20.7	1	02/06/14 16:18	02/06/14 19:32	103-65-1	
Styrene	ND	ug/kg	51.7	4.2	1	02/06/14 16:18	02/06/14 19:32	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	51.7	25.8	1	02/06/14 16:18	02/06/14 19:32	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	51.7	6.7	1	02/06/14 16:18	02/06/14 19:32	79-34-5	
Tetrachloroethene	ND	ug/kg	51.7	6.8	1	02/06/14 16:18	02/06/14 19:32	127-18-4	
Tetrahydrofuran	ND	ug/kg	2070	62.3	1	02/06/14 16:18	02/06/14 19:32	109-99-9	
Toluene	ND	ug/kg	51.7	20.7	1	02/06/14 16:18	02/06/14 19:32	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	51.7	20.7	1	02/06/14 16:18	02/06/14 19:32	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	51.7	20.7	1	02/06/14 16:18	02/06/14 19:32	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	51.7	3.4	1	02/06/14 16:18	02/06/14 19:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	51.7	4.6	1	02/06/14 16:18	02/06/14 19:32	79-00-5	
Trichloroethene	ND	ug/kg	51.7	7.8	1	02/06/14 16:18	02/06/14 19:32	79-01-6	
Trichlorofluoromethane	ND	ug/kg	207	9.5	1	02/06/14 16:18	02/06/14 19:32	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	207	15.2	1	02/06/14 16:18	02/06/14 19:32	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	51.7	25.8	1	02/06/14 16:18	02/06/14 19:32	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	51.7	25.8	1	02/06/14 16:18	02/06/14 19:32	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	51.7	25.8	1	02/06/14 16:18	02/06/14 19:32	108-67-8	
Vinyl chloride	ND	ug/kg	20.7	8.3	1	02/06/14 16:18	02/06/14 19:32	75-01-4	
Xylene (Total)	ND	ug/kg	155	62.0	1	02/06/14 16:18	02/06/14 19:32	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100 %		74-125		1	02/06/14 16:18	02/06/14 19:32	17060-07-0	
Toluene-d8 (S)	100 %		75-125		1	02/06/14 16:18	02/06/14 19:32	2037-26-5	
4-Bromofluorobenzene (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 19:32	460-00-4	

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-1-5 (58') **Lab ID: 10256787004** Collected: 01/29/14 11:15 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	17.8	%	0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1260	628	1	02/06/14 16:18	02/06/14 19:49	67-64-1	
Allyl chloride	ND	ug/kg	251	11.0	1	02/06/14 16:18	02/06/14 19:49	107-05-1	
Benzene	ND	ug/kg	25.1	12.6	1	02/06/14 16:18	02/06/14 19:49	71-43-2	
Bromobenzene	ND	ug/kg	62.8	7.3	1	02/06/14 16:18	02/06/14 19:49	108-86-1	
Bromochloromethane	ND	ug/kg	62.8	12.8	1	02/06/14 16:18	02/06/14 19:49	74-97-5	
Bromodichloromethane	ND	ug/kg	62.8	8.0	1	02/06/14 16:18	02/06/14 19:49	75-27-4	
Bromoform	ND	ug/kg	251	126	1	02/06/14 16:18	02/06/14 19:49	75-25-2	
Bromomethane	ND	ug/kg	628	314	1	02/06/14 16:18	02/06/14 19:49	74-83-9	
2-Butanone (MEK)	ND	ug/kg	314	157	1	02/06/14 16:18	02/06/14 19:49	78-93-3	
n-Butylbenzene	ND	ug/kg	62.8	25.1	1	02/06/14 16:18	02/06/14 19:49	104-51-8	
sec-Butylbenzene	ND	ug/kg	62.8	25.1	1	02/06/14 16:18	02/06/14 19:49	135-98-8	
tert-Butylbenzene	ND	ug/kg	62.8	25.1	1	02/06/14 16:18	02/06/14 19:49	98-06-6	
Carbon tetrachloride	ND	ug/kg	62.8	6.3	1	02/06/14 16:18	02/06/14 19:49	56-23-5	
Chlorobenzene	ND	ug/kg	62.8	4.6	1	02/06/14 16:18	02/06/14 19:49	108-90-7	
Chloroethane	ND	ug/kg	628	15.7	1	02/06/14 16:18	02/06/14 19:49	75-00-3	
Chloroform	ND	ug/kg	62.8	9.6	1	02/06/14 16:18	02/06/14 19:49	67-66-3	
Chloromethane	ND	ug/kg	251	19.1	1	02/06/14 16:18	02/06/14 19:49	74-87-3	
2-Chlorotoluene	ND	ug/kg	62.8	31.4	1	02/06/14 16:18	02/06/14 19:49	95-49-8	
4-Chlorotoluene	ND	ug/kg	62.8	31.4	1	02/06/14 16:18	02/06/14 19:49	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	628	91.6	1	02/06/14 16:18	02/06/14 19:49	96-12-8	
Dibromochloromethane	ND	ug/kg	62.8	8.0	1	02/06/14 16:18	02/06/14 19:49	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	62.8	6.8	1	02/06/14 16:18	02/06/14 19:49	106-93-4	
Dibromomethane	ND	ug/kg	251	9.8	1	02/06/14 16:18	02/06/14 19:49	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	62.8	31.4	1	02/06/14 16:18	02/06/14 19:49	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	62.8	31.4	1	02/06/14 16:18	02/06/14 19:49	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	62.8	31.4	1	02/06/14 16:18	02/06/14 19:49	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	62.8	19.1	1	02/06/14 16:18	02/06/14 19:49	75-71-8	
1,1-Dichloroethane	ND	ug/kg	62.8	5.1	1	02/06/14 16:18	02/06/14 19:49	75-34-3	
1,2-Dichloroethane	ND	ug/kg	62.8	8.4	1	02/06/14 16:18	02/06/14 19:49	107-06-2	
1,1-Dichloroethene	ND	ug/kg	62.8	8.9	1	02/06/14 16:18	02/06/14 19:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	62.8	10.3	1	02/06/14 16:18	02/06/14 19:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	62.8	7.7	1	02/06/14 16:18	02/06/14 19:49	156-60-5	
Dichlorofluoromethane	ND	ug/kg	628	51.5	1	02/06/14 16:18	02/06/14 19:49	75-43-4	
1,2-Dichloropropane	ND	ug/kg	62.8	7.4	1	02/06/14 16:18	02/06/14 19:49	78-87-5	
1,3-Dichloropropane	ND	ug/kg	62.8	31.4	1	02/06/14 16:18	02/06/14 19:49	142-28-9	
2,2-Dichloropropane	ND	ug/kg	251	61.9	1	02/06/14 16:18	02/06/14 19:49	594-20-7	
1,1-Dichloropropene	ND	ug/kg	62.8	8.0	1	02/06/14 16:18	02/06/14 19:49	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	62.8	4.9	1	02/06/14 16:18	02/06/14 19:49	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	62.8	6.2	1	02/06/14 16:18	02/06/14 19:49	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	251	14.1	1	02/06/14 16:18	02/06/14 19:49	60-29-7	
Ethylbenzene	ND	ug/kg	62.8	25.1	1	02/06/14 16:18	02/06/14 19:49	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	314	157	1	02/06/14 16:18	02/06/14 19:49	87-68-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-1-5 (58') **Lab ID: 10256787004** Collected: 01/29/14 11:15 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	62.8	31.4	1	02/06/14 16:18	02/06/14 19:49	98-82-8	
p-Isopropyltoluene	ND	ug/kg	62.8	25.1	1	02/06/14 16:18	02/06/14 19:49	99-87-6	
Methylene Chloride	ND	ug/kg	251	126	1	02/06/14 16:18	02/06/14 19:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	314	157	1	02/06/14 16:18	02/06/14 19:49	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	62.8	31.4	1	02/06/14 16:18	02/06/14 19:49	1634-04-4	
Naphthalene	ND	ug/kg	251	126	1	02/06/14 16:18	02/06/14 19:49	91-20-3	
n-Propylbenzene	ND	ug/kg	62.8	25.1	1	02/06/14 16:18	02/06/14 19:49	103-65-1	
Styrene	ND	ug/kg	62.8	5.1	1	02/06/14 16:18	02/06/14 19:49	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	62.8	31.4	1	02/06/14 16:18	02/06/14 19:49	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	62.8	8.1	1	02/06/14 16:18	02/06/14 19:49	79-34-5	
Tetrachloroethene	ND	ug/kg	62.8	8.3	1	02/06/14 16:18	02/06/14 19:49	127-18-4	
Tetrahydrofuran	ND	ug/kg	2510	75.7	1	02/06/14 16:18	02/06/14 19:49	109-99-9	
Toluene	ND	ug/kg	62.8	25.1	1	02/06/14 16:18	02/06/14 19:49	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	62.8	25.1	1	02/06/14 16:18	02/06/14 19:49	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	62.8	25.1	1	02/06/14 16:18	02/06/14 19:49	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	62.8	4.2	1	02/06/14 16:18	02/06/14 19:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	62.8	5.6	1	02/06/14 16:18	02/06/14 19:49	79-00-5	
Trichloroethene	ND	ug/kg	62.8	9.5	1	02/06/14 16:18	02/06/14 19:49	79-01-6	
Trichlorofluoromethane	ND	ug/kg	251	11.5	1	02/06/14 16:18	02/06/14 19:49	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	251	18.5	1	02/06/14 16:18	02/06/14 19:49	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	62.8	31.4	1	02/06/14 16:18	02/06/14 19:49	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	62.8	31.4	1	02/06/14 16:18	02/06/14 19:49	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	62.8	31.4	1	02/06/14 16:18	02/06/14 19:49	108-67-8	
Vinyl chloride	ND	ug/kg	25.1	10.0	1	02/06/14 16:18	02/06/14 19:49	75-01-4	
Xylene (Total)	ND	ug/kg	188	75.3	1	02/06/14 16:18	02/06/14 19:49	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97 %		74-125		1	02/06/14 16:18	02/06/14 19:49	17060-07-0	
Toluene-d8 (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 19:49	2037-26-5	
4-Bromofluorobenzene (S)	100 %		75-125		1	02/06/14 16:18	02/06/14 19:49	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-5-5 (4') **Lab ID: 10256787005** Collected: 01/30/14 13:30 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	12.9	%	0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1250	626	1	02/06/14 16:18	02/06/14 20:06	67-64-1	
Allyl chloride	ND	ug/kg	250	11.0	1	02/06/14 16:18	02/06/14 20:06	107-05-1	
Benzene	ND	ug/kg	25.0	12.5	1	02/06/14 16:18	02/06/14 20:06	71-43-2	
Bromobenzene	ND	ug/kg	62.6	7.3	1	02/06/14 16:18	02/06/14 20:06	108-86-1	
Bromochloromethane	ND	ug/kg	62.6	12.8	1	02/06/14 16:18	02/06/14 20:06	74-97-5	
Bromodichloromethane	ND	ug/kg	62.6	8.0	1	02/06/14 16:18	02/06/14 20:06	75-27-4	
Bromoform	ND	ug/kg	250	125	1	02/06/14 16:18	02/06/14 20:06	75-25-2	
Bromomethane	ND	ug/kg	626	313	1	02/06/14 16:18	02/06/14 20:06	74-83-9	
2-Butanone (MEK)	ND	ug/kg	313	157	1	02/06/14 16:18	02/06/14 20:06	78-93-3	
n-Butylbenzene	ND	ug/kg	62.6	25.0	1	02/06/14 16:18	02/06/14 20:06	104-51-8	
sec-Butylbenzene	ND	ug/kg	62.6	25.0	1	02/06/14 16:18	02/06/14 20:06	135-98-8	
tert-Butylbenzene	ND	ug/kg	62.6	25.0	1	02/06/14 16:18	02/06/14 20:06	98-06-6	
Carbon tetrachloride	ND	ug/kg	62.6	6.3	1	02/06/14 16:18	02/06/14 20:06	56-23-5	
Chlorobenzene	ND	ug/kg	62.6	4.6	1	02/06/14 16:18	02/06/14 20:06	108-90-7	
Chloroethane	ND	ug/kg	626	15.7	1	02/06/14 16:18	02/06/14 20:06	75-00-3	
Chloroform	ND	ug/kg	62.6	9.5	1	02/06/14 16:18	02/06/14 20:06	67-66-3	
Chloromethane	ND	ug/kg	250	19.0	1	02/06/14 16:18	02/06/14 20:06	74-87-3	
2-Chlorotoluene	ND	ug/kg	62.6	31.3	1	02/06/14 16:18	02/06/14 20:06	95-49-8	
4-Chlorotoluene	ND	ug/kg	62.6	31.3	1	02/06/14 16:18	02/06/14 20:06	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	626	91.4	1	02/06/14 16:18	02/06/14 20:06	96-12-8	
Dibromochloromethane	ND	ug/kg	62.6	8.0	1	02/06/14 16:18	02/06/14 20:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	62.6	6.8	1	02/06/14 16:18	02/06/14 20:06	106-93-4	
Dibromomethane	ND	ug/kg	250	9.8	1	02/06/14 16:18	02/06/14 20:06	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	62.6	31.3	1	02/06/14 16:18	02/06/14 20:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	62.6	31.3	1	02/06/14 16:18	02/06/14 20:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	62.6	31.3	1	02/06/14 16:18	02/06/14 20:06	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	62.6	19.0	1	02/06/14 16:18	02/06/14 20:06	75-71-8	
1,1-Dichloroethane	ND	ug/kg	62.6	5.1	1	02/06/14 16:18	02/06/14 20:06	75-34-3	
1,2-Dichloroethane	ND	ug/kg	62.6	8.4	1	02/06/14 16:18	02/06/14 20:06	107-06-2	
1,1-Dichloroethene	ND	ug/kg	62.6	8.9	1	02/06/14 16:18	02/06/14 20:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	62.6	10.3	1	02/06/14 16:18	02/06/14 20:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	62.6	7.6	1	02/06/14 16:18	02/06/14 20:06	156-60-5	
Dichlorofluoromethane	ND	ug/kg	626	51.3	1	02/06/14 16:18	02/06/14 20:06	75-43-4	
1,2-Dichloropropane	ND	ug/kg	62.6	7.4	1	02/06/14 16:18	02/06/14 20:06	78-87-5	
1,3-Dichloropropane	ND	ug/kg	62.6	31.3	1	02/06/14 16:18	02/06/14 20:06	142-28-9	
2,2-Dichloropropane	ND	ug/kg	250	61.7	1	02/06/14 16:18	02/06/14 20:06	594-20-7	
1,1-Dichloropropene	ND	ug/kg	62.6	8.0	1	02/06/14 16:18	02/06/14 20:06	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	62.6	4.9	1	02/06/14 16:18	02/06/14 20:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	62.6	6.2	1	02/06/14 16:18	02/06/14 20:06	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	250	14.0	1	02/06/14 16:18	02/06/14 20:06	60-29-7	
Ethylbenzene	ND	ug/kg	62.6	25.0	1	02/06/14 16:18	02/06/14 20:06	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	313	157	1	02/06/14 16:18	02/06/14 20:06	87-68-3	

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-5-5 (4') **Lab ID: 10256787005** Collected: 01/30/14 13:30 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	62.6	31.3	1	02/06/14 16:18	02/06/14 20:06	98-82-8	
p-Isopropyltoluene	ND	ug/kg	62.6	25.0	1	02/06/14 16:18	02/06/14 20:06	99-87-6	
Methylene Chloride	ND	ug/kg	250	125	1	02/06/14 16:18	02/06/14 20:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	313	157	1	02/06/14 16:18	02/06/14 20:06	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	62.6	31.3	1	02/06/14 16:18	02/06/14 20:06	1634-04-4	
Naphthalene	ND	ug/kg	250	125	1	02/06/14 16:18	02/06/14 20:06	91-20-3	
n-Propylbenzene	ND	ug/kg	62.6	25.0	1	02/06/14 16:18	02/06/14 20:06	103-65-1	
Styrene	ND	ug/kg	62.6	5.1	1	02/06/14 16:18	02/06/14 20:06	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	62.6	31.3	1	02/06/14 16:18	02/06/14 20:06	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	62.6	8.1	1	02/06/14 16:18	02/06/14 20:06	79-34-5	
Tetrachloroethene	ND	ug/kg	62.6	8.3	1	02/06/14 16:18	02/06/14 20:06	127-18-4	
Tetrahydrofuran	ND	ug/kg	2500	75.5	1	02/06/14 16:18	02/06/14 20:06	109-99-9	
Toluene	ND	ug/kg	62.6	25.0	1	02/06/14 16:18	02/06/14 20:06	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	62.6	25.0	1	02/06/14 16:18	02/06/14 20:06	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	62.6	25.0	1	02/06/14 16:18	02/06/14 20:06	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	62.6	4.2	1	02/06/14 16:18	02/06/14 20:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	62.6	5.6	1	02/06/14 16:18	02/06/14 20:06	79-00-5	
Trichloroethene	ND	ug/kg	62.6	9.5	1	02/06/14 16:18	02/06/14 20:06	79-01-6	
Trichlorofluoromethane	ND	ug/kg	250	11.5	1	02/06/14 16:18	02/06/14 20:06	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	250	18.4	1	02/06/14 16:18	02/06/14 20:06	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	62.6	31.3	1	02/06/14 16:18	02/06/14 20:06	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	62.6	31.3	1	02/06/14 16:18	02/06/14 20:06	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	62.6	31.3	1	02/06/14 16:18	02/06/14 20:06	108-67-8	
Vinyl chloride	ND	ug/kg	25.0	10.0	1	02/06/14 16:18	02/06/14 20:06	75-01-4	
Xylene (Total)	ND	ug/kg	188	75.1	1	02/06/14 16:18	02/06/14 20:06	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100 %		74-125		1	02/06/14 16:18	02/06/14 20:06	17060-07-0	
Toluene-d8 (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 20:06	2037-26-5	
4-Bromofluorobenzene (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 20:06	460-00-4	

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-5-5 (10') **Lab ID: 10256787006** Collected: 01/30/14 13:35 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	10.9	%	0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1120	558	1	02/06/14 16:18	02/06/14 20:23	67-64-1	
Allyl chloride	ND	ug/kg	223	9.8	1	02/06/14 16:18	02/06/14 20:23	107-05-1	
Benzene	ND	ug/kg	22.3	11.2	1	02/06/14 16:18	02/06/14 20:23	71-43-2	
Bromobenzene	ND	ug/kg	55.8	6.5	1	02/06/14 16:18	02/06/14 20:23	108-86-1	
Bromochloromethane	ND	ug/kg	55.8	11.4	1	02/06/14 16:18	02/06/14 20:23	74-97-5	
Bromodichloromethane	ND	ug/kg	55.8	7.1	1	02/06/14 16:18	02/06/14 20:23	75-27-4	
Bromoform	ND	ug/kg	223	112	1	02/06/14 16:18	02/06/14 20:23	75-25-2	
Bromomethane	ND	ug/kg	558	279	1	02/06/14 16:18	02/06/14 20:23	74-83-9	
2-Butanone (MEK)	ND	ug/kg	279	139	1	02/06/14 16:18	02/06/14 20:23	78-93-3	
n-Butylbenzene	ND	ug/kg	55.8	22.3	1	02/06/14 16:18	02/06/14 20:23	104-51-8	
sec-Butylbenzene	ND	ug/kg	55.8	22.3	1	02/06/14 16:18	02/06/14 20:23	135-98-8	
tert-Butylbenzene	ND	ug/kg	55.8	22.3	1	02/06/14 16:18	02/06/14 20:23	98-06-6	
Carbon tetrachloride	ND	ug/kg	55.8	5.6	1	02/06/14 16:18	02/06/14 20:23	56-23-5	
Chlorobenzene	ND	ug/kg	55.8	4.1	1	02/06/14 16:18	02/06/14 20:23	108-90-7	
Chloroethane	ND	ug/kg	558	13.9	1	02/06/14 16:18	02/06/14 20:23	75-00-3	
Chloroform	ND	ug/kg	55.8	8.5	1	02/06/14 16:18	02/06/14 20:23	67-66-3	
Chloromethane	ND	ug/kg	223	16.9	1	02/06/14 16:18	02/06/14 20:23	74-87-3	
2-Chlorotoluene	ND	ug/kg	55.8	27.9	1	02/06/14 16:18	02/06/14 20:23	95-49-8	
4-Chlorotoluene	ND	ug/kg	55.8	27.9	1	02/06/14 16:18	02/06/14 20:23	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	558	81.4	1	02/06/14 16:18	02/06/14 20:23	96-12-8	
Dibromochloromethane	ND	ug/kg	55.8	7.1	1	02/06/14 16:18	02/06/14 20:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	55.8	6.0	1	02/06/14 16:18	02/06/14 20:23	106-93-4	
Dibromomethane	ND	ug/kg	223	8.7	1	02/06/14 16:18	02/06/14 20:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	55.8	27.9	1	02/06/14 16:18	02/06/14 20:23	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	55.8	27.9	1	02/06/14 16:18	02/06/14 20:23	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	55.8	27.9	1	02/06/14 16:18	02/06/14 20:23	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	55.8	16.9	1	02/06/14 16:18	02/06/14 20:23	75-71-8	
1,1-Dichloroethane	ND	ug/kg	55.8	4.6	1	02/06/14 16:18	02/06/14 20:23	75-34-3	
1,2-Dichloroethane	ND	ug/kg	55.8	7.5	1	02/06/14 16:18	02/06/14 20:23	107-06-2	
1,1-Dichloroethene	ND	ug/kg	55.8	7.9	1	02/06/14 16:18	02/06/14 20:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	55.8	9.1	1	02/06/14 16:18	02/06/14 20:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	55.8	6.8	1	02/06/14 16:18	02/06/14 20:23	156-60-5	
Dichlorofluoromethane	ND	ug/kg	558	45.7	1	02/06/14 16:18	02/06/14 20:23	75-43-4	
1,2-Dichloropropane	ND	ug/kg	55.8	6.6	1	02/06/14 16:18	02/06/14 20:23	78-87-5	
1,3-Dichloropropane	ND	ug/kg	55.8	27.9	1	02/06/14 16:18	02/06/14 20:23	142-28-9	
2,2-Dichloropropane	ND	ug/kg	223	55.0	1	02/06/14 16:18	02/06/14 20:23	594-20-7	
1,1-Dichloropropene	ND	ug/kg	55.8	7.1	1	02/06/14 16:18	02/06/14 20:23	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	55.8	4.4	1	02/06/14 16:18	02/06/14 20:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	55.8	5.5	1	02/06/14 16:18	02/06/14 20:23	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	223	12.5	1	02/06/14 16:18	02/06/14 20:23	60-29-7	
Ethylbenzene	ND	ug/kg	55.8	22.3	1	02/06/14 16:18	02/06/14 20:23	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	279	139	1	02/06/14 16:18	02/06/14 20:23	87-68-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-5-5 (10') **Lab ID: 10256787006** Collected: 01/30/14 13:35 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	55.8	27.9	1	02/06/14 16:18	02/06/14 20:23	98-82-8	
p-Isopropyltoluene	ND	ug/kg	55.8	22.3	1	02/06/14 16:18	02/06/14 20:23	99-87-6	
Methylene Chloride	ND	ug/kg	223	112	1	02/06/14 16:18	02/06/14 20:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	279	139	1	02/06/14 16:18	02/06/14 20:23	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	55.8	27.9	1	02/06/14 16:18	02/06/14 20:23	1634-04-4	
Naphthalene	ND	ug/kg	223	112	1	02/06/14 16:18	02/06/14 20:23	91-20-3	
n-Propylbenzene	ND	ug/kg	55.8	22.3	1	02/06/14 16:18	02/06/14 20:23	103-65-1	
Styrene	ND	ug/kg	55.8	4.5	1	02/06/14 16:18	02/06/14 20:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	55.8	27.9	1	02/06/14 16:18	02/06/14 20:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	55.8	7.2	1	02/06/14 16:18	02/06/14 20:23	79-34-5	
Tetrachloroethene	ND	ug/kg	55.8	7.3	1	02/06/14 16:18	02/06/14 20:23	127-18-4	
Tetrahydrofuran	ND	ug/kg	2230	67.2	1	02/06/14 16:18	02/06/14 20:23	109-99-9	
Toluene	ND	ug/kg	55.8	22.3	1	02/06/14 16:18	02/06/14 20:23	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	55.8	22.3	1	02/06/14 16:18	02/06/14 20:23	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	55.8	22.3	1	02/06/14 16:18	02/06/14 20:23	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	55.8	3.7	1	02/06/14 16:18	02/06/14 20:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	55.8	5.0	1	02/06/14 16:18	02/06/14 20:23	79-00-5	
Trichloroethene	ND	ug/kg	55.8	8.5	1	02/06/14 16:18	02/06/14 20:23	79-01-6	
Trichlorofluoromethane	ND	ug/kg	223	10.3	1	02/06/14 16:18	02/06/14 20:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	223	16.4	1	02/06/14 16:18	02/06/14 20:23	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	55.8	27.9	1	02/06/14 16:18	02/06/14 20:23	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	55.8	27.9	1	02/06/14 16:18	02/06/14 20:23	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	55.8	27.9	1	02/06/14 16:18	02/06/14 20:23	108-67-8	
Vinyl chloride	ND	ug/kg	22.3	8.9	1	02/06/14 16:18	02/06/14 20:23	75-01-4	
Xylene (Total)	ND	ug/kg	167	66.9	1	02/06/14 16:18	02/06/14 20:23	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98 %		74-125		1	02/06/14 16:18	02/06/14 20:23	17060-07-0	
Toluene-d8 (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 20:23	2037-26-5	
4-Bromofluorobenzene (S)	102 %		75-125		1	02/06/14 16:18	02/06/14 20:23	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-5-5 (28') **Lab ID: 10256787007** Collected: 01/30/14 13:50 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	10.4	%	0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1070	537	1	02/06/14 16:18	02/06/14 20:58	67-64-1	
Allyl chloride	ND	ug/kg	215	9.4	1	02/06/14 16:18	02/06/14 20:58	107-05-1	
Benzene	ND	ug/kg	21.5	10.7	1	02/06/14 16:18	02/06/14 20:58	71-43-2	
Bromobenzene	ND	ug/kg	53.7	6.3	1	02/06/14 16:18	02/06/14 20:58	108-86-1	
Bromochloromethane	ND	ug/kg	53.7	10.9	1	02/06/14 16:18	02/06/14 20:58	74-97-5	
Bromodichloromethane	ND	ug/kg	53.7	6.9	1	02/06/14 16:18	02/06/14 20:58	75-27-4	
Bromoform	ND	ug/kg	215	107	1	02/06/14 16:18	02/06/14 20:58	75-25-2	
Bromomethane	ND	ug/kg	537	268	1	02/06/14 16:18	02/06/14 20:58	74-83-9	
2-Butanone (MEK)	ND	ug/kg	268	134	1	02/06/14 16:18	02/06/14 20:58	78-93-3	
n-Butylbenzene	ND	ug/kg	53.7	21.5	1	02/06/14 16:18	02/06/14 20:58	104-51-8	
sec-Butylbenzene	ND	ug/kg	53.7	21.5	1	02/06/14 16:18	02/06/14 20:58	135-98-8	
tert-Butylbenzene	ND	ug/kg	53.7	21.5	1	02/06/14 16:18	02/06/14 20:58	98-06-6	
Carbon tetrachloride	ND	ug/kg	53.7	5.4	1	02/06/14 16:18	02/06/14 20:58	56-23-5	
Chlorobenzene	ND	ug/kg	53.7	4.0	1	02/06/14 16:18	02/06/14 20:58	108-90-7	
Chloroethane	ND	ug/kg	537	13.4	1	02/06/14 16:18	02/06/14 20:58	75-00-3	
Chloroform	ND	ug/kg	53.7	8.2	1	02/06/14 16:18	02/06/14 20:58	67-66-3	
Chloromethane	ND	ug/kg	215	16.3	1	02/06/14 16:18	02/06/14 20:58	74-87-3	
2-Chlorotoluene	ND	ug/kg	53.7	26.8	1	02/06/14 16:18	02/06/14 20:58	95-49-8	
4-Chlorotoluene	ND	ug/kg	53.7	26.8	1	02/06/14 16:18	02/06/14 20:58	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	537	78.4	1	02/06/14 16:18	02/06/14 20:58	96-12-8	
Dibromochloromethane	ND	ug/kg	53.7	6.9	1	02/06/14 16:18	02/06/14 20:58	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	53.7	5.8	1	02/06/14 16:18	02/06/14 20:58	106-93-4	
Dibromomethane	ND	ug/kg	215	8.4	1	02/06/14 16:18	02/06/14 20:58	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	53.7	26.8	1	02/06/14 16:18	02/06/14 20:58	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	53.7	26.8	1	02/06/14 16:18	02/06/14 20:58	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	53.7	26.8	1	02/06/14 16:18	02/06/14 20:58	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	53.7	16.3	1	02/06/14 16:18	02/06/14 20:58	75-71-8	
1,1-Dichloroethane	ND	ug/kg	53.7	4.4	1	02/06/14 16:18	02/06/14 20:58	75-34-3	
1,2-Dichloroethane	ND	ug/kg	53.7	7.2	1	02/06/14 16:18	02/06/14 20:58	107-06-2	
1,1-Dichloroethene	ND	ug/kg	53.7	7.6	1	02/06/14 16:18	02/06/14 20:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	53.7	8.8	1	02/06/14 16:18	02/06/14 20:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	53.7	6.5	1	02/06/14 16:18	02/06/14 20:58	156-60-5	
Dichlorofluoromethane	ND	ug/kg	537	44.0	1	02/06/14 16:18	02/06/14 20:58	75-43-4	
1,2-Dichloropropane	ND	ug/kg	53.7	6.3	1	02/06/14 16:18	02/06/14 20:58	78-87-5	
1,3-Dichloropropane	ND	ug/kg	53.7	26.8	1	02/06/14 16:18	02/06/14 20:58	142-28-9	
2,2-Dichloropropane	ND	ug/kg	215	52.9	1	02/06/14 16:18	02/06/14 20:58	594-20-7	
1,1-Dichloropropene	ND	ug/kg	53.7	6.9	1	02/06/14 16:18	02/06/14 20:58	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	53.7	4.2	1	02/06/14 16:18	02/06/14 20:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	53.7	5.3	1	02/06/14 16:18	02/06/14 20:58	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	215	12.0	1	02/06/14 16:18	02/06/14 20:58	60-29-7	
Ethylbenzene	ND	ug/kg	53.7	21.5	1	02/06/14 16:18	02/06/14 20:58	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	268	134	1	02/06/14 16:18	02/06/14 20:58	87-68-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-5-5 (28') **Lab ID: 10256787007** Collected: 01/30/14 13:50 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	53.7	26.8	1	02/06/14 16:18	02/06/14 20:58	98-82-8	
p-Isopropyltoluene	ND	ug/kg	53.7	21.5	1	02/06/14 16:18	02/06/14 20:58	99-87-6	
Methylene Chloride	ND	ug/kg	215	107	1	02/06/14 16:18	02/06/14 20:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	268	134	1	02/06/14 16:18	02/06/14 20:58	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	53.7	26.8	1	02/06/14 16:18	02/06/14 20:58	1634-04-4	
Naphthalene	ND	ug/kg	215	107	1	02/06/14 16:18	02/06/14 20:58	91-20-3	
n-Propylbenzene	ND	ug/kg	53.7	21.5	1	02/06/14 16:18	02/06/14 20:58	103-65-1	
Styrene	ND	ug/kg	53.7	4.4	1	02/06/14 16:18	02/06/14 20:58	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	53.7	26.8	1	02/06/14 16:18	02/06/14 20:58	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	53.7	6.9	1	02/06/14 16:18	02/06/14 20:58	79-34-5	
Tetrachloroethene	ND	ug/kg	53.7	7.1	1	02/06/14 16:18	02/06/14 20:58	127-18-4	
Tetrahydrofuran	ND	ug/kg	2150	64.7	1	02/06/14 16:18	02/06/14 20:58	109-99-9	
Toluene	ND	ug/kg	53.7	21.5	1	02/06/14 16:18	02/06/14 20:58	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	53.7	21.5	1	02/06/14 16:18	02/06/14 20:58	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	53.7	21.5	1	02/06/14 16:18	02/06/14 20:58	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	53.7	3.6	1	02/06/14 16:18	02/06/14 20:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	53.7	4.8	1	02/06/14 16:18	02/06/14 20:58	79-00-5	
Trichloroethene	ND	ug/kg	53.7	8.1	1	02/06/14 16:18	02/06/14 20:58	79-01-6	
Trichlorofluoromethane	ND	ug/kg	215	9.9	1	02/06/14 16:18	02/06/14 20:58	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	215	15.8	1	02/06/14 16:18	02/06/14 20:58	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	53.7	26.8	1	02/06/14 16:18	02/06/14 20:58	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	53.7	26.8	1	02/06/14 16:18	02/06/14 20:58	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	53.7	26.8	1	02/06/14 16:18	02/06/14 20:58	108-67-8	
Vinyl chloride	ND	ug/kg	21.5	8.6	1	02/06/14 16:18	02/06/14 20:58	75-01-4	
Xylene (Total)	ND	ug/kg	161	64.4	1	02/06/14 16:18	02/06/14 20:58	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100 %		74-125		1	02/06/14 16:18	02/06/14 20:58	17060-07-0	
Toluene-d8 (S)	100 %		75-125		1	02/06/14 16:18	02/06/14 20:58	2037-26-5	
4-Bromofluorobenzene (S)	100 %		75-125		1	02/06/14 16:18	02/06/14 20:58	460-00-4	

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-4-5 (4') **Lab ID: 10256787008** Collected: 01/30/14 10:20 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	3.4	%	0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1060	528	1	02/06/14 16:18	02/06/14 21:15	67-64-1	
Allyl chloride	ND	ug/kg	211	9.3	1	02/06/14 16:18	02/06/14 21:15	107-05-1	
Benzene	ND	ug/kg	21.1	10.6	1	02/06/14 16:18	02/06/14 21:15	71-43-2	
Bromobenzene	ND	ug/kg	52.8	6.2	1	02/06/14 16:18	02/06/14 21:15	108-86-1	
Bromochloromethane	ND	ug/kg	52.8	10.8	1	02/06/14 16:18	02/06/14 21:15	74-97-5	
Bromodichloromethane	ND	ug/kg	52.8	6.8	1	02/06/14 16:18	02/06/14 21:15	75-27-4	
Bromoform	ND	ug/kg	211	106	1	02/06/14 16:18	02/06/14 21:15	75-25-2	
Bromomethane	ND	ug/kg	528	264	1	02/06/14 16:18	02/06/14 21:15	74-83-9	
2-Butanone (MEK)	ND	ug/kg	264	132	1	02/06/14 16:18	02/06/14 21:15	78-93-3	
n-Butylbenzene	ND	ug/kg	52.8	21.1	1	02/06/14 16:18	02/06/14 21:15	104-51-8	
sec-Butylbenzene	ND	ug/kg	52.8	21.1	1	02/06/14 16:18	02/06/14 21:15	135-98-8	
tert-Butylbenzene	ND	ug/kg	52.8	21.1	1	02/06/14 16:18	02/06/14 21:15	98-06-6	
Carbon tetrachloride	ND	ug/kg	52.8	5.3	1	02/06/14 16:18	02/06/14 21:15	56-23-5	
Chlorobenzene	ND	ug/kg	52.8	3.9	1	02/06/14 16:18	02/06/14 21:15	108-90-7	
Chloroethane	ND	ug/kg	528	13.2	1	02/06/14 16:18	02/06/14 21:15	75-00-3	
Chloroform	ND	ug/kg	52.8	8.0	1	02/06/14 16:18	02/06/14 21:15	67-66-3	
Chloromethane	ND	ug/kg	211	16.0	1	02/06/14 16:18	02/06/14 21:15	74-87-3	
2-Chlorotoluene	ND	ug/kg	52.8	26.4	1	02/06/14 16:18	02/06/14 21:15	95-49-8	
4-Chlorotoluene	ND	ug/kg	52.8	26.4	1	02/06/14 16:18	02/06/14 21:15	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	528	77.0	1	02/06/14 16:18	02/06/14 21:15	96-12-8	
Dibromochloromethane	ND	ug/kg	52.8	6.8	1	02/06/14 16:18	02/06/14 21:15	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	52.8	5.7	1	02/06/14 16:18	02/06/14 21:15	106-93-4	
Dibromomethane	ND	ug/kg	211	8.2	1	02/06/14 16:18	02/06/14 21:15	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	52.8	26.4	1	02/06/14 16:18	02/06/14 21:15	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	52.8	26.4	1	02/06/14 16:18	02/06/14 21:15	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	52.8	26.4	1	02/06/14 16:18	02/06/14 21:15	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	52.8	16.0	1	02/06/14 16:18	02/06/14 21:15	75-71-8	
1,1-Dichloroethane	ND	ug/kg	52.8	4.3	1	02/06/14 16:18	02/06/14 21:15	75-34-3	
1,2-Dichloroethane	ND	ug/kg	52.8	7.1	1	02/06/14 16:18	02/06/14 21:15	107-06-2	
1,1-Dichloroethene	ND	ug/kg	52.8	7.5	1	02/06/14 16:18	02/06/14 21:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	52.8	8.7	1	02/06/14 16:18	02/06/14 21:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	52.8	6.4	1	02/06/14 16:18	02/06/14 21:15	156-60-5	
Dichlorofluoromethane	ND	ug/kg	528	43.3	1	02/06/14 16:18	02/06/14 21:15	75-43-4	
1,2-Dichloropropane	ND	ug/kg	52.8	6.2	1	02/06/14 16:18	02/06/14 21:15	78-87-5	
1,3-Dichloropropane	ND	ug/kg	52.8	26.4	1	02/06/14 16:18	02/06/14 21:15	142-28-9	
2,2-Dichloropropane	ND	ug/kg	211	52.0	1	02/06/14 16:18	02/06/14 21:15	594-20-7	
1,1-Dichloropropene	ND	ug/kg	52.8	6.8	1	02/06/14 16:18	02/06/14 21:15	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	52.8	4.2	1	02/06/14 16:18	02/06/14 21:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	52.8	5.2	1	02/06/14 16:18	02/06/14 21:15	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	211	11.8	1	02/06/14 16:18	02/06/14 21:15	60-29-7	
Ethylbenzene	ND	ug/kg	52.8	21.1	1	02/06/14 16:18	02/06/14 21:15	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	264	132	1	02/06/14 16:18	02/06/14 21:15	87-68-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-4-5 (4') **Lab ID: 10256787008** Collected: 01/30/14 10:20 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	52.8	26.4	1	02/06/14 16:18	02/06/14 21:15	98-82-8	
p-Isopropyltoluene	ND	ug/kg	52.8	21.1	1	02/06/14 16:18	02/06/14 21:15	99-87-6	
Methylene Chloride	ND	ug/kg	211	106	1	02/06/14 16:18	02/06/14 21:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	264	132	1	02/06/14 16:18	02/06/14 21:15	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	52.8	26.4	1	02/06/14 16:18	02/06/14 21:15	1634-04-4	
Naphthalene	ND	ug/kg	211	106	1	02/06/14 16:18	02/06/14 21:15	91-20-3	
n-Propylbenzene	ND	ug/kg	52.8	21.1	1	02/06/14 16:18	02/06/14 21:15	103-65-1	
Styrene	ND	ug/kg	52.8	4.3	1	02/06/14 16:18	02/06/14 21:15	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	52.8	26.4	1	02/06/14 16:18	02/06/14 21:15	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	52.8	6.8	1	02/06/14 16:18	02/06/14 21:15	79-34-5	
Tetrachloroethene	ND	ug/kg	52.8	7.0	1	02/06/14 16:18	02/06/14 21:15	127-18-4	
Tetrahydrofuran	ND	ug/kg	2110	63.6	1	02/06/14 16:18	02/06/14 21:15	109-99-9	
Toluene	ND	ug/kg	52.8	21.1	1	02/06/14 16:18	02/06/14 21:15	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	52.8	21.1	1	02/06/14 16:18	02/06/14 21:15	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	52.8	21.1	1	02/06/14 16:18	02/06/14 21:15	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	52.8	3.5	1	02/06/14 16:18	02/06/14 21:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	52.8	4.7	1	02/06/14 16:18	02/06/14 21:15	79-00-5	
Trichloroethene	ND	ug/kg	52.8	8.0	1	02/06/14 16:18	02/06/14 21:15	79-01-6	
Trichlorofluoromethane	ND	ug/kg	211	9.7	1	02/06/14 16:18	02/06/14 21:15	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	211	15.5	1	02/06/14 16:18	02/06/14 21:15	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	52.8	26.4	1	02/06/14 16:18	02/06/14 21:15	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	52.8	26.4	1	02/06/14 16:18	02/06/14 21:15	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	52.8	26.4	1	02/06/14 16:18	02/06/14 21:15	108-67-8	
Vinyl chloride	ND	ug/kg	21.1	8.4	1	02/06/14 16:18	02/06/14 21:15	75-01-4	
Xylene (Total)	ND	ug/kg	158	63.3	1	02/06/14 16:18	02/06/14 21:15	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101 %		74-125		1	02/06/14 16:18	02/06/14 21:15	17060-07-0	
Toluene-d8 (S)	99 %		75-125		1	02/06/14 16:18	02/06/14 21:15	2037-26-5	
4-Bromofluorobenzene (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 21:15	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-4-5 (9') **Lab ID: 10256787009** Collected: 01/30/14 10:25 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	3.3	%	0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1070	535	1	02/06/14 16:18	02/06/14 21:32	67-64-1	
Allyl chloride	ND	ug/kg	214	9.4	1	02/06/14 16:18	02/06/14 21:32	107-05-1	
Benzene	ND	ug/kg	21.4	10.7	1	02/06/14 16:18	02/06/14 21:32	71-43-2	
Bromobenzene	ND	ug/kg	53.5	6.3	1	02/06/14 16:18	02/06/14 21:32	108-86-1	
Bromochloromethane	ND	ug/kg	53.5	10.9	1	02/06/14 16:18	02/06/14 21:32	74-97-5	
Bromodichloromethane	ND	ug/kg	53.5	6.8	1	02/06/14 16:18	02/06/14 21:32	75-27-4	
Bromoform	ND	ug/kg	214	107	1	02/06/14 16:18	02/06/14 21:32	75-25-2	
Bromomethane	ND	ug/kg	535	267	1	02/06/14 16:18	02/06/14 21:32	74-83-9	
2-Butanone (MEK)	ND	ug/kg	267	134	1	02/06/14 16:18	02/06/14 21:32	78-93-3	
n-Butylbenzene	ND	ug/kg	53.5	21.4	1	02/06/14 16:18	02/06/14 21:32	104-51-8	
sec-Butylbenzene	ND	ug/kg	53.5	21.4	1	02/06/14 16:18	02/06/14 21:32	135-98-8	
tert-Butylbenzene	ND	ug/kg	53.5	21.4	1	02/06/14 16:18	02/06/14 21:32	98-06-6	
Carbon tetrachloride	ND	ug/kg	53.5	5.3	1	02/06/14 16:18	02/06/14 21:32	56-23-5	
Chlorobenzene	ND	ug/kg	53.5	4.0	1	02/06/14 16:18	02/06/14 21:32	108-90-7	
Chloroethane	ND	ug/kg	535	13.4	1	02/06/14 16:18	02/06/14 21:32	75-00-3	
Chloroform	ND	ug/kg	53.5	8.2	1	02/06/14 16:18	02/06/14 21:32	67-66-3	
Chloromethane	ND	ug/kg	214	16.3	1	02/06/14 16:18	02/06/14 21:32	74-87-3	
2-Chlorotoluene	ND	ug/kg	53.5	26.7	1	02/06/14 16:18	02/06/14 21:32	95-49-8	
4-Chlorotoluene	ND	ug/kg	53.5	26.7	1	02/06/14 16:18	02/06/14 21:32	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	535	78.1	1	02/06/14 16:18	02/06/14 21:32	96-12-8	
Dibromochloromethane	ND	ug/kg	53.5	6.8	1	02/06/14 16:18	02/06/14 21:32	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	53.5	5.8	1	02/06/14 16:18	02/06/14 21:32	106-93-4	
Dibromomethane	ND	ug/kg	214	8.3	1	02/06/14 16:18	02/06/14 21:32	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	53.5	26.7	1	02/06/14 16:18	02/06/14 21:32	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	53.5	26.7	1	02/06/14 16:18	02/06/14 21:32	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	53.5	26.7	1	02/06/14 16:18	02/06/14 21:32	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	53.5	16.3	1	02/06/14 16:18	02/06/14 21:32	75-71-8	
1,1-Dichloroethane	ND	ug/kg	53.5	4.4	1	02/06/14 16:18	02/06/14 21:32	75-34-3	
1,2-Dichloroethane	ND	ug/kg	53.5	7.2	1	02/06/14 16:18	02/06/14 21:32	107-06-2	
1,1-Dichloroethene	ND	ug/kg	53.5	7.6	1	02/06/14 16:18	02/06/14 21:32	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	53.5	8.8	1	02/06/14 16:18	02/06/14 21:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	53.5	6.5	1	02/06/14 16:18	02/06/14 21:32	156-60-5	
Dichlorofluoromethane	ND	ug/kg	535	43.9	1	02/06/14 16:18	02/06/14 21:32	75-43-4	
1,2-Dichloropropane	ND	ug/kg	53.5	6.3	1	02/06/14 16:18	02/06/14 21:32	78-87-5	
1,3-Dichloropropane	ND	ug/kg	53.5	26.7	1	02/06/14 16:18	02/06/14 21:32	142-28-9	
2,2-Dichloropropane	ND	ug/kg	214	52.7	1	02/06/14 16:18	02/06/14 21:32	594-20-7	
1,1-Dichloropropene	ND	ug/kg	53.5	6.8	1	02/06/14 16:18	02/06/14 21:32	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	53.5	4.2	1	02/06/14 16:18	02/06/14 21:32	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	53.5	5.3	1	02/06/14 16:18	02/06/14 21:32	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	214	12.0	1	02/06/14 16:18	02/06/14 21:32	60-29-7	
Ethylbenzene	ND	ug/kg	53.5	21.4	1	02/06/14 16:18	02/06/14 21:32	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	267	134	1	02/06/14 16:18	02/06/14 21:32	87-68-3	

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-4-5 (9') **Lab ID: 10256787009** Collected: 01/30/14 10:25 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	53.5	26.7	1	02/06/14 16:18	02/06/14 21:32	98-82-8	
p-Isopropyltoluene	ND	ug/kg	53.5	21.4	1	02/06/14 16:18	02/06/14 21:32	99-87-6	
Methylene Chloride	ND	ug/kg	214	107	1	02/06/14 16:18	02/06/14 21:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	267	134	1	02/06/14 16:18	02/06/14 21:32	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	53.5	26.7	1	02/06/14 16:18	02/06/14 21:32	1634-04-4	
Naphthalene	ND	ug/kg	214	107	1	02/06/14 16:18	02/06/14 21:32	91-20-3	
n-Propylbenzene	ND	ug/kg	53.5	21.4	1	02/06/14 16:18	02/06/14 21:32	103-65-1	
Styrene	ND	ug/kg	53.5	4.4	1	02/06/14 16:18	02/06/14 21:32	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	53.5	26.7	1	02/06/14 16:18	02/06/14 21:32	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	53.5	6.9	1	02/06/14 16:18	02/06/14 21:32	79-34-5	
Tetrachloroethene	ND	ug/kg	53.5	7.1	1	02/06/14 16:18	02/06/14 21:32	127-18-4	
Tetrahydrofuran	ND	ug/kg	2140	64.5	1	02/06/14 16:18	02/06/14 21:32	109-99-9	
Toluene	ND	ug/kg	53.5	21.4	1	02/06/14 16:18	02/06/14 21:32	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	53.5	21.4	1	02/06/14 16:18	02/06/14 21:32	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	53.5	21.4	1	02/06/14 16:18	02/06/14 21:32	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	53.5	3.6	1	02/06/14 16:18	02/06/14 21:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	53.5	4.8	1	02/06/14 16:18	02/06/14 21:32	79-00-5	
Trichloroethene	ND	ug/kg	53.5	8.1	1	02/06/14 16:18	02/06/14 21:32	79-01-6	
Trichlorofluoromethane	ND	ug/kg	214	9.8	1	02/06/14 16:18	02/06/14 21:32	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	214	15.7	1	02/06/14 16:18	02/06/14 21:32	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	53.5	26.7	1	02/06/14 16:18	02/06/14 21:32	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	53.5	26.7	1	02/06/14 16:18	02/06/14 21:32	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	53.5	26.7	1	02/06/14 16:18	02/06/14 21:32	108-67-8	
Vinyl chloride	ND	ug/kg	21.4	8.6	1	02/06/14 16:18	02/06/14 21:32	75-01-4	
Xylene (Total)	ND	ug/kg	160	64.2	1	02/06/14 16:18	02/06/14 21:32	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99 %		74-125		1	02/06/14 16:18	02/06/14 21:32	17060-07-0	
Toluene-d8 (S)	100 %		75-125		1	02/06/14 16:18	02/06/14 21:32	2037-26-5	
4-Bromofluorobenzene (S)	103 %		75-125		1	02/06/14 16:18	02/06/14 21:32	460-00-4	

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-6-5 (3') **Lab ID: 10256787010** Collected: 01/31/14 09:50 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	7.0	%	0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1100	551	1	02/06/14 16:18	02/06/14 21:50	67-64-1	
Allyl chloride	ND	ug/kg	220	9.7	1	02/06/14 16:18	02/06/14 21:50	107-05-1	
Benzene	ND	ug/kg	22.0	11.0	1	02/06/14 16:18	02/06/14 21:50	71-43-2	
Bromobenzene	ND	ug/kg	55.1	6.4	1	02/06/14 16:18	02/06/14 21:50	108-86-1	
Bromochloromethane	ND	ug/kg	55.1	11.2	1	02/06/14 16:18	02/06/14 21:50	74-97-5	
Bromodichloromethane	ND	ug/kg	55.1	7.1	1	02/06/14 16:18	02/06/14 21:50	75-27-4	
Bromoform	ND	ug/kg	220	110	1	02/06/14 16:18	02/06/14 21:50	75-25-2	
Bromomethane	ND	ug/kg	551	275	1	02/06/14 16:18	02/06/14 21:50	74-83-9	
2-Butanone (MEK)	ND	ug/kg	275	138	1	02/06/14 16:18	02/06/14 21:50	78-93-3	
n-Butylbenzene	ND	ug/kg	55.1	22.0	1	02/06/14 16:18	02/06/14 21:50	104-51-8	
sec-Butylbenzene	ND	ug/kg	55.1	22.0	1	02/06/14 16:18	02/06/14 21:50	135-98-8	
tert-Butylbenzene	ND	ug/kg	55.1	22.0	1	02/06/14 16:18	02/06/14 21:50	98-06-6	
Carbon tetrachloride	ND	ug/kg	55.1	5.5	1	02/06/14 16:18	02/06/14 21:50	56-23-5	
Chlorobenzene	ND	ug/kg	55.1	4.1	1	02/06/14 16:18	02/06/14 21:50	108-90-7	
Chloroethane	ND	ug/kg	551	13.8	1	02/06/14 16:18	02/06/14 21:50	75-00-3	
Chloroform	ND	ug/kg	55.1	8.4	1	02/06/14 16:18	02/06/14 21:50	67-66-3	
Chloromethane	ND	ug/kg	220	16.7	1	02/06/14 16:18	02/06/14 21:50	74-87-3	
2-Chlorotoluene	ND	ug/kg	55.1	27.5	1	02/06/14 16:18	02/06/14 21:50	95-49-8	
4-Chlorotoluene	ND	ug/kg	55.1	27.5	1	02/06/14 16:18	02/06/14 21:50	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	551	80.4	1	02/06/14 16:18	02/06/14 21:50	96-12-8	
Dibromochloromethane	ND	ug/kg	55.1	7.1	1	02/06/14 16:18	02/06/14 21:50	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	55.1	5.9	1	02/06/14 16:18	02/06/14 21:50	106-93-4	
Dibromomethane	ND	ug/kg	220	8.6	1	02/06/14 16:18	02/06/14 21:50	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	55.1	27.5	1	02/06/14 16:18	02/06/14 21:50	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	55.1	27.5	1	02/06/14 16:18	02/06/14 21:50	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	55.1	27.5	1	02/06/14 16:18	02/06/14 21:50	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	55.1	16.7	1	02/06/14 16:18	02/06/14 21:50	75-71-8	
1,1-Dichloroethane	ND	ug/kg	55.1	4.5	1	02/06/14 16:18	02/06/14 21:50	75-34-3	
1,2-Dichloroethane	ND	ug/kg	55.1	7.4	1	02/06/14 16:18	02/06/14 21:50	107-06-2	
1,1-Dichloroethene	ND	ug/kg	55.1	7.8	1	02/06/14 16:18	02/06/14 21:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	55.1	9.0	1	02/06/14 16:18	02/06/14 21:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	55.1	6.7	1	02/06/14 16:18	02/06/14 21:50	156-60-5	
Dichlorofluoromethane	ND	ug/kg	551	45.2	1	02/06/14 16:18	02/06/14 21:50	75-43-4	
1,2-Dichloropropane	ND	ug/kg	55.1	6.5	1	02/06/14 16:18	02/06/14 21:50	78-87-5	
1,3-Dichloropropane	ND	ug/kg	55.1	27.5	1	02/06/14 16:18	02/06/14 21:50	142-28-9	
2,2-Dichloropropane	ND	ug/kg	220	54.3	1	02/06/14 16:18	02/06/14 21:50	594-20-7	
1,1-Dichloropropene	ND	ug/kg	55.1	7.1	1	02/06/14 16:18	02/06/14 21:50	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	55.1	4.3	1	02/06/14 16:18	02/06/14 21:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	55.1	5.4	1	02/06/14 16:18	02/06/14 21:50	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	220	12.3	1	02/06/14 16:18	02/06/14 21:50	60-29-7	
Ethylbenzene	ND	ug/kg	55.1	22.0	1	02/06/14 16:18	02/06/14 21:50	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	275	138	1	02/06/14 16:18	02/06/14 21:50	87-68-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-6-5 (3') **Lab ID: 10256787010** Collected: 01/31/14 09:50 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	55.1	27.5	1	02/06/14 16:18	02/06/14 21:50	98-82-8	
p-Isopropyltoluene	ND	ug/kg	55.1	22.0	1	02/06/14 16:18	02/06/14 21:50	99-87-6	
Methylene Chloride	ND	ug/kg	220	110	1	02/06/14 16:18	02/06/14 21:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	275	138	1	02/06/14 16:18	02/06/14 21:50	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	55.1	27.5	1	02/06/14 16:18	02/06/14 21:50	1634-04-4	
Naphthalene	ND	ug/kg	220	110	1	02/06/14 16:18	02/06/14 21:50	91-20-3	
n-Propylbenzene	ND	ug/kg	55.1	22.0	1	02/06/14 16:18	02/06/14 21:50	103-65-1	
Styrene	ND	ug/kg	55.1	4.5	1	02/06/14 16:18	02/06/14 21:50	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	55.1	27.5	1	02/06/14 16:18	02/06/14 21:50	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	55.1	7.1	1	02/06/14 16:18	02/06/14 21:50	79-34-5	
Tetrachloroethene	ND	ug/kg	55.1	7.3	1	02/06/14 16:18	02/06/14 21:50	127-18-4	
Tetrahydrofuran	ND	ug/kg	2200	66.4	1	02/06/14 16:18	02/06/14 21:50	109-99-9	
Toluene	ND	ug/kg	55.1	22.0	1	02/06/14 16:18	02/06/14 21:50	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	55.1	22.0	1	02/06/14 16:18	02/06/14 21:50	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	55.1	22.0	1	02/06/14 16:18	02/06/14 21:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	55.1	3.7	1	02/06/14 16:18	02/06/14 21:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	55.1	4.9	1	02/06/14 16:18	02/06/14 21:50	79-00-5	
Trichloroethene	ND	ug/kg	55.1	8.4	1	02/06/14 16:18	02/06/14 21:50	79-01-6	
Trichlorofluoromethane	ND	ug/kg	220	10.1	1	02/06/14 16:18	02/06/14 21:50	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	220	16.2	1	02/06/14 16:18	02/06/14 21:50	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	55.1	27.5	1	02/06/14 16:18	02/06/14 21:50	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	55.1	27.5	1	02/06/14 16:18	02/06/14 21:50	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	55.1	27.5	1	02/06/14 16:18	02/06/14 21:50	108-67-8	
Vinyl chloride	ND	ug/kg	22.0	8.8	1	02/06/14 16:18	02/06/14 21:50	75-01-4	
Xylene (Total)	ND	ug/kg	165	66.1	1	02/06/14 16:18	02/06/14 21:50	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100 %		74-125		1	02/06/14 16:18	02/06/14 21:50	17060-07-0	
Toluene-d8 (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 21:50	2037-26-5	
4-Bromofluorobenzene (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 21:50	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-6-5 (11') **Lab ID: 10256787011** Collected: 01/31/14 09:55 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	8.5	%	0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1140	571	1	02/06/14 16:18	02/06/14 22:07	67-64-1	
Allyl chloride	ND	ug/kg	228	10.1	1	02/06/14 16:18	02/06/14 22:07	107-05-1	
Benzene	ND	ug/kg	22.8	11.4	1	02/06/14 16:18	02/06/14 22:07	71-43-2	
Bromobenzene	ND	ug/kg	57.1	6.7	1	02/06/14 16:18	02/06/14 22:07	108-86-1	
Bromochloromethane	ND	ug/kg	57.1	11.7	1	02/06/14 16:18	02/06/14 22:07	74-97-5	
Bromodichloromethane	ND	ug/kg	57.1	7.3	1	02/06/14 16:18	02/06/14 22:07	75-27-4	
Bromoform	ND	ug/kg	228	114	1	02/06/14 16:18	02/06/14 22:07	75-25-2	
Bromomethane	ND	ug/kg	571	286	1	02/06/14 16:18	02/06/14 22:07	74-83-9	
2-Butanone (MEK)	ND	ug/kg	286	143	1	02/06/14 16:18	02/06/14 22:07	78-93-3	
n-Butylbenzene	ND	ug/kg	57.1	22.8	1	02/06/14 16:18	02/06/14 22:07	104-51-8	
sec-Butylbenzene	ND	ug/kg	57.1	22.8	1	02/06/14 16:18	02/06/14 22:07	135-98-8	
tert-Butylbenzene	ND	ug/kg	57.1	22.8	1	02/06/14 16:18	02/06/14 22:07	98-06-6	
Carbon tetrachloride	ND	ug/kg	57.1	5.7	1	02/06/14 16:18	02/06/14 22:07	56-23-5	
Chlorobenzene	ND	ug/kg	57.1	4.2	1	02/06/14 16:18	02/06/14 22:07	108-90-7	
Chloroethane	ND	ug/kg	571	14.3	1	02/06/14 16:18	02/06/14 22:07	75-00-3	
Chloroform	ND	ug/kg	57.1	8.7	1	02/06/14 16:18	02/06/14 22:07	67-66-3	
Chloromethane	ND	ug/kg	228	17.4	1	02/06/14 16:18	02/06/14 22:07	74-87-3	
2-Chlorotoluene	ND	ug/kg	57.1	28.6	1	02/06/14 16:18	02/06/14 22:07	95-49-8	
4-Chlorotoluene	ND	ug/kg	57.1	28.6	1	02/06/14 16:18	02/06/14 22:07	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	571	83.4	1	02/06/14 16:18	02/06/14 22:07	96-12-8	
Dibromochloromethane	ND	ug/kg	57.1	7.3	1	02/06/14 16:18	02/06/14 22:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	57.1	6.2	1	02/06/14 16:18	02/06/14 22:07	106-93-4	
Dibromomethane	ND	ug/kg	228	8.9	1	02/06/14 16:18	02/06/14 22:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	57.1	28.6	1	02/06/14 16:18	02/06/14 22:07	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	57.1	28.6	1	02/06/14 16:18	02/06/14 22:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	57.1	28.6	1	02/06/14 16:18	02/06/14 22:07	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	57.1	17.4	1	02/06/14 16:18	02/06/14 22:07	75-71-8	
1,1-Dichloroethane	ND	ug/kg	57.1	4.7	1	02/06/14 16:18	02/06/14 22:07	75-34-3	
1,2-Dichloroethane	ND	ug/kg	57.1	7.7	1	02/06/14 16:18	02/06/14 22:07	107-06-2	
1,1-Dichloroethene	ND	ug/kg	57.1	8.1	1	02/06/14 16:18	02/06/14 22:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	57.1	9.4	1	02/06/14 16:18	02/06/14 22:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	57.1	7.0	1	02/06/14 16:18	02/06/14 22:07	156-60-5	
Dichlorofluoromethane	ND	ug/kg	571	46.8	1	02/06/14 16:18	02/06/14 22:07	75-43-4	
1,2-Dichloropropane	ND	ug/kg	57.1	6.7	1	02/06/14 16:18	02/06/14 22:07	78-87-5	
1,3-Dichloropropane	ND	ug/kg	57.1	28.6	1	02/06/14 16:18	02/06/14 22:07	142-28-9	
2,2-Dichloropropane	ND	ug/kg	228	56.3	1	02/06/14 16:18	02/06/14 22:07	594-20-7	
1,1-Dichloropropene	ND	ug/kg	57.1	7.3	1	02/06/14 16:18	02/06/14 22:07	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	57.1	4.5	1	02/06/14 16:18	02/06/14 22:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	57.1	5.6	1	02/06/14 16:18	02/06/14 22:07	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	228	12.8	1	02/06/14 16:18	02/06/14 22:07	60-29-7	
Ethylbenzene	ND	ug/kg	57.1	22.8	1	02/06/14 16:18	02/06/14 22:07	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	286	143	1	02/06/14 16:18	02/06/14 22:07	87-68-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-6-5 (11') **Lab ID: 10256787011** Collected: 01/31/14 09:55 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	57.1	28.6	1	02/06/14 16:18	02/06/14 22:07	98-82-8	
p-Isopropyltoluene	ND	ug/kg	57.1	22.8	1	02/06/14 16:18	02/06/14 22:07	99-87-6	
Methylene Chloride	ND	ug/kg	228	114	1	02/06/14 16:18	02/06/14 22:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	286	143	1	02/06/14 16:18	02/06/14 22:07	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	57.1	28.6	1	02/06/14 16:18	02/06/14 22:07	1634-04-4	
Naphthalene	ND	ug/kg	228	114	1	02/06/14 16:18	02/06/14 22:07	91-20-3	
n-Propylbenzene	ND	ug/kg	57.1	22.8	1	02/06/14 16:18	02/06/14 22:07	103-65-1	
Styrene	ND	ug/kg	57.1	4.6	1	02/06/14 16:18	02/06/14 22:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	57.1	28.6	1	02/06/14 16:18	02/06/14 22:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	57.1	7.4	1	02/06/14 16:18	02/06/14 22:07	79-34-5	
Tetrachloroethene	ND	ug/kg	57.1	7.5	1	02/06/14 16:18	02/06/14 22:07	127-18-4	
Tetrahydrofuran	ND	ug/kg	2280	68.9	1	02/06/14 16:18	02/06/14 22:07	109-99-9	
Toluene	ND	ug/kg	57.1	22.8	1	02/06/14 16:18	02/06/14 22:07	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	57.1	22.8	1	02/06/14 16:18	02/06/14 22:07	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	57.1	22.8	1	02/06/14 16:18	02/06/14 22:07	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	57.1	3.8	1	02/06/14 16:18	02/06/14 22:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	57.1	5.1	1	02/06/14 16:18	02/06/14 22:07	79-00-5	
Trichloroethene	ND	ug/kg	57.1	8.7	1	02/06/14 16:18	02/06/14 22:07	79-01-6	
Trichlorofluoromethane	ND	ug/kg	228	10.5	1	02/06/14 16:18	02/06/14 22:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	228	16.8	1	02/06/14 16:18	02/06/14 22:07	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	57.1	28.6	1	02/06/14 16:18	02/06/14 22:07	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	57.1	28.6	1	02/06/14 16:18	02/06/14 22:07	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	57.1	28.6	1	02/06/14 16:18	02/06/14 22:07	108-67-8	
Vinyl chloride	ND	ug/kg	22.8	9.1	1	02/06/14 16:18	02/06/14 22:07	75-01-4	
Xylene (Total)	ND	ug/kg	171	68.5	1	02/06/14 16:18	02/06/14 22:07	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101 %		74-125		1	02/06/14 16:18	02/06/14 22:07	17060-07-0	
Toluene-d8 (S)	100 %		75-125		1	02/06/14 16:18	02/06/14 22:07	2037-26-5	
4-Bromofluorobenzene (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 22:07	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-3-5 (4') **Lab ID: 10256787012** Collected: 01/31/14 14:00 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	14.9	%	0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1210	607	1	02/06/14 16:18	02/06/14 22:24	67-64-1	
Allyl chloride	ND	ug/kg	243	10.7	1	02/06/14 16:18	02/06/14 22:24	107-05-1	
Benzene	ND	ug/kg	24.3	12.1	1	02/06/14 16:18	02/06/14 22:24	71-43-2	
Bromobenzene	ND	ug/kg	60.7	7.1	1	02/06/14 16:18	02/06/14 22:24	108-86-1	
Bromochloromethane	ND	ug/kg	60.7	12.4	1	02/06/14 16:18	02/06/14 22:24	74-97-5	
Bromodichloromethane	ND	ug/kg	60.7	7.8	1	02/06/14 16:18	02/06/14 22:24	75-27-4	
Bromoform	ND	ug/kg	243	121	1	02/06/14 16:18	02/06/14 22:24	75-25-2	
Bromomethane	ND	ug/kg	607	303	1	02/06/14 16:18	02/06/14 22:24	74-83-9	
2-Butanone (MEK)	ND	ug/kg	303	152	1	02/06/14 16:18	02/06/14 22:24	78-93-3	
n-Butylbenzene	ND	ug/kg	60.7	24.3	1	02/06/14 16:18	02/06/14 22:24	104-51-8	
sec-Butylbenzene	ND	ug/kg	60.7	24.3	1	02/06/14 16:18	02/06/14 22:24	135-98-8	
tert-Butylbenzene	ND	ug/kg	60.7	24.3	1	02/06/14 16:18	02/06/14 22:24	98-06-6	
Carbon tetrachloride	ND	ug/kg	60.7	6.1	1	02/06/14 16:18	02/06/14 22:24	56-23-5	
Chlorobenzene	ND	ug/kg	60.7	4.5	1	02/06/14 16:18	02/06/14 22:24	108-90-7	
Chloroethane	ND	ug/kg	607	15.2	1	02/06/14 16:18	02/06/14 22:24	75-00-3	
Chloroform	ND	ug/kg	60.7	9.2	1	02/06/14 16:18	02/06/14 22:24	67-66-3	
Chloromethane	ND	ug/kg	243	18.4	1	02/06/14 16:18	02/06/14 22:24	74-87-3	
2-Chlorotoluene	ND	ug/kg	60.7	30.3	1	02/06/14 16:18	02/06/14 22:24	95-49-8	
4-Chlorotoluene	ND	ug/kg	60.7	30.3	1	02/06/14 16:18	02/06/14 22:24	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	607	88.6	1	02/06/14 16:18	02/06/14 22:24	96-12-8	
Dibromochloromethane	ND	ug/kg	60.7	7.8	1	02/06/14 16:18	02/06/14 22:24	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	60.7	6.6	1	02/06/14 16:18	02/06/14 22:24	106-93-4	
Dibromomethane	ND	ug/kg	243	9.5	1	02/06/14 16:18	02/06/14 22:24	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	60.7	30.3	1	02/06/14 16:18	02/06/14 22:24	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	60.7	30.3	1	02/06/14 16:18	02/06/14 22:24	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	60.7	30.3	1	02/06/14 16:18	02/06/14 22:24	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	60.7	18.4	1	02/06/14 16:18	02/06/14 22:24	75-71-8	
1,1-Dichloroethane	ND	ug/kg	60.7	5.0	1	02/06/14 16:18	02/06/14 22:24	75-34-3	
1,2-Dichloroethane	ND	ug/kg	60.7	8.2	1	02/06/14 16:18	02/06/14 22:24	107-06-2	
1,1-Dichloroethene	ND	ug/kg	60.7	8.6	1	02/06/14 16:18	02/06/14 22:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	60.7	9.9	1	02/06/14 16:18	02/06/14 22:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	60.7	7.4	1	02/06/14 16:18	02/06/14 22:24	156-60-5	
Dichlorofluoromethane	ND	ug/kg	607	49.7	1	02/06/14 16:18	02/06/14 22:24	75-43-4	
1,2-Dichloropropane	ND	ug/kg	60.7	7.2	1	02/06/14 16:18	02/06/14 22:24	78-87-5	
1,3-Dichloropropane	ND	ug/kg	60.7	30.3	1	02/06/14 16:18	02/06/14 22:24	142-28-9	
2,2-Dichloropropane	ND	ug/kg	243	59.8	1	02/06/14 16:18	02/06/14 22:24	594-20-7	
1,1-Dichloropropene	ND	ug/kg	60.7	7.8	1	02/06/14 16:18	02/06/14 22:24	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	60.7	4.8	1	02/06/14 16:18	02/06/14 22:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	60.7	6.0	1	02/06/14 16:18	02/06/14 22:24	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	243	13.6	1	02/06/14 16:18	02/06/14 22:24	60-29-7	
Ethylbenzene	ND	ug/kg	60.7	24.3	1	02/06/14 16:18	02/06/14 22:24	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	303	152	1	02/06/14 16:18	02/06/14 22:24	87-68-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-3-5 (4') **Lab ID: 10256787012** Collected: 01/31/14 14:00 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	60.7	30.3	1	02/06/14 16:18	02/06/14 22:24	98-82-8	
p-Isopropyltoluene	ND	ug/kg	60.7	24.3	1	02/06/14 16:18	02/06/14 22:24	99-87-6	
Methylene Chloride	ND	ug/kg	243	121	1	02/06/14 16:18	02/06/14 22:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	303	152	1	02/06/14 16:18	02/06/14 22:24	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	60.7	30.3	1	02/06/14 16:18	02/06/14 22:24	1634-04-4	
Naphthalene	ND	ug/kg	243	121	1	02/06/14 16:18	02/06/14 22:24	91-20-3	
n-Propylbenzene	ND	ug/kg	60.7	24.3	1	02/06/14 16:18	02/06/14 22:24	103-65-1	
Styrene	ND	ug/kg	60.7	4.9	1	02/06/14 16:18	02/06/14 22:24	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	60.7	30.3	1	02/06/14 16:18	02/06/14 22:24	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	60.7	7.8	1	02/06/14 16:18	02/06/14 22:24	79-34-5	
Tetrachloroethene	ND	ug/kg	60.7	8.0	1	02/06/14 16:18	02/06/14 22:24	127-18-4	
Tetrahydrofuran	ND	ug/kg	2430	73.2	1	02/06/14 16:18	02/06/14 22:24	109-99-9	
Toluene	ND	ug/kg	60.7	24.3	1	02/06/14 16:18	02/06/14 22:24	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	60.7	24.3	1	02/06/14 16:18	02/06/14 22:24	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	60.7	24.3	1	02/06/14 16:18	02/06/14 22:24	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	60.7	4.0	1	02/06/14 16:18	02/06/14 22:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	60.7	5.4	1	02/06/14 16:18	02/06/14 22:24	79-00-5	
Trichloroethene	ND	ug/kg	60.7	9.2	1	02/06/14 16:18	02/06/14 22:24	79-01-6	
Trichlorofluoromethane	ND	ug/kg	243	11.2	1	02/06/14 16:18	02/06/14 22:24	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	243	17.8	1	02/06/14 16:18	02/06/14 22:24	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	60.7	30.3	1	02/06/14 16:18	02/06/14 22:24	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	60.7	30.3	1	02/06/14 16:18	02/06/14 22:24	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	60.7	30.3	1	02/06/14 16:18	02/06/14 22:24	108-67-8	
Vinyl chloride	ND	ug/kg	24.3	9.7	1	02/06/14 16:18	02/06/14 22:24	75-01-4	
Xylene (Total)	ND	ug/kg	182	72.8	1	02/06/14 16:18	02/06/14 22:24	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99 %		74-125		1	02/06/14 16:18	02/06/14 22:24	17060-07-0	
Toluene-d8 (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 22:24	2037-26-5	
4-Bromofluorobenzene (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 22:24	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-3-5 (6') **Lab ID: 10256787013** Collected: 01/31/14 14:10 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	42.2 %		0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1790	893	1	02/06/14 16:18	02/06/14 22:41	67-64-1	
Allyl chloride	ND	ug/kg	357	15.7	1	02/06/14 16:18	02/06/14 22:41	107-05-1	
Benzene	ND	ug/kg	35.7	17.9	1	02/06/14 16:18	02/06/14 22:41	71-43-2	
Bromobenzene	ND	ug/kg	89.3	10.4	1	02/06/14 16:18	02/06/14 22:41	108-86-1	
Bromochloromethane	ND	ug/kg	89.3	18.2	1	02/06/14 16:18	02/06/14 22:41	74-97-5	
Bromodichloromethane	ND	ug/kg	89.3	11.4	1	02/06/14 16:18	02/06/14 22:41	75-27-4	
Bromoform	ND	ug/kg	357	179	1	02/06/14 16:18	02/06/14 22:41	75-25-2	
Bromomethane	ND	ug/kg	893	446	1	02/06/14 16:18	02/06/14 22:41	74-83-9	
2-Butanone (MEK)	ND	ug/kg	446	223	1	02/06/14 16:18	02/06/14 22:41	78-93-3	
n-Butylbenzene	ND	ug/kg	89.3	35.7	1	02/06/14 16:18	02/06/14 22:41	104-51-8	
sec-Butylbenzene	ND	ug/kg	89.3	35.7	1	02/06/14 16:18	02/06/14 22:41	135-98-8	
tert-Butylbenzene	ND	ug/kg	89.3	35.7	1	02/06/14 16:18	02/06/14 22:41	98-06-6	
Carbon tetrachloride	ND	ug/kg	89.3	8.9	1	02/06/14 16:18	02/06/14 22:41	56-23-5	
Chlorobenzene	ND	ug/kg	89.3	6.6	1	02/06/14 16:18	02/06/14 22:41	108-90-7	
Chloroethane	ND	ug/kg	893	22.3	1	02/06/14 16:18	02/06/14 22:41	75-00-3	
Chloroform	ND	ug/kg	89.3	13.6	1	02/06/14 16:18	02/06/14 22:41	67-66-3	
Chloromethane	ND	ug/kg	357	27.1	1	02/06/14 16:18	02/06/14 22:41	74-87-3	
2-Chlorotoluene	ND	ug/kg	89.3	44.6	1	02/06/14 16:18	02/06/14 22:41	95-49-8	
4-Chlorotoluene	ND	ug/kg	89.3	44.6	1	02/06/14 16:18	02/06/14 22:41	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	893	130	1	02/06/14 16:18	02/06/14 22:41	96-12-8	
Dibromochloromethane	ND	ug/kg	89.3	11.4	1	02/06/14 16:18	02/06/14 22:41	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	89.3	9.6	1	02/06/14 16:18	02/06/14 22:41	106-93-4	
Dibromomethane	ND	ug/kg	357	13.9	1	02/06/14 16:18	02/06/14 22:41	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	89.3	44.6	1	02/06/14 16:18	02/06/14 22:41	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	89.3	44.6	1	02/06/14 16:18	02/06/14 22:41	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	89.3	44.6	1	02/06/14 16:18	02/06/14 22:41	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	89.3	27.1	1	02/06/14 16:18	02/06/14 22:41	75-71-8	
1,1-Dichloroethane	ND	ug/kg	89.3	7.3	1	02/06/14 16:18	02/06/14 22:41	75-34-3	
1,2-Dichloroethane	ND	ug/kg	89.3	12.0	1	02/06/14 16:18	02/06/14 22:41	107-06-2	
1,1-Dichloroethene	ND	ug/kg	89.3	12.7	1	02/06/14 16:18	02/06/14 22:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	89.3	14.6	1	02/06/14 16:18	02/06/14 22:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	89.3	10.9	1	02/06/14 16:18	02/06/14 22:41	156-60-5	
Dichlorofluoromethane	ND	ug/kg	893	73.2	1	02/06/14 16:18	02/06/14 22:41	75-43-4	
1,2-Dichloropropane	ND	ug/kg	89.3	10.5	1	02/06/14 16:18	02/06/14 22:41	78-87-5	
1,3-Dichloropropane	ND	ug/kg	89.3	44.6	1	02/06/14 16:18	02/06/14 22:41	142-28-9	
2,2-Dichloropropane	ND	ug/kg	357	88.0	1	02/06/14 16:18	02/06/14 22:41	594-20-7	
1,1-Dichloropropene	ND	ug/kg	89.3	11.4	1	02/06/14 16:18	02/06/14 22:41	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	89.3	7.0	1	02/06/14 16:18	02/06/14 22:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	89.3	8.8	1	02/06/14 16:18	02/06/14 22:41	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	357	20.0	1	02/06/14 16:18	02/06/14 22:41	60-29-7	
Ethylbenzene	ND	ug/kg	89.3	35.7	1	02/06/14 16:18	02/06/14 22:41	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	446	223	1	02/06/14 16:18	02/06/14 22:41	87-68-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-3-5 (6') **Lab ID: 10256787013** Collected: 01/31/14 14:10 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	89.3	44.6	1	02/06/14 16:18	02/06/14 22:41	98-82-8	
p-Isopropyltoluene	ND	ug/kg	89.3	35.7	1	02/06/14 16:18	02/06/14 22:41	99-87-6	
Methylene Chloride	ND	ug/kg	357	179	1	02/06/14 16:18	02/06/14 22:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	446	223	1	02/06/14 16:18	02/06/14 22:41	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	89.3	44.6	1	02/06/14 16:18	02/06/14 22:41	1634-04-4	
Naphthalene	ND	ug/kg	357	179	1	02/06/14 16:18	02/06/14 22:41	91-20-3	
n-Propylbenzene	ND	ug/kg	89.3	35.7	1	02/06/14 16:18	02/06/14 22:41	103-65-1	
Styrene	ND	ug/kg	89.3	7.3	1	02/06/14 16:18	02/06/14 22:41	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	89.3	44.6	1	02/06/14 16:18	02/06/14 22:41	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	89.3	11.5	1	02/06/14 16:18	02/06/14 22:41	79-34-5	
Tetrachloroethene	ND	ug/kg	89.3	11.8	1	02/06/14 16:18	02/06/14 22:41	127-18-4	
Tetrahydrofuran	ND	ug/kg	3570	108	1	02/06/14 16:18	02/06/14 22:41	109-99-9	
Toluene	ND	ug/kg	89.3	35.7	1	02/06/14 16:18	02/06/14 22:41	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	89.3	35.7	1	02/06/14 16:18	02/06/14 22:41	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	89.3	35.7	1	02/06/14 16:18	02/06/14 22:41	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	89.3	5.9	1	02/06/14 16:18	02/06/14 22:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	89.3	8.0	1	02/06/14 16:18	02/06/14 22:41	79-00-5	
Trichloroethene	ND	ug/kg	89.3	13.5	1	02/06/14 16:18	02/06/14 22:41	79-01-6	
Trichlorofluoromethane	ND	ug/kg	357	16.4	1	02/06/14 16:18	02/06/14 22:41	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	357	26.3	1	02/06/14 16:18	02/06/14 22:41	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	89.3	44.6	1	02/06/14 16:18	02/06/14 22:41	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	89.3	44.6	1	02/06/14 16:18	02/06/14 22:41	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	89.3	44.6	1	02/06/14 16:18	02/06/14 22:41	108-67-8	
Vinyl chloride	ND	ug/kg	35.7	14.3	1	02/06/14 16:18	02/06/14 22:41	75-01-4	
Xylene (Total)	ND	ug/kg	268	107	1	02/06/14 16:18	02/06/14 22:41	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99 %		74-125		1	02/06/14 16:18	02/06/14 22:41	17060-07-0	
Toluene-d8 (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 22:41	2037-26-5	
4-Bromofluorobenzene (S)	102 %		75-125		1	02/06/14 16:18	02/06/14 22:41	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-3-5 (11') **Lab ID: 10256787014** Collected: 01/31/14 14:15 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	11.5	%	0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1150	577	1	02/06/14 16:18	02/06/14 22:58	67-64-1	
Allyl chloride	ND	ug/kg	231	10.1	1	02/06/14 16:18	02/06/14 22:58	107-05-1	
Benzene	ND	ug/kg	23.1	11.5	1	02/06/14 16:18	02/06/14 22:58	71-43-2	
Bromobenzene	ND	ug/kg	57.7	6.7	1	02/06/14 16:18	02/06/14 22:58	108-86-1	
Bromochloromethane	ND	ug/kg	57.7	11.8	1	02/06/14 16:18	02/06/14 22:58	74-97-5	
Bromodichloromethane	ND	ug/kg	57.7	7.4	1	02/06/14 16:18	02/06/14 22:58	75-27-4	
Bromoform	ND	ug/kg	231	115	1	02/06/14 16:18	02/06/14 22:58	75-25-2	
Bromomethane	ND	ug/kg	577	288	1	02/06/14 16:18	02/06/14 22:58	74-83-9	
2-Butanone (MEK)	ND	ug/kg	288	144	1	02/06/14 16:18	02/06/14 22:58	78-93-3	
n-Butylbenzene	ND	ug/kg	57.7	23.1	1	02/06/14 16:18	02/06/14 22:58	104-51-8	
sec-Butylbenzene	ND	ug/kg	57.7	23.1	1	02/06/14 16:18	02/06/14 22:58	135-98-8	
tert-Butylbenzene	ND	ug/kg	57.7	23.1	1	02/06/14 16:18	02/06/14 22:58	98-06-6	
Carbon tetrachloride	ND	ug/kg	57.7	5.8	1	02/06/14 16:18	02/06/14 22:58	56-23-5	
Chlorobenzene	ND	ug/kg	57.7	4.3	1	02/06/14 16:18	02/06/14 22:58	108-90-7	
Chloroethane	ND	ug/kg	577	14.4	1	02/06/14 16:18	02/06/14 22:58	75-00-3	
Chloroform	ND	ug/kg	57.7	8.8	1	02/06/14 16:18	02/06/14 22:58	67-66-3	
Chloromethane	ND	ug/kg	231	17.5	1	02/06/14 16:18	02/06/14 22:58	74-87-3	
2-Chlorotoluene	ND	ug/kg	57.7	28.8	1	02/06/14 16:18	02/06/14 22:58	95-49-8	
4-Chlorotoluene	ND	ug/kg	57.7	28.8	1	02/06/14 16:18	02/06/14 22:58	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	577	84.2	1	02/06/14 16:18	02/06/14 22:58	96-12-8	
Dibromochloromethane	ND	ug/kg	57.7	7.4	1	02/06/14 16:18	02/06/14 22:58	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	57.7	6.2	1	02/06/14 16:18	02/06/14 22:58	106-93-4	
Dibromomethane	ND	ug/kg	231	9.0	1	02/06/14 16:18	02/06/14 22:58	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	57.7	28.8	1	02/06/14 16:18	02/06/14 22:58	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	57.7	28.8	1	02/06/14 16:18	02/06/14 22:58	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	57.7	28.8	1	02/06/14 16:18	02/06/14 22:58	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	57.7	17.5	1	02/06/14 16:18	02/06/14 22:58	75-71-8	
1,1-Dichloroethane	ND	ug/kg	57.7	4.7	1	02/06/14 16:18	02/06/14 22:58	75-34-3	
1,2-Dichloroethane	ND	ug/kg	57.7	7.8	1	02/06/14 16:18	02/06/14 22:58	107-06-2	
1,1-Dichloroethene	ND	ug/kg	57.7	8.2	1	02/06/14 16:18	02/06/14 22:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	57.7	9.5	1	02/06/14 16:18	02/06/14 22:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	57.7	7.0	1	02/06/14 16:18	02/06/14 22:58	156-60-5	
Dichlorofluoromethane	ND	ug/kg	577	47.3	1	02/06/14 16:18	02/06/14 22:58	75-43-4	
1,2-Dichloropropane	ND	ug/kg	57.7	6.8	1	02/06/14 16:18	02/06/14 22:58	78-87-5	
1,3-Dichloropropane	ND	ug/kg	57.7	28.8	1	02/06/14 16:18	02/06/14 22:58	142-28-9	
2,2-Dichloropropane	ND	ug/kg	231	56.9	1	02/06/14 16:18	02/06/14 22:58	594-20-7	
1,1-Dichloropropene	ND	ug/kg	57.7	7.4	1	02/06/14 16:18	02/06/14 22:58	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	57.7	4.5	1	02/06/14 16:18	02/06/14 22:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	57.7	5.7	1	02/06/14 16:18	02/06/14 22:58	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	231	12.9	1	02/06/14 16:18	02/06/14 22:58	60-29-7	
Ethylbenzene	ND	ug/kg	57.7	23.1	1	02/06/14 16:18	02/06/14 22:58	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	288	144	1	02/06/14 16:18	02/06/14 22:58	87-68-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-3-5 (11') **Lab ID: 10256787014** Collected: 01/31/14 14:15 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	57.7	28.8	1	02/06/14 16:18	02/06/14 22:58	98-82-8	
p-Isopropyltoluene	ND	ug/kg	57.7	23.1	1	02/06/14 16:18	02/06/14 22:58	99-87-6	
Methylene Chloride	ND	ug/kg	231	115	1	02/06/14 16:18	02/06/14 22:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	288	144	1	02/06/14 16:18	02/06/14 22:58	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	57.7	28.8	1	02/06/14 16:18	02/06/14 22:58	1634-04-4	
Naphthalene	ND	ug/kg	231	115	1	02/06/14 16:18	02/06/14 22:58	91-20-3	
n-Propylbenzene	ND	ug/kg	57.7	23.1	1	02/06/14 16:18	02/06/14 22:58	103-65-1	
Styrene	ND	ug/kg	57.7	4.7	1	02/06/14 16:18	02/06/14 22:58	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	57.7	28.8	1	02/06/14 16:18	02/06/14 22:58	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	57.7	7.4	1	02/06/14 16:18	02/06/14 22:58	79-34-5	
Tetrachloroethene	ND	ug/kg	57.7	7.6	1	02/06/14 16:18	02/06/14 22:58	127-18-4	
Tetrahydrofuran	ND	ug/kg	2310	69.5	1	02/06/14 16:18	02/06/14 22:58	109-99-9	
Toluene	ND	ug/kg	57.7	23.1	1	02/06/14 16:18	02/06/14 22:58	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	57.7	23.1	1	02/06/14 16:18	02/06/14 22:58	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	57.7	23.1	1	02/06/14 16:18	02/06/14 22:58	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	57.7	3.8	1	02/06/14 16:18	02/06/14 22:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	57.7	5.2	1	02/06/14 16:18	02/06/14 22:58	79-00-5	
Trichloroethene	ND	ug/kg	57.7	8.7	1	02/06/14 16:18	02/06/14 22:58	79-01-6	
Trichlorofluoromethane	ND	ug/kg	231	10.6	1	02/06/14 16:18	02/06/14 22:58	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	231	17.0	1	02/06/14 16:18	02/06/14 22:58	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	57.7	28.8	1	02/06/14 16:18	02/06/14 22:58	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	57.7	28.8	1	02/06/14 16:18	02/06/14 22:58	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	57.7	28.8	1	02/06/14 16:18	02/06/14 22:58	108-67-8	
Vinyl chloride	ND	ug/kg	23.1	9.2	1	02/06/14 16:18	02/06/14 22:58	75-01-4	
Xylene (Total)	ND	ug/kg	173	69.2	1	02/06/14 16:18	02/06/14 22:58	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97 %		74-125		1	02/06/14 16:18	02/06/14 22:58	17060-07-0	
Toluene-d8 (S)	100 %		75-125		1	02/06/14 16:18	02/06/14 22:58	2037-26-5	
4-Bromofluorobenzene (S)	102 %		75-125		1	02/06/14 16:18	02/06/14 22:58	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-2-5 (4') **Lab ID: 10256787015** Collected: 02/03/14 09:30 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	4.5 %		0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	1020	511	1	02/06/14 16:18	02/06/14 23:16	67-64-1	
Allyl chloride	ND	ug/kg	205	9.0	1	02/06/14 16:18	02/06/14 23:16	107-05-1	
Benzene	ND	ug/kg	20.5	10.2	1	02/06/14 16:18	02/06/14 23:16	71-43-2	
Bromobenzene	ND	ug/kg	51.1	6.0	1	02/06/14 16:18	02/06/14 23:16	108-86-1	
Bromochloromethane	ND	ug/kg	51.1	10.4	1	02/06/14 16:18	02/06/14 23:16	74-97-5	
Bromodichloromethane	ND	ug/kg	51.1	6.5	1	02/06/14 16:18	02/06/14 23:16	75-27-4	
Bromoform	ND	ug/kg	205	102	1	02/06/14 16:18	02/06/14 23:16	75-25-2	
Bromomethane	ND	ug/kg	511	256	1	02/06/14 16:18	02/06/14 23:16	74-83-9	
2-Butanone (MEK)	ND	ug/kg	256	128	1	02/06/14 16:18	02/06/14 23:16	78-93-3	
n-Butylbenzene	ND	ug/kg	51.1	20.5	1	02/06/14 16:18	02/06/14 23:16	104-51-8	
sec-Butylbenzene	ND	ug/kg	51.1	20.5	1	02/06/14 16:18	02/06/14 23:16	135-98-8	
tert-Butylbenzene	ND	ug/kg	51.1	20.5	1	02/06/14 16:18	02/06/14 23:16	98-06-6	
Carbon tetrachloride	ND	ug/kg	51.1	5.1	1	02/06/14 16:18	02/06/14 23:16	56-23-5	
Chlorobenzene	ND	ug/kg	51.1	3.8	1	02/06/14 16:18	02/06/14 23:16	108-90-7	
Chloroethane	ND	ug/kg	511	12.8	1	02/06/14 16:18	02/06/14 23:16	75-00-3	
Chloroform	ND	ug/kg	51.1	7.8	1	02/06/14 16:18	02/06/14 23:16	67-66-3	
Chloromethane	ND	ug/kg	205	15.5	1	02/06/14 16:18	02/06/14 23:16	74-87-3	
2-Chlorotoluene	ND	ug/kg	51.1	25.6	1	02/06/14 16:18	02/06/14 23:16	95-49-8	
4-Chlorotoluene	ND	ug/kg	51.1	25.6	1	02/06/14 16:18	02/06/14 23:16	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	511	74.7	1	02/06/14 16:18	02/06/14 23:16	96-12-8	
Dibromochloromethane	ND	ug/kg	51.1	6.5	1	02/06/14 16:18	02/06/14 23:16	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	51.1	5.5	1	02/06/14 16:18	02/06/14 23:16	106-93-4	
Dibromomethane	ND	ug/kg	205	8.0	1	02/06/14 16:18	02/06/14 23:16	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	51.1	25.6	1	02/06/14 16:18	02/06/14 23:16	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	51.1	25.6	1	02/06/14 16:18	02/06/14 23:16	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	51.1	25.6	1	02/06/14 16:18	02/06/14 23:16	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	51.1	15.5	1	02/06/14 16:18	02/06/14 23:16	75-71-8	
1,1-Dichloroethane	ND	ug/kg	51.1	4.2	1	02/06/14 16:18	02/06/14 23:16	75-34-3	
1,2-Dichloroethane	ND	ug/kg	51.1	6.9	1	02/06/14 16:18	02/06/14 23:16	107-06-2	
1,1-Dichloroethene	ND	ug/kg	51.1	7.3	1	02/06/14 16:18	02/06/14 23:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	51.1	8.4	1	02/06/14 16:18	02/06/14 23:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	51.1	6.2	1	02/06/14 16:18	02/06/14 23:16	156-60-5	
Dichlorofluoromethane	ND	ug/kg	511	41.9	1	02/06/14 16:18	02/06/14 23:16	75-43-4	
1,2-Dichloropropane	ND	ug/kg	51.1	6.0	1	02/06/14 16:18	02/06/14 23:16	78-87-5	
1,3-Dichloropropane	ND	ug/kg	51.1	25.6	1	02/06/14 16:18	02/06/14 23:16	142-28-9	
2,2-Dichloropropane	ND	ug/kg	205	50.4	1	02/06/14 16:18	02/06/14 23:16	594-20-7	
1,1-Dichloropropene	ND	ug/kg	51.1	6.5	1	02/06/14 16:18	02/06/14 23:16	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	51.1	4.0	1	02/06/14 16:18	02/06/14 23:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	51.1	5.0	1	02/06/14 16:18	02/06/14 23:16	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	205	11.5	1	02/06/14 16:18	02/06/14 23:16	60-29-7	
Ethylbenzene	ND	ug/kg	51.1	20.5	1	02/06/14 16:18	02/06/14 23:16	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	256	128	1	02/06/14 16:18	02/06/14 23:16	87-68-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-2-5 (4') **Lab ID: 10256787015** Collected: 02/03/14 09:30 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	51.1	25.6	1	02/06/14 16:18	02/06/14 23:16	98-82-8	
p-Isopropyltoluene	ND	ug/kg	51.1	20.5	1	02/06/14 16:18	02/06/14 23:16	99-87-6	
Methylene Chloride	ND	ug/kg	205	102	1	02/06/14 16:18	02/06/14 23:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	256	128	1	02/06/14 16:18	02/06/14 23:16	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	51.1	25.6	1	02/06/14 16:18	02/06/14 23:16	1634-04-4	
Naphthalene	ND	ug/kg	205	102	1	02/06/14 16:18	02/06/14 23:16	91-20-3	
n-Propylbenzene	ND	ug/kg	51.1	20.5	1	02/06/14 16:18	02/06/14 23:16	103-65-1	
Styrene	ND	ug/kg	51.1	4.2	1	02/06/14 16:18	02/06/14 23:16	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	51.1	25.6	1	02/06/14 16:18	02/06/14 23:16	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	51.1	6.6	1	02/06/14 16:18	02/06/14 23:16	79-34-5	
Tetrachloroethene	ND	ug/kg	51.1	6.7	1	02/06/14 16:18	02/06/14 23:16	127-18-4	
Tetrahydrofuran	ND	ug/kg	2050	61.7	1	02/06/14 16:18	02/06/14 23:16	109-99-9	
Toluene	ND	ug/kg	51.1	20.5	1	02/06/14 16:18	02/06/14 23:16	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	51.1	20.5	1	02/06/14 16:18	02/06/14 23:16	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	51.1	20.5	1	02/06/14 16:18	02/06/14 23:16	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	51.1	3.4	1	02/06/14 16:18	02/06/14 23:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	51.1	4.6	1	02/06/14 16:18	02/06/14 23:16	79-00-5	
Trichloroethene	ND	ug/kg	51.1	7.8	1	02/06/14 16:18	02/06/14 23:16	79-01-6	
Trichlorofluoromethane	ND	ug/kg	205	9.4	1	02/06/14 16:18	02/06/14 23:16	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	205	15.0	1	02/06/14 16:18	02/06/14 23:16	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	51.1	25.6	1	02/06/14 16:18	02/06/14 23:16	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	51.1	25.6	1	02/06/14 16:18	02/06/14 23:16	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	51.1	25.6	1	02/06/14 16:18	02/06/14 23:16	108-67-8	
Vinyl chloride	ND	ug/kg	20.5	8.2	1	02/06/14 16:18	02/06/14 23:16	75-01-4	
Xylene (Total)	ND	ug/kg	153	61.4	1	02/06/14 16:18	02/06/14 23:16	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98 %		74-125		1	02/06/14 16:18	02/06/14 23:16	17060-07-0	
Toluene-d8 (S)	100 %		75-125		1	02/06/14 16:18	02/06/14 23:16	2037-26-5	
4-Bromofluorobenzene (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 23:16	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-2-5 (11') **Lab ID: 10256787016** Collected: 02/03/14 09:35 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	55.1 %		0.10	0.10	1		02/05/14 00:00		
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Acetone	ND	ug/kg	2250	1120	1	02/06/14 16:18	02/06/14 23:33	67-64-1	
Allyl chloride	ND	ug/kg	450	19.8	1	02/06/14 16:18	02/06/14 23:33	107-05-1	
Benzene	ND	ug/kg	45.0	22.5	1	02/06/14 16:18	02/06/14 23:33	71-43-2	
Bromobenzene	ND	ug/kg	112	13.2	1	02/06/14 16:18	02/06/14 23:33	108-86-1	
Bromochloromethane	ND	ug/kg	112	22.9	1	02/06/14 16:18	02/06/14 23:33	74-97-5	
Bromodichloromethane	ND	ug/kg	112	14.4	1	02/06/14 16:18	02/06/14 23:33	75-27-4	
Bromoform	ND	ug/kg	450	225	1	02/06/14 16:18	02/06/14 23:33	75-25-2	
Bromomethane	ND	ug/kg	1120	562	1	02/06/14 16:18	02/06/14 23:33	74-83-9	
2-Butanone (MEK)	ND	ug/kg	562	281	1	02/06/14 16:18	02/06/14 23:33	78-93-3	
n-Butylbenzene	ND	ug/kg	112	45.0	1	02/06/14 16:18	02/06/14 23:33	104-51-8	
sec-Butylbenzene	ND	ug/kg	112	45.0	1	02/06/14 16:18	02/06/14 23:33	135-98-8	
tert-Butylbenzene	ND	ug/kg	112	45.0	1	02/06/14 16:18	02/06/14 23:33	98-06-6	
Carbon tetrachloride	ND	ug/kg	112	11.2	1	02/06/14 16:18	02/06/14 23:33	56-23-5	
Chlorobenzene	ND	ug/kg	112	8.3	1	02/06/14 16:18	02/06/14 23:33	108-90-7	
Chloroethane	ND	ug/kg	1120	28.1	1	02/06/14 16:18	02/06/14 23:33	75-00-3	
Chloroform	ND	ug/kg	112	17.1	1	02/06/14 16:18	02/06/14 23:33	67-66-3	
Chloromethane	ND	ug/kg	450	34.2	1	02/06/14 16:18	02/06/14 23:33	74-87-3	
2-Chlorotoluene	ND	ug/kg	112	56.2	1	02/06/14 16:18	02/06/14 23:33	95-49-8	
4-Chlorotoluene	ND	ug/kg	112	56.2	1	02/06/14 16:18	02/06/14 23:33	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	1120	164	1	02/06/14 16:18	02/06/14 23:33	96-12-8	
Dibromochloromethane	ND	ug/kg	112	14.4	1	02/06/14 16:18	02/06/14 23:33	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	112	12.1	1	02/06/14 16:18	02/06/14 23:33	106-93-4	
Dibromomethane	ND	ug/kg	450	17.5	1	02/06/14 16:18	02/06/14 23:33	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	112	56.2	1	02/06/14 16:18	02/06/14 23:33	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	112	56.2	1	02/06/14 16:18	02/06/14 23:33	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	112	56.2	1	02/06/14 16:18	02/06/14 23:33	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	112	34.2	1	02/06/14 16:18	02/06/14 23:33	75-71-8	
1,1-Dichloroethane	ND	ug/kg	112	9.2	1	02/06/14 16:18	02/06/14 23:33	75-34-3	
1,2-Dichloroethane	ND	ug/kg	112	15.1	1	02/06/14 16:18	02/06/14 23:33	107-06-2	
1,1-Dichloroethene	ND	ug/kg	112	16.0	1	02/06/14 16:18	02/06/14 23:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	112	18.4	1	02/06/14 16:18	02/06/14 23:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	112	13.7	1	02/06/14 16:18	02/06/14 23:33	156-60-5	
Dichlorofluoromethane	ND	ug/kg	1120	92.2	1	02/06/14 16:18	02/06/14 23:33	75-43-4	
1,2-Dichloropropane	ND	ug/kg	112	13.3	1	02/06/14 16:18	02/06/14 23:33	78-87-5	
1,3-Dichloropropane	ND	ug/kg	112	56.2	1	02/06/14 16:18	02/06/14 23:33	142-28-9	
2,2-Dichloropropane	ND	ug/kg	450	111	1	02/06/14 16:18	02/06/14 23:33	594-20-7	
1,1-Dichloropropene	ND	ug/kg	112	14.4	1	02/06/14 16:18	02/06/14 23:33	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	112	8.9	1	02/06/14 16:18	02/06/14 23:33	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	112	11.1	1	02/06/14 16:18	02/06/14 23:33	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/kg	450	25.2	1	02/06/14 16:18	02/06/14 23:33	60-29-7	
Ethylbenzene	ND	ug/kg	112	45.0	1	02/06/14 16:18	02/06/14 23:33	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	562	281	1	02/06/14 16:18	02/06/14 23:33	87-68-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Sample: SB-2-5 (11') **Lab ID: 10256787016** Collected: 02/03/14 09:35 Received: 02/04/14 09:51 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Isopropylbenzene (Cumene)	ND	ug/kg	112	56.2	1	02/06/14 16:18	02/06/14 23:33	98-82-8	
p-Isopropyltoluene	ND	ug/kg	112	45.0	1	02/06/14 16:18	02/06/14 23:33	99-87-6	
Methylene Chloride	ND	ug/kg	450	225	1	02/06/14 16:18	02/06/14 23:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	562	281	1	02/06/14 16:18	02/06/14 23:33	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	112	56.2	1	02/06/14 16:18	02/06/14 23:33	1634-04-4	
Naphthalene	ND	ug/kg	450	225	1	02/06/14 16:18	02/06/14 23:33	91-20-3	
n-Propylbenzene	ND	ug/kg	112	45.0	1	02/06/14 16:18	02/06/14 23:33	103-65-1	
Styrene	ND	ug/kg	112	9.1	1	02/06/14 16:18	02/06/14 23:33	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	112	56.2	1	02/06/14 16:18	02/06/14 23:33	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	112	14.5	1	02/06/14 16:18	02/06/14 23:33	79-34-5	
Tetrachloroethene	ND	ug/kg	112	14.8	1	02/06/14 16:18	02/06/14 23:33	127-18-4	
Tetrahydrofuran	ND	ug/kg	4500	136	1	02/06/14 16:18	02/06/14 23:33	109-99-9	
Toluene	ND	ug/kg	112	45.0	1	02/06/14 16:18	02/06/14 23:33	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	112	45.0	1	02/06/14 16:18	02/06/14 23:33	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	112	45.0	1	02/06/14 16:18	02/06/14 23:33	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	112	7.5	1	02/06/14 16:18	02/06/14 23:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	112	10.1	1	02/06/14 16:18	02/06/14 23:33	79-00-5	
Trichloroethene	ND	ug/kg	112	17.0	1	02/06/14 16:18	02/06/14 23:33	79-01-6	
Trichlorofluoromethane	ND	ug/kg	450	20.7	1	02/06/14 16:18	02/06/14 23:33	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	450	33.0	1	02/06/14 16:18	02/06/14 23:33	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	112	56.2	1	02/06/14 16:18	02/06/14 23:33	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/kg	112	56.2	1	02/06/14 16:18	02/06/14 23:33	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	112	56.2	1	02/06/14 16:18	02/06/14 23:33	108-67-8	
Vinyl chloride	ND	ug/kg	45.0	18.0	1	02/06/14 16:18	02/06/14 23:33	75-01-4	
Xylene (Total)	ND	ug/kg	337	135	1	02/06/14 16:18	02/06/14 23:33	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96 %		74-125		1	02/06/14 16:18	02/06/14 23:33	17060-07-0	
Toluene-d8 (S)	101 %		75-125		1	02/06/14 16:18	02/06/14 23:33	2037-26-5	
4-Bromofluorobenzene (S)	102 %		75-125		1	02/06/14 16:18	02/06/14 23:33	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

QC Batch: MPRP/44345 Analysis Method: ASTM D2974
 QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
 Associated Lab Samples: 10256787002, 10256787003, 10256787004, 10256787005, 10256787006, 10256787007, 10256787008,
 10256787009, 10256787010, 10256787011, 10256787012, 10256787013, 10256787014, 10256787015,
 10256787016

SAMPLE DUPLICATE: 1619815

Parameter	Units	10256787002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	2.5	2.5	1	30	

SAMPLE DUPLICATE: 1619816

Parameter	Units	10256793002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	9.1	9.2	.8	30	

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QUALITY CONTROL DATA

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

QC Batch:	MSV/26294	Analysis Method:	EPA 8260
QC Batch Method:	EPA 5035/5030B	Analysis Description:	8260 MSV 5030 Med Level
Associated Lab Samples:	10256787001, 10256787002, 10256787003, 10256787004, 10256787005, 10256787006, 10256787007, 10256787008, 10256787009, 10256787010, 10256787011, 10256787012, 10256787013, 10256787014, 10256787015, 10256787016		

METHOD BLANK: 1620086

Matrix: Solid

Associated Lab Samples: 10256787001, 10256787002, 10256787003, 10256787004, 10256787005, 10256787006, 10256787007, 10256787008, 10256787009, 10256787010, 10256787011, 10256787012, 10256787013, 10256787014, 10256787015, 10256787016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	50.0	02/06/14 18:05	
1,1,1-Trichloroethane	ug/kg	ND	50.0	02/06/14 18:05	
1,1,2,2-Tetrachloroethane	ug/kg	ND	50.0	02/06/14 18:05	
1,1,2-Trichloroethane	ug/kg	ND	50.0	02/06/14 18:05	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	50.0	02/06/14 18:05	
1,1-Dichloroethane	ug/kg	ND	50.0	02/06/14 18:05	
1,1-Dichloroethene	ug/kg	ND	50.0	02/06/14 18:05	
1,1-Dichloropropene	ug/kg	ND	50.0	02/06/14 18:05	
1,2,3-Trichlorobenzene	ug/kg	ND	50.0	02/06/14 18:05	
1,2,3-Trichloropropane	ug/kg	ND	200	02/06/14 18:05	
1,2,4-Trichlorobenzene	ug/kg	ND	50.0	02/06/14 18:05	
1,2,4-Trimethylbenzene	ug/kg	ND	50.0	02/06/14 18:05	
1,2-Dibromo-3-chloropropane	ug/kg	ND	500	02/06/14 18:05	
1,2-Dibromoethane (EDB)	ug/kg	ND	50.0	02/06/14 18:05	
1,2-Dichlorobenzene	ug/kg	ND	50.0	02/06/14 18:05	
1,2-Dichloroethane	ug/kg	ND	50.0	02/06/14 18:05	
1,2-Dichloropropane	ug/kg	ND	50.0	02/06/14 18:05	
1,3,5-Trimethylbenzene	ug/kg	ND	50.0	02/06/14 18:05	
1,3-Dichlorobenzene	ug/kg	ND	50.0	02/06/14 18:05	
1,3-Dichloropropane	ug/kg	ND	50.0	02/06/14 18:05	
1,4-Dichlorobenzene	ug/kg	ND	50.0	02/06/14 18:05	
2,2-Dichloropropane	ug/kg	ND	200	02/06/14 18:05	
2-Butanone (MEK)	ug/kg	ND	250	02/06/14 18:05	
2-Chlorotoluene	ug/kg	ND	50.0	02/06/14 18:05	
4-Chlorotoluene	ug/kg	ND	50.0	02/06/14 18:05	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	250	02/06/14 18:05	
Acetone	ug/kg	ND	1000	02/06/14 18:05	
Allyl chloride	ug/kg	ND	200	02/06/14 18:05	
Benzene	ug/kg	ND	20.0	02/06/14 18:05	
Bromobenzene	ug/kg	ND	50.0	02/06/14 18:05	
Bromochloromethane	ug/kg	ND	50.0	02/06/14 18:05	
Bromodichloromethane	ug/kg	ND	50.0	02/06/14 18:05	
Bromoform	ug/kg	ND	200	02/06/14 18:05	
Bromomethane	ug/kg	ND	500	02/06/14 18:05	
Carbon tetrachloride	ug/kg	ND	50.0	02/06/14 18:05	
Chlorobenzene	ug/kg	ND	50.0	02/06/14 18:05	
Chloroethane	ug/kg	ND	500	02/06/14 18:05	
Chloroform	ug/kg	ND	50.0	02/06/14 18:05	
Chloromethane	ug/kg	ND	200	02/06/14 18:05	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

METHOD BLANK: 1620086

Matrix: Solid

Associated Lab Samples: 10256787001, 10256787002, 10256787003, 10256787004, 10256787005, 10256787006, 10256787007, 10256787008, 10256787009, 10256787010, 10256787011, 10256787012, 10256787013, 10256787014, 10256787015, 10256787016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/kg	ND	50.0	02/06/14 18:05	
cis-1,3-Dichloropropene	ug/kg	ND	50.0	02/06/14 18:05	
Dibromochloromethane	ug/kg	ND	50.0	02/06/14 18:05	
Dibromomethane	ug/kg	ND	200	02/06/14 18:05	
Dichlorodifluoromethane	ug/kg	ND	50.0	02/06/14 18:05	
Dichlorofluoromethane	ug/kg	ND	500	02/06/14 18:05	
Diethyl ether (Ethyl ether)	ug/kg	ND	200	02/06/14 18:05	
Ethylbenzene	ug/kg	ND	50.0	02/06/14 18:05	
Hexachloro-1,3-butadiene	ug/kg	ND	250	02/06/14 18:05	
Isopropylbenzene (Cumene)	ug/kg	ND	50.0	02/06/14 18:05	
Methyl-tert-butyl ether	ug/kg	ND	50.0	02/06/14 18:05	
Methylene Chloride	ug/kg	ND	200	02/06/14 18:05	
n-Butylbenzene	ug/kg	ND	50.0	02/06/14 18:05	
n-Propylbenzene	ug/kg	ND	50.0	02/06/14 18:05	
Naphthalene	ug/kg	ND	200	02/06/14 18:05	
p-Isopropyltoluene	ug/kg	ND	50.0	02/06/14 18:05	
sec-Butylbenzene	ug/kg	ND	50.0	02/06/14 18:05	
Styrene	ug/kg	ND	50.0	02/06/14 18:05	
tert-Butylbenzene	ug/kg	ND	50.0	02/06/14 18:05	
Tetrachloroethene	ug/kg	ND	50.0	02/06/14 18:05	
Tetrahydrofuran	ug/kg	ND	2000	02/06/14 18:05	
Toluene	ug/kg	ND	50.0	02/06/14 18:05	
trans-1,2-Dichloroethene	ug/kg	ND	50.0	02/06/14 18:05	
trans-1,3-Dichloropropene	ug/kg	ND	50.0	02/06/14 18:05	
Trichloroethene	ug/kg	ND	50.0	02/06/14 18:05	
Trichlorofluoromethane	ug/kg	ND	200	02/06/14 18:05	
Vinyl chloride	ug/kg	ND	20.0	02/06/14 18:05	
Xylene (Total)	ug/kg	ND	150	02/06/14 18:05	
1,2-Dichloroethane-d4 (S)	%	100	74-125	02/06/14 18:05	
4-Bromofluorobenzene (S)	%	102	75-125	02/06/14 18:05	
Toluene-d8 (S)	%	100	75-125	02/06/14 18:05	

LABORATORY CONTROL SAMPLE: 1620087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	1000	964	96	68-125	
1,1,1-Trichloroethane	ug/kg	1000	917	92	62-125	
1,1,2,2-Tetrachloroethane	ug/kg	1000	1030	103	61-127	
1,1,2-Trichloroethane	ug/kg	1000	1000	100	70-125	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	881	88	56-149	
1,1-Dichloroethane	ug/kg	1000	911	91	60-127	
1,1-Dichloroethene	ug/kg	1000	899	90	63-125	
1,1-Dichloropropene	ug/kg	1000	902	90	67-125	
1,2,3-Trichlorobenzene	ug/kg	1000	1020	102	63-132	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

LABORATORY CONTROL SAMPLE: 1620087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,3-Trichloropropane	ug/kg	1000	996	100	67-125	
1,2,4-Trichlorobenzene	ug/kg	1000	1010	101	64-132	
1,2,4-Trimethylbenzene	ug/kg	1000	924	92	64-125	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2850	114	56-132	
1,2-Dibromoethane (EDB)	ug/kg	1000	987	99	72-125	
1,2-Dichlorobenzene	ug/kg	1000	944	94	68-125	
1,2-Dichloroethane	ug/kg	1000	930	93	69-125	
1,2-Dichloropropane	ug/kg	1000	912	91	73-125	
1,3,5-Trimethylbenzene	ug/kg	1000	943	94	64-125	
1,3-Dichlorobenzene	ug/kg	1000	926	93	67-125	
1,3-Dichloropropane	ug/kg	1000	927	93	71-125	
1,4-Dichlorobenzene	ug/kg	1000	917	92	69-125	
2,2-Dichloropropane	ug/kg	1000	881	88	53-131	
2-Butanone (MEK)	ug/kg	5000	5590	112	52-131	
2-Chlorotoluene	ug/kg	1000	925	92	66-125	
4-Chlorotoluene	ug/kg	1000	929	93	52-131	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	5400	108	64-125	
Acetone	ug/kg	5000	3560	71	42-150	
Allyl chloride	ug/kg	1000	914	91	58-128	
Benzene	ug/kg	1000	895	90	71-125	
Bromobenzene	ug/kg	1000	926	93	69-125	
Bromochloromethane	ug/kg	1000	938	94	75-125	
Bromodichloromethane	ug/kg	1000	1000	100	69-125	
Bromoform	ug/kg	1000	1010	101	62-125	
Bromomethane	ug/kg	1000	1040	104	62-125	
Carbon tetrachloride	ug/kg	1000	939	94	66-125	
Chlorobenzene	ug/kg	1000	916	92	75-125	
Chloroethane	ug/kg	1000	856	86	61-125	
Chloroform	ug/kg	1000	918	92	72-125	
Chloromethane	ug/kg	1000	783	78	59-125	
cis-1,2-Dichloroethene	ug/kg	1000	930	93	74-125	
cis-1,3-Dichloropropene	ug/kg	1000	957	96	68-125	
Dibromochloromethane	ug/kg	1000	974	97	65-125	
Dibromomethane	ug/kg	1000	946	95	72-125	
Dichlorodifluoromethane	ug/kg	1000	706	71	39-125	
Dichlorofluoromethane	ug/kg	1000	879	88	64-127	
Diethyl ether (Ethyl ether)	ug/kg	1000	907	91	66-125	
Ethylbenzene	ug/kg	1000	891	89	69-125	
Hexachloro-1,3-butadiene	ug/kg	1000	1040	104	53-150	
Isopropylbenzene (Cumene)	ug/kg	1000	933	93	70-125	
Methyl-tert-butyl ether	ug/kg	1000	956	96	69-125	
Methylene Chloride	ug/kg	1000	940	94	71-125	
n-Butylbenzene	ug/kg	1000	954	95	59-133	
n-Propylbenzene	ug/kg	1000	934	93	64-125	
Naphthalene	ug/kg	1000	1100	110	61-131	
p-Isopropyltoluene	ug/kg	1000	958	96	63-127	
sec-Butylbenzene	ug/kg	1000	946	95	64-125	
Styrene	ug/kg	1000	961	96	74-125	

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QUALITY CONTROL DATA

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

LABORATORY CONTROL SAMPLE: 1620087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butylbenzene	ug/kg	1000	915	92	66-125	
Tetrachloroethene	ug/kg	1000	910	91	68-125	
Tetrahydrofuran	ug/kg	10000	8030	80	68-125	
Toluene	ug/kg	1000	869	87	70-125	
trans-1,2-Dichloroethene	ug/kg	1000	872	87	68-125	
trans-1,3-Dichloropropene	ug/kg	1000	972	97	70-125	
Trichloroethene	ug/kg	1000	892	89	71-125	
Trichlorofluoromethane	ug/kg	1000	834	83	62-132	
Vinyl chloride	ug/kg	1000	788	79	55-125	
Xylene (Total)	ug/kg	3000	2760	92	74-125	
1,2-Dichloroethane-d4 (S)	%			104	74-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			100	75-125	

MATRIX SPIKE SAMPLE: 1620088

Parameter	Units	10256787005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	1100	1220	110	63-140	
1,1,1-Trichloroethane	ug/kg	ND	1100	1180	108	54-149	
1,1,2,2-Tetrachloroethane	ug/kg	ND	1100	1280	116	46-150	
1,1,2-Trichloroethane	ug/kg	ND	1100	1230	112	62-141	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	1100	1130	103	65-150	
1,1-Dichloroethane	ug/kg	ND	1100	1160	105	57-145	
1,1-Dichloroethene	ug/kg	ND	1100	1150	104	58-137	
1,1-Dichloropropene	ug/kg	ND	1100	1130	103	61-141	
1,2,3-Trichlorobenzene	ug/kg	ND	1100	1300	118	62-147	
1,2,3-Trichloropropane	ug/kg	ND	1100	1250	113	65-141	
1,2,4-Trichlorobenzene	ug/kg	ND	1100	1270	115	64-147	
1,2,4-Trimethylbenzene	ug/kg	ND	1100	1210	109	59-144	
1,2-Dibromo-3-chloropropane	ug/kg	ND	2760	3430	125	56-147	
1,2-Dibromoethane (EDB)	ug/kg	ND	1100	1180	108	66-135	
1,2-Dichlorobenzene	ug/kg	ND	1100	1200	109	63-143	
1,2-Dichloroethane	ug/kg	ND	1100	1180	107	57-145	
1,2-Dichloropropane	ug/kg	ND	1100	1180	108	62-139	
1,3,5-Trimethylbenzene	ug/kg	ND	1100	1210	109	60-144	
1,3-Dichlorobenzene	ug/kg	ND	1100	1170	106	61-146	
1,3-Dichloropropane	ug/kg	ND	1100	1180	107	63-138	
1,4-Dichlorobenzene	ug/kg	ND	1100	1150	105	60-145	
2,2-Dichloropropane	ug/kg	ND	1100	1130	103	54-143	
2-Butanone (MEK)	ug/kg	ND	5500	6680	121	45-150	
2-Chlorotoluene	ug/kg	ND	1100	1170	106	62-140	
4-Chlorotoluene	ug/kg	ND	1100	1170	107	60-143	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	5500	6620	120	58-146	
Acetone	ug/kg	ND	5500	4940	87	30-150	
Allyl chloride	ug/kg	ND	1100	1160	105	55-142	
Benzene	ug/kg	ND	1100	1150	104	61-134	
Bromobenzene	ug/kg	ND	1100	1150	104	64-143	

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QUALITY CONTROL DATA

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

MATRIX SPIKE SAMPLE: 1620088		10256787005	Spike	MS	MS	% Rec	Qualifiers
Parameter	Units	Result	Conc.	Result	% Rec	Limits	
Bromochloromethane	ug/kg	ND	1100	1200	109	62-141	
Bromodichloromethane	ug/kg	ND	1100	1270	115	57-146	
Bromoform	ug/kg	ND	1100	1240	113	60-136	
Bromomethane	ug/kg	ND	1100	1340	115	54-141	
Carbon tetrachloride	ug/kg	ND	1100	1230	112	50-150	
Chlorobenzene	ug/kg	ND	1100	1170	106	67-135	
Chloroethane	ug/kg	ND	1100	1110	101	46-150	
Chloroform	ug/kg	ND	1100	1160	105	60-141	
Chloromethane	ug/kg	ND	1100	1040	93	46-133	
cis-1,2-Dichloroethene	ug/kg	ND	1100	1190	108	64-138	
cis-1,3-Dichloropropene	ug/kg	ND	1100	1230	111	64-138	
Dibromochloromethane	ug/kg	ND	1100	1270	115	56-145	
Dibromomethane	ug/kg	ND	1100	1200	109	62-138	
Dichlorodifluoromethane	ug/kg	ND	1100	854	78	30-136	
Dichlorofluoromethane	ug/kg	ND	1100	1170	106	47-150	
Diethyl ether (Ethyl ether)	ug/kg	ND	1100	1150	105	59-137	
Ethylbenzene	ug/kg	ND	1100	1130	102	63-135	
Hexachloro-1,3-butadiene	ug/kg	ND	1100	1530	138	65-150	
Isopropylbenzene (Cumene)	ug/kg	ND	1100	1190	108	65-137	
Methyl-tert-butyl ether	ug/kg	ND	1100	1190	108	56-143	
Methylene Chloride	ug/kg	ND	1100	1210	110	62-133	
n-Butylbenzene	ug/kg	ND	1100	1250	113	58-148	
n-Propylbenzene	ug/kg	ND	1100	1200	109	60-142	
Naphthalene	ug/kg	ND	1100	1360	120	61-146	
p-Isopropyltoluene	ug/kg	ND	1100	1250	113	61-145	
sec-Butylbenzene	ug/kg	ND	1100	1230	112	57-147	
Styrene	ug/kg	ND	1100	1200	109	67-137	
tert-Butylbenzene	ug/kg	ND	1100	1220	110	57-149	
Tetrachloroethene	ug/kg	ND	1100	1180	107	66-138	
Tetrahydrofuran	ug/kg	ND	11000	10800	98	53-145	
Toluene	ug/kg	ND	1100	1130	101	67-132	
trans-1,2-Dichloroethene	ug/kg	ND	1100	1150	105	61-136	
trans-1,3-Dichloropropene	ug/kg	ND	1100	1240	113	60-140	
Trichloroethene	ug/kg	ND	1100	1140	103	58-150	
Trichlorofluoromethane	ug/kg	ND	1100	1110	101	53-150	
Vinyl chloride	ug/kg	ND	1100	1050	96	45-139	
Xylene (Total)	ug/kg	ND	3310	3550	107	66-136	
1,2-Dichloroethane-d4 (S)	%				103	74-125	
4-Bromofluorobenzene (S)	%				102	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 1620089

Parameter	Units	10256787006	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1,2-Tetrachloroethane	ug/kg	ND	ND		30	
1,1,1-Trichloroethane	ug/kg	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/kg	ND	ND		30	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

SAMPLE DUPLICATE: 1620089

Parameter	Units	10256787006 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,2-Trichloroethane	ug/kg	ND	ND		30	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	ND		30	
1,1-Dichloroethane	ug/kg	ND	ND		30	
1,1-Dichloroethene	ug/kg	ND	ND		30	
1,1-Dichloropropene	ug/kg	ND	ND		30	
1,2,3-Trichlorobenzene	ug/kg	ND	ND		30	
1,2,3-Trichloropropane	ug/kg	ND	ND		30	
1,2,4-Trichlorobenzene	ug/kg	ND	ND		30	
1,2,4-Trimethylbenzene	ug/kg	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/kg	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/kg	ND	ND		30	
1,2-Dichlorobenzene	ug/kg	ND	ND		30	
1,2-Dichloroethane	ug/kg	ND	ND		30	
1,2-Dichloropropane	ug/kg	ND	ND		30	
1,3,5-Trimethylbenzene	ug/kg	ND	ND		30	
1,3-Dichlorobenzene	ug/kg	ND	ND		30	
1,3-Dichloropropane	ug/kg	ND	ND		30	
1,4-Dichlorobenzene	ug/kg	ND	ND		30	
2,2-Dichloropropane	ug/kg	ND	ND		30	
2-Butanone (MEK)	ug/kg	ND	ND		30	
2-Chlorotoluene	ug/kg	ND	ND		30	
4-Chlorotoluene	ug/kg	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	ND		30	
Acetone	ug/kg	ND	ND		30	
Allyl chloride	ug/kg	ND	ND		30	
Benzene	ug/kg	ND	ND		30	
Bromobenzene	ug/kg	ND	ND		30	
Bromochloromethane	ug/kg	ND	ND		30	
Bromodichloromethane	ug/kg	ND	ND		30	
Bromoform	ug/kg	ND	ND		30	
Bromomethane	ug/kg	ND	ND		30	
Carbon tetrachloride	ug/kg	ND	ND		30	
Chlorobenzene	ug/kg	ND	ND		30	
Chloroethane	ug/kg	ND	ND		30	
Chloroform	ug/kg	ND	ND		30	
Chloromethane	ug/kg	ND	ND		30	
cis-1,2-Dichloroethene	ug/kg	ND	ND		30	
cis-1,3-Dichloropropene	ug/kg	ND	ND		30	
Dibromochloromethane	ug/kg	ND	ND		30	
Dibromomethane	ug/kg	ND	ND		30	
Dichlorodifluoromethane	ug/kg	ND	ND		30	
Dichlorofluoromethane	ug/kg	ND	ND		30	
Diethyl ether (Ethyl ether)	ug/kg	ND	ND		30	
Ethylbenzene	ug/kg	ND	ND		30	
Hexachloro-1,3-butadiene	ug/kg	ND	ND		30	
Isopropylbenzene (Cumene)	ug/kg	ND	ND		30	
Methyl-tert-butyl ether	ug/kg	ND	ND		30	
Methylene Chloride	ug/kg	ND	ND		30	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

SAMPLE DUPLICATE: 1620089

Parameter	Units	10256787006 Result	Dup Result	RPD	Max RPD	Qualifiers
n-Butylbenzene	ug/kg	ND	ND		30	
n-Propylbenzene	ug/kg	ND	ND		30	
Naphthalene	ug/kg	ND	ND		30	
p-Isopropyltoluene	ug/kg	ND	ND		30	
sec-Butylbenzene	ug/kg	ND	ND		30	
Styrene	ug/kg	ND	ND		30	
tert-Butylbenzene	ug/kg	ND	ND		30	
Tetrachloroethene	ug/kg	ND	ND		30	
Tetrahydrofuran	ug/kg	ND	ND		30	
Toluene	ug/kg	ND	ND		30	
trans-1,2-Dichloroethene	ug/kg	ND	ND		30	
trans-1,3-Dichloropropene	ug/kg	ND	ND		30	
Trichloroethene	ug/kg	ND	ND		30	
Trichlorofluoromethane	ug/kg	ND	ND		30	
Vinyl chloride	ug/kg	ND	ND		30	
Xylene (Total)	ug/kg	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	98	97	4		
4-Bromofluorobenzene (S)	%.	102	99	3		
Toluene-d8 (S)	%.	101	100	5		

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MPCA Flame Metals 60314270

Pace Project No.: 10256787

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10256787002	SB-1-5 (4')	ASTM D2974	MPRP/44345		
10256787003	SB-1-5 (9')	ASTM D2974	MPRP/44345		
10256787004	SB-1-5 (58')	ASTM D2974	MPRP/44345		
10256787005	SB-5-5 (4')	ASTM D2974	MPRP/44345		
10256787006	SB-5-5 (10')	ASTM D2974	MPRP/44345		
10256787007	SB-5-5 (28')	ASTM D2974	MPRP/44345		
10256787008	SB-4-5 (4')	ASTM D2974	MPRP/44345		
10256787009	SB-4-5 (9')	ASTM D2974	MPRP/44345		
10256787010	SB-6-5 (3')	ASTM D2974	MPRP/44345		
10256787011	SB-6-5 (11')	ASTM D2974	MPRP/44345		
10256787012	SB-3-5 (4')	ASTM D2974	MPRP/44345		
10256787013	SB-3-5 (6')	ASTM D2974	MPRP/44345		
10256787014	SB-3-5 (11')	ASTM D2974	MPRP/44345		
10256787015	SB-2-5 (4')	ASTM D2974	MPRP/44345		
10256787016	SB-2-5 (11')	ASTM D2974	MPRP/44345		
10256787001	MeOH Blank	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787002	SB-1-5 (4')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787003	SB-1-5 (9')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787004	SB-1-5 (58')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787005	SB-5-5 (4')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787006	SB-5-5 (10')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787007	SB-5-5 (28')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787008	SB-4-5 (4')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787009	SB-4-5 (9')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787010	SB-6-5 (3')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787011	SB-6-5 (11')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787012	SB-3-5 (4')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787013	SB-3-5 (6')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787014	SB-3-5 (11')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787015	SB-2-5 (4')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300
10256787016	SB-2-5 (11')	EPA 5035/5030B	MSV/26294	EPA 8260	MSV/26300

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1025678 / 127

Section A

Required Client Information:

Company: Pace
Address: 800 Cambridge Ave. Suite 100
City: Minneapolis MN 55402
Email To: minneapolis@pace.com
Phone: 612-366-2448 Fax:
Requested Due Date/TAT: 5/10

Section B

Required Project Information:

Report To: Dan Phelps
Copy To:
Purchase Order No.:
Project Name: NPDES Phase Materials
Project Number: 00314270

Section C

Invoice Information:

Attention: Dan Phelps
Company Name: Pace
Address:
Pace Quote Reference:
Pace Project Manager: Cecilia Dwyer
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location

STATE: MA

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information		Matrix Codes MATRIX / CODE		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test ↑	Y/N ↑	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.		
	Drinking Water		Waste Water				COMPOSITE START	COMPOSITE END/GRAB	Unpreserved	H ₂ SO ₄			HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other								
1	Well Blank		DW	WT	SL	G				13/14 1300		1														001
2	SB-1-5 (9')		Water			SL				13/15 1335		2														002
3	SB-1-5 (9')		Water			SL				13/15 1305		2														003
4	SB-1-5 (30')		Product			SL				13/15 1315		2														004
5	SB-5-5 (4')		Oil			SL				13/14 1330		3														005
6	SB-5-5 (10')		Wipe			SL				13/15 1335		3														006
7	SB-5-5 (28')		Air			SL				13/15 1350		1														007
8	SB-4-5 (4')		Tissue			SL				13/15 1320		1														008
9	SB-4-5 (9')		Other			SL				13/15 1325		1														009
10	SB-6-5 (3')					SL				13/14 1350		1														010
11	SB-6-5 (11')					SL				13/14 1355		1														011
12	SB-5-5 (14')					SL				13/14 1400		1														012

ADDITIONAL COMMENTS: Ben Blom / 13/14

RELINQUISHED BY / AFFILIATION: Ben Blom / 13/14 DATE: 2-14 9:50

ACCEPTED BY / AFFILIATION: Ben Blom / 13/14 DATE: 2-14 9:50

Temp in °C: 10.2

Received on: 7

Custody Sealed Cooler: Y

Samples Intact: Y

ORIGINAL

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10256787

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	AFIOM	Report To:	Don Phelps	Attention:	Don Phelps
Address:	200 S. 1st Ave Suite 110 Minneapolis, MN 55402	Copy To:		Company Name:	AFIOM
Phone:	612-376-2000	Purchase Order No.:		Address:	
Requested Due Date/TAT:	5/10	Project Name:	MPCA Plant Metals	Pace Quote Reference:	
		Project Number:	60394120	Pace Project Manager:	Carol Dany
				Pace Profile #:	

Section D Required Client Information		Section E Requested Analysis Filtered (Y/N)		Section F Requested Analysis Filtered (Y/N)	
SAMPLE ID (A-Z, 0-9 / . -) Sample IDs MUST BE UNIQUE		Matrix Codes MATRIX / CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT		COLLECTED COMPOSITE START DATE TIME COMPOSITE END/GRAB DATE TIME	
MATRIX CODE (see valid codes to left)		SAMPLE TYPE (G=GRAB C=COMP)		SAMPLE TEMP AT COLLECTION	
RELINQUISHED BY / AFFILIATION		DATE		TIME	
ADDITIONAL COMMENTS		ACCEPTED BY / AFFILIATION		DATE	
TIME		DATE		TIME	
SAMPLE CONDITIONS		Temp In °C		Received on	
Sealed Cooler		Custody		Samples Intact	

	Document Name:	Document Revised: 07Nov2013
	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-MN-L-213-rev.08	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt	Client Name: <u>Aecom</u>	Project #: WO# : 10256787
Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client		
☐ Commercial ☐ Pace ☐ Other: _____		
Tracking Number: _____		
Custody Seal on Cooler/Box Present? ☐ Yes ☒ No	Seals Intact? ☐ Yes ☒ No	Optional: Proj. Due Date: _____ Proj. Name: _____
Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: _____	Temp Blank? ☒ Yes ☐ No	
Thermom. Used: ☐ 80512447 ☐ 888A912167504 ☒ 72337080 ☒ 888A9132521491	Type of Ice: ☒ Wet ☐ Blue ☐ None	☐ Samples on ice, cooling process has begun
Cooler Temp Read (°C): <u>0.2</u>	Cooler Temp Corrected (°C): <u>0.2</u>	Biological Tissue Frozen? ☐ Yes ☒ No ☐ N/A
Temp should be above freezing to 6°C	Correction Factor: <u>True</u>	Date and Initials of Person Examining Contents: <u>CL 2-4-14</u>

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes ☐ No ☒ N/A	11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>SL</u>		
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☐ Yes ☐ No ☒ N/A	13. ☐ HNO ₃ ☐ H ₂ SO ₄ ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>12)	☐ Yes ☐ No ☒ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water) DOC	☐ Yes ☒ No	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	☐ Yes ☐ No ☒ N/A	14.
Trip Blank Present?	☒ Yes ☐ No ☐ N/A	15. <u>681913-3</u>
Trip Blank Custody Seals Present?	☒ Yes ☐ No ☐ N/A	<u>2 Trip Blanks SL</u>
Pace Trip Blank Lot # (if purchased): <u>0.819133</u>		

2-4-14

Field Data Required? ☐ Yes ☐ No

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

Project Manager Review:

Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Protecting, maintaining and improving the health of all Minnesotans

Report Date: 2/19/14

Client Name: PL - MPCA - Metro MERLA-SF

Project Code: PL

Project Name: Metro MERLA-SF

Work Order Number: 14B0351

Report To: PL - MPCA - Metro MERLA-SF

Bill Scruton

520 Lafayette Rd.

Saint Paul, MN 55155

The MDH Public Health Laboratory performs chemical, bacteriological and radiological analyses of environmental samples including water, waste water, sediment, air, soil and hazardous material. The laboratory provides testing services in accordance with standard operating procedures referencing approved methodology as defined in Standard Methods for the Examination of Water and Wastewater, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods: EPA SW-846, and 40 Code of Federal Regulation (CFR) parts 136, 141, and 261. In cases where analytes of interest do not have corresponding EPA approved methodology, the MDH Public Health Laboratory uses in-house methods that have undergone rigorous validation and documentation.

The results within this report are in compliance with the terms and conditions stated in the standard operating procedures, reference methodologies, and quality assurance project plan; unless otherwise narrated in the attached report.

Release of the data contained in this report has been authorized by laboratory management and is verified with the following signature affirmation. Thank you for using the MDH Public Health Laboratory.

Sincerely,

A handwritten signature in blue ink, reading "Myra Kunas", is shown on a light blue rectangular background.

Myra Kunas
Operations Unit Supervisor

Public Health Laboratory • Environmental Laboratory Section • 601 Robert St. N • PO Box 64899 • St Paul, MN 55164
(651) 201-5300

<http://www.health.mn.us/divs/phl/environmental>

Final Report Summary of Samples Received

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Work Order Comment: Matrix is NW per D. Phelps. Samples recd > 6 deg C, project is St. Louis Park Solvent Plume & SP-01 out of hold, run w/ qualifier per N. Fellows. Headspace & sediment in all vials for SP-02,-14 & -15, VOC analysis cancelled, client notified. ECB 2/18/14

Field ID	MDH Sample Number	Matrix	Date & Time Collected	Date & Time Received	Receipt °C
None	14B0351-01	Non-potable Water	01/29/14 8:00	02/06/14 10:01	2.9
None	14B0351-03	Non-potable Water	02/03/14 12:18	02/06/14 10:01	2.9
None	14B0351-04	Non-potable Water	02/03/14 12:42	02/06/14 10:01	2.9
None	14B0351-05	Non-potable Water	02/03/14 13:15	02/06/14 10:01	2.9
None	14B0351-06	Non-potable Water	02/03/14 15:05	02/06/14 10:01	2.9
None	14B0351-07	Non-potable Water	02/03/14 15:25	02/06/14 10:01	2.9
None	14B0351-08	Non-potable Water	02/03/14 15:30	02/06/14 10:01	2.9
None	14B0351-09	Non-potable Water	02/03/14 15:36	02/06/14 10:01	2.9
None	14B0351-10	Non-potable Water	02/03/14 16:50	02/06/14 10:01	2.9
None	14B0351-11	Non-potable Water	02/03/14 17:15	02/06/14 10:01	2.9
None	14B0351-12	Non-potable Water	02/04/14 13:15	02/06/14 10:01	2.9
None	14B0351-13	Non-potable Water	02/04/14 14:32	02/06/14 10:01	2.9
None	14B0351-16	Non-potable Water	02/05/14 10:30	02/06/14 10:01	2.9
None	14B0351-17	Non-potable Water	02/05/14 11:20	02/06/14 10:01	2.9
None	14B0351-18	Non-potable Water	02/05/14 11:22	02/06/14 10:01	2.9
None	14B0351-19	Non-potable Water	02/05/14 11:26	02/06/14 10:01	2.9
None	14B0351-20	Non-potable Water	02/05/14 11:40	02/06/14 10:01	2.9

Field ID	MDH Sample Number	Receiving Comments
None	14B0351-01	No matrix on lab form/Temp. > 6 C/Analysis out of hold. ECB
None	14B0351-03	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-04	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-05	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-06	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-07	No matrix on lab form/Temp. > 6 C. ECB

FINAL REPORT

Report ID: 02192014161718

Authorized by:

*The results in this report apply only to the samples analyzed.
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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Field ID	MDH Sample Number	Receiving Comments
None	14B0351-08	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-09	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-10	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-11	Temp. > 6 C. ECB
None	14B0351-12	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-13	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-16	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-17	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-18	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-19	No matrix on lab form/Temp. > 6 C. ECB
None	14B0351-20	No matrix on lab form/Temp. > 6 C. ECB

Authorized by:

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health



www.health.state.mn.us/divs/phl/environmental/index.html

Page 1 of 2

Page 4 of 86

Program Code (2 Letters) 8 C	Project Name SIR Solvent Drum - Elanor Mills	Client / Agency MRC4	Standard ☒ Civil Criminal Chain of Custody (Circle One) Potential Hazard Yes ☒ No ☐ Unknown (Circle One) If Yes please add information to Sampler Comments below
Site ID	Project Manager Name / Phone N. Le Fellows	Report to Email n.le.fellows@state.ma.us	
Report to Name N. Le Fellows	Report to Email n.le.fellows@state.ma.us		TAT ☒ Standard ☐ Priority Emergency (Circle One) Matrix Codes DW = Drinking Water WP = Wipe OT = Other NW = Non-potable Water AR = Air TS = Tissue

[illegible]

Receiving Comments						
	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
(Sampler)	Ben Malone / ASICOR	2-5-14	1001	Jane Halk MDH	02/06/14	1001
White Client Copy Revised 2/2012	Yellow Lab Copy	Pink Submitter Copy			MDH 1000	31839



Sample Condition Upon Receipt

Minnesota Department of Health Public Health Laboratory



14B0351

Parcel Information

Tracking # _____ Date & Time of Receipt: FEB 6 '14 10:01

Courier: ☐Fed Ex ☐UPS ☐Spee-Dee ☐USPS ☐Other _____ ☒Walk-in/Drop-off

Parcel: ☐Plastic Cooler ☒Styrofoam Cooler ☐Single Mailer ☒Box ☐None ☐Other _____

Custody Seals on Cooler or Box Present: ☐Yes ☒No Custody Seals are Intact: ☐Yes ☐No ☒N/A

Custody Number on Seals: _____

Packaging Information

Packing Material Present: ☒Bubble Wrap ☐Paper ☐Peanuts ☒Styrofoam ☐None ☐Other _____

Type of Cooling Material: ☐Wet Ice ☒Ice Pack ☐Other: _____ ☐None ☐After Hours Refrigerator

Condition of Cooling Material: ☒Solid ☐Partial Frozen ☐Liquid Temp: _____ °C ☐N/A

Representative Sample Temperature: 2.9 °C IR Thermometer Instrument used: A3

Chain of Custody Information

Chain of Custody Type: ☒Standard ☐Civil ☐Criminal Chain of Custody Number: 31839 + 31838

TAT (Turn Around Time): ☒Standard ☐Priority ☐Emergency

Chain of Custody Signed and Dated by the Client: ☒Yes ☐No ☐N/A

Initials of Person Receiving Parcel: JH

Sample Information

Containers were Received Intact: ☐Yes ☒No; Discrepancy SP-07 B+C, -15C, and -19C

Radiochemistry Request Received & Sample Surveyed: ☐ < .5 mrem/hr ☐ ≥ .5 mrem/hr ☒N/A

Remaining Analysis Hold Time ≤ 96 Hours: ☒No ☐Yes; Analysis: _____

Sample Submission Meets the Conditions of the MDH Environmental Laboratory Sample Acceptance Policy (ops 010):
☐Yes ☒No

☐No Discrepancies Found during Sample Entry ☒Discrepancies Found during Sample Entry

Comments:

Parcel 1 (default)
Verify QC types (i.e. SB = sampler blank etc.) - 11 B, and -19 A.
CoC edited incorrectly. Also SP-02 A, -05 B, -09 A,
Broken/no volume: SP-07 C, Discarded.
Broken w/ volume: SP-07 B, -15 C, and -19 C.
SP-02 A reads 'SB-1-W (71-15)' not 'SB-1-W (71-75)'. Held in SR.
SP-01 containers unlabeled. Held in SR.
Missing Verify matrix (all but SP-11)
SP-01 has 3 extra containers per analysis and CoC's count.
Project 'SCP Solvent Plume - Flame Metals' not in Element.

Initials of Person Logging in the Work Order Request: JH



Sample Condition Upon Receipt

Minnesota Department of Health Public Health Laboratory

14B0351

Parcel Information

Tracking # _____ Date & Time of Receipt: FEB 6'14 10:01

Courier: ☐Fed Ex ☐UPS ☐Spee-Dee ☐USPS ☐Other _____ ☒Walk-in/Drop-off

Parcel: ☐Plastic Cooler ☒Styrofoam Cooler ☐Single Mailer ☒Box ☐None ☐Other _____

Custody Seals on Cooler or Box Present: ☐Yes ☒No Custody Seals are Intact: ☐Yes ☐No ☒N/A

Custody Number on Seals: _____

Packaging Information

Packing Material Present: ☒Bubble Wrap ☐Paper ☐Peanuts ☒Styrofoam ☐None ☐Other _____

Type of Cooling Material: ☐Wet Ice ☒Ice Pack ☐Other: _____ ☐None ☐After Hours Refrigerator

Condition of Cooling Material: ☒Solid ☐Partial Frozen ☐Liquid Temp: _____ °C ☐N/A

Representative Sample Temperature: 9.0 °C IR Thermometer Instrument used: A3

Chain of Custody Information

Chain of Custody Type: ☒Standard ☐Civil ☐Criminal Chain of Custody Number: 31839 + 31838

TAT (Turn Around Time): ☒Standard ☐Priority ☐Emergency

Chain of Custody Signed and Dated by the Client: ☒Yes ☐No ☐N/A

Initials of Person Receiving Parcel: JH

Sample Information

Containers were Received Intact: ☐Yes ☒No; Discrepancy (see Parcel 1 SCURF)

Radiochemistry Request Received & Sample Surveyed: ☐ < .5 mrem/hr ☐ ≥ .5 mrem/hr ☒ N/A

Remaining Analysis Hold Time ≤ 96 Hours: ☒ No ☐ Yes; Analysis: _____

Sample Submission Meets the Conditions of the MDH Environmental Laboratory Sample Acceptance Policy (ops 010):
☐Yes ☒No

☐No Discrepancies Found during Sample Entry

☒Discrepancies Found during Sample Entry

Comments:

Parcel 2

(see Parcel 1 SCURF)

Initials of Person Logging in the Work Order Request: JH

Final Report
Case Narrative

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name: None
Collected by: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/2014 16:16

Except where noted in this report, no additional comments are needed for this Work Order.

FINAL REPORT

Report ID: 02192014161718

Authorized by:

*The results in this report apply only to the samples analyzed.
This report must not be reproduced, except in full, without the written approval of the laboratory.*



Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-01

Location ID: None	Collect Date: 01/29/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 8:00	Field Fluoride Result: None
Sampling Point: Trip Blank	Matrix: Non-potable Water	Field pH Result: None
QA Type: Trip Blank		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C/Analysis out of hold. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4	HP	103	70-130	%	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4	HP	101	70-130	%	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Surrogate: 4-Bromofluorobenzene	HP	103	70-130	%	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Surrogate: Dibromofluoromethane	HP	103	70-130	%	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Surrogate: Toluene-d8	HP	98	70-130	%	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,1,1,2-Tetrachloroethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,1,1-Trichloroethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,1,2,2-Tetrachloroethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,1,2-Trichloroethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,1,2-Trichlorotrifluoroethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,1-Dichloroethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,1-Dichloroethene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,1-Dichloropropene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,2,3-Trichlorobenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,2,3-Trichloropropane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,2,4-Trichlorobenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,2,4-Trimethylbenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)	HP	<	5.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,2-Dibromoethane (EDB)	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,2-Dichlorobenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,2-Dichloroethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,2-Dichloropropane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,3,5-Trimethylbenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,3-Dichlorobenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,3-Dichloropropane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
1,4-Dichlorobenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

Authorized by:

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-01

Location ID: None	Collect Date: 01/29/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 8:00	Field Fluoride Result: None
Sampling Point: Trip Blank	Matrix: Non-potable Water	Field pH Result: None
QA Type: Trip Blank		Field PO4 Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C/Analysis out of hold. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
2-Chlorotoluene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
4-Chlorotoluene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Acetone	HP	<	20	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Allyl chloride	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Benzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Bromobenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Bromochloromethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Bromodichloromethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Bromoform	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Bromomethane	HP	<	2.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Carbon tetrachloride	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Chlorobenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Chlorodibromomethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Chloroethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Chloroform	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Chloromethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
cis-1,2-Dichloroethene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
cis-1,3-Dichloropropene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Dibromomethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Dichlorodifluoromethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Dichlorofluoromethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Ethyl ether	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Ethylbenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Hexachlorobutadiene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Isopropylbenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Methyl ethyl ketone (MEK)	HP	<	10	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

Authorized by:

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-01

Location ID: None	Collect Date: 01/29/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 8:00	Field Fluoride Result: None
Sampling Point: Trip Blank	Matrix: Non-potable Water	Field pH Result: None
QA Type: Trip Blank		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C/Analysis out of hold. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)	HP	<	5.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Methyl tertiary butyl ether (MTBE)	HP	<	2.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Methylene chloride	HP	<	2.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Naphthalene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
n-Butylbenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
n-Propylbenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
o-Xylene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
p&m-Xylene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
p-Isopropyltoluene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
sec-Butylbenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Styrene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
tert-Butylbenzene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Tetrachloroethene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Tetrahydrofuran (THF)	HP	<	10	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Toluene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
trans-1,2-Dichloroethene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
trans-1,3-Dichloropropene	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Trichloroethene (TCE)	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Trichlorofluoromethane	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B
Vinyl chloride	HP	<	1.0	ug/L	1	B4B0241	02/18/14 18:12	02/18/14 18:12	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-03

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 12:18	Field Fluoride Result: None
Sampling Point: SB-1-W(54-58)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		104	70-130	%	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		103	70-130	%	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Surrogate: 4-Bromofluorobenzene		104	70-130	%	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Surrogate: Dibromofluoromethane		104	70-130	%	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Surrogate: Toluene-d8		102	70-130	%	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-03

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 12:18	Field Fluoride Result: None
Sampling Point: SB-1-W(54-58)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Acetone		<	20	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Dichlorodifluoromethane	QE	<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-03

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 12:18	Field Fluoride Result: None
Sampling Point: SB-1-W(54-58)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 13:33	02/11/14 13:33	EPA 8260B

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-04

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 12:42	Field Fluoride Result: None
Sampling Point: SB-1-W(46-50)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		104	70-130	%	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		100	70-130	%	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Surrogate: 4-Bromofluorobenzene		103	70-130	%	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Surrogate: Dibromofluoromethane		103	70-130	%	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Surrogate: Toluene-d8		102	70-130	%	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-04

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 12:42	Field Fluoride Result: None
Sampling Point: SB-1-W(46-50)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Acetone		<	20	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report
Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-04

Location ID: None
Field Name: None
Sampling Point: SB-1-W(46-50)
QA Type: None

Collect Date: 02/03/14
Collect Time: 12:42
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 14:00	02/11/14 14:00	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-05

Location ID: None
Field Name: None
Sampling Point: SB-1-W(12-16)
QA Type: None

Collect Date: 02/03/14
Collect Time: 13:15
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		100	70-130	%	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Surrogate: 4-Bromofluorobenzene		105	70-130	%	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Surrogate: Dibromofluoromethane		101	70-130	%	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Surrogate: Toluene-d8		99	70-130	%	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

Authorized by:

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-05

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 13:15	Field Fluoride Result: None
Sampling Point: SB-1-W(12-16)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Acetone		<	20	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-05

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 13:15	Field Fluoride Result: None
Sampling Point: SB-1-W(12-16)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 14:26	02/11/14 14:26	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-06

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 15:05	Field Fluoride Result: None
Sampling Point: SB-6-W(46-50)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		103	70-130	%	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		102	70-130	%	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Surrogate: 4-Bromofluorobenzene		103	70-130	%	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Surrogate: Dibromofluoromethane		104	70-130	%	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Surrogate: Toluene-d8		102	70-130	%	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-06

Location ID: None
Field Name: None
Sampling Point: SB-6-W(46-50)
QA Type: None

Collect Date: 02/03/14
Collect Time: 15:05
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Acetone		<	20	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

Authorized by:

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-06

Location ID: None
Field Name: None
Sampling Point: SB-6-W(46-50)
QA Type: None

Collect Date: 02/03/14
Collect Time: 15:05
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 14:53	02/11/14 14:53	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-07

Location ID: None
Field Name: None
Sampling Point: SB-6-W(15-19)
QA Type: None

Collect Date: 02/03/14
Collect Time: 15:25
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		103	70-130	%	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		100	70-130	%	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Surrogate: 4-Bromofluorobenzene		101	70-130	%	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Surrogate: Dibromofluoromethane		102	70-130	%	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Surrogate: Toluene-d8		100	70-130	%	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-07

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 15:25	Field Fluoride Result: None
Sampling Point: SB-6-W(15-19)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Acetone		<	20	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-07

Location ID: None
Field Name: None
Sampling Point: SB-6-W(15-19)
QA Type: None

Collect Date: 02/03/14
Collect Time: 15:25
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 15:19	02/11/14 15:19	EPA 8260B

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-08

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 15:30	Field Fluoride Result: None
Sampling Point: Dup-SB-6-W(15-19)	Matrix: Non-potable Water	Field pH Result: None
QA Type: Field Dup/Rep		Field PO4 Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		101	70-130	%	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		103	70-130	%	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Surrogate: 4-Bromofluorobenzene		103	70-130	%	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Surrogate: Dibromofluoromethane		103	70-130	%	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Surrogate: Toluene-d8		102	70-130	%	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-08

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 15:30	Field Fluoride Result: None
Sampling Point: Dup-SB-6-W(15-19)	Matrix: Non-potable Water	Field pH Result: None
QA Type: Field Dup/Rep		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Acetone		<	20	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-08

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 15:30	Field Fluoride Result: None
Sampling Point: Dup-SB-6-W(15-19)	Matrix: Non-potable Water	Field pH Result: None
QA Type: Field Dup/Rep		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 15:45	02/11/14 15:45	EPA 8260B

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-09

Location ID: None
Field Name: None
Sampling Point: FB-020314
QA Type: None

Collect Date: 02/03/14
Collect Time: 15:36
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		105	70-130	%	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		99	70-130	%	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Surrogate: 4-Bromofluorobenzene		106	70-130	%	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Surrogate: Dibromofluoromethane		100	70-130	%	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Surrogate: Toluene-d8		101	70-130	%	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-09

Location ID: None
Field Name: None
Sampling Point: FB-020314
QA Type: None

Collect Date: 02/03/14
Collect Time: 15:36
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Acetone		<	20	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-09

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 15:36	Field Fluoride Result: None
Sampling Point: FB-020314	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 16:12	02/11/14 16:12	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-10

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 16:50	Field Fluoride Result: None
Sampling Point: SB-5-W(46-50)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		105	70-130	%	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		103	70-130	%	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Surrogate: 4-Bromofluorobenzene		105	70-130	%	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Surrogate: Dibromofluoromethane		105	70-130	%	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Surrogate: Toluene-d8		100	70-130	%	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

Authorized by:

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-10

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 16:50	Field Fluoride Result: None
Sampling Point: SB-5-W(46-50)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Acetone		<	20	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-10

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 16:50	Field Fluoride Result: None
Sampling Point: SB-5-W(46-50)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 16:38	02/11/14 16:38	EPA 8260B

FINAL REPORT

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Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-11

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 17:15	Field Fluoride Result: None
Sampling Point: SB-5-W(12-16)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO4 Result: None

Receiving Comments: Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		101	70-130	%	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Surrogate: 4-Bromofluorobenzene		105	70-130	%	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Surrogate: Dibromofluoromethane		100	70-130	%	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Surrogate: Toluene-d8		101	70-130	%	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B

FINAL REPORT

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Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-11

Location ID: None
Field Name: None
Sampling Point: SB-5-W(12-16)
QA Type: None

Collect Date: 02/03/14
Collect Time: 17:15
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Acetone		<	20	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-11

Location ID: None	Collect Date: 02/03/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 17:15	Field Fluoride Result: None
Sampling Point: SB-5-W(12-16)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 17:05	02/11/14 17:05	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-12

Location ID: None	Collect Date: 02/04/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 13:15	Field Fluoride Result: None
Sampling Point: SB-4-W(46-50)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		101	70-130	%	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		101	70-130	%	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Surrogate: 4-Bromofluorobenzene		102	70-130	%	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Surrogate: Dibromofluoromethane		100	70-130	%	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Surrogate: Toluene-d8		99	70-130	%	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-12

Location ID: None	Collect Date: 02/04/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 13:15	Field Fluoride Result: None
Sampling Point: SB-4-W(46-50)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Acetone		<	20	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-12

Location ID: None	Collect Date: 02/04/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 13:15	Field Fluoride Result: None
Sampling Point: SB-4-W(46-50)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0119	02/11/14 17:31	02/11/14 17:31	EPA 8260B

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-13

Location ID: None	Collect Date: 02/04/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 14:32	Field Fluoride Result: None
Sampling Point: SB-4-W(11-15)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		99	70-130	%	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Surrogate: 4-Bromofluorobenzene		105	70-130	%	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Surrogate: Dibromofluoromethane		100	70-130	%	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Surrogate: Toluene-d8		100	70-130	%	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-13

Location ID: None	Collect Date: 02/04/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 14:32	Field Fluoride Result: None
Sampling Point: SB-4-W(11-15)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Acetone		<	20	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-13

Location ID: None
Field Name: None
Sampling Point: SB-4-W(11-15)
QA Type: None

Collect Date: 02/04/14
Collect Time: 14:32
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0181	02/11/14 21:44	02/11/14 21:44	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-16

Location ID: None
Field Name: None
Sampling Point: SB-3-W(13-18)
QA Type: None

Collect Date: 02/05/14
Collect Time: 10:30
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		100	70-130	%	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Surrogate: 4-Bromofluorobenzene		103	70-130	%	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Surrogate: Dibromofluoromethane		102	70-130	%	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Surrogate: Toluene-d8		101	70-130	%	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-16

Location ID: None	Collect Date: 02/05/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 10:30	Field Fluoride Result: None
Sampling Point: SB-3-W(13-18)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Acetone		37	20	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-16

Location ID: None
Field Name: None
Sampling Point: SB-3-W(13-18)
QA Type: None

Collect Date: 02/05/14
Collect Time: 10:30
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0181	02/11/14 22:10	02/11/14 22:10	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-17

Location ID: None
Field Name: None
Sampling Point: SB-2-W(46-50)
QA Type: None

Collect Date: 02/05/14
Collect Time: 11:20
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		101	70-130	%	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		102	70-130	%	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Surrogate: 4-Bromofluorobenzene		103	70-130	%	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Surrogate: Dibromofluoromethane		100	70-130	%	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Surrogate: Toluene-d8		97	70-130	%	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-17

Location ID: None	Collect Date: 02/05/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 11:20	Field Fluoride Result: None
Sampling Point: SB-2-W(46-50)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Acetone		<	20	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-17

Location ID: None	Collect Date: 02/05/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 11:20	Field Fluoride Result: None
Sampling Point: SB-2-W(46-50)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0181	02/11/14 22:36	02/11/14 22:36	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-18

Location ID: None
Field Name: None
Sampling Point: Dup-SB-2-W(46-50)
QA Type: None

Collect Date: 02/05/14
Collect Time: 11:22
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		101	70-130	%	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		99	70-130	%	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Surrogate: 4-Bromofluorobenzene		104	70-130	%	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Surrogate: Dibromofluoromethane		98	70-130	%	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Surrogate: Toluene-d8		100	70-130	%	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL
Program Name: Metro MERLA-SF
Collected By: Ben Klaus
Collector ID: None

Project ID: St. Louis Park Solvent Plume
Facility Name/ID: None
City: None
Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-18

Location ID: None
Field Name: None
Sampling Point: Dup-SB-2-W(46-50)
QA Type: None

Collect Date: 02/05/14
Collect Time: 11:22
Matrix: Non-potable Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Acetone		<	20	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-18

Location ID: None	Collect Date: 02/05/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 11:22	Field Fluoride Result: None
Sampling Point: Dup-SB-2-W(46-50)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0181	02/11/14 23:03	02/11/14 23:03	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-19

Location ID: None	Collect Date: 02/05/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 11:26	Field Fluoride Result: None
Sampling Point: FB-020514	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		103	70-130	%	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		98	70-130	%	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Surrogate: 4-Bromofluorobenzene		105	70-130	%	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Surrogate: Dibromofluoromethane		98	70-130	%	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Surrogate: Toluene-d8		97	70-130	%	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-19

Location ID: None	Collect Date: 02/05/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 11:26	Field Fluoride Result: None
Sampling Point: FB-020514	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Acetone		<	20	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-19

Location ID: None	Collect Date: 02/05/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 11:26	Field Fluoride Result: None
Sampling Point: FB-020514	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0181	02/11/14 23:29	02/11/14 23:29	EPA 8260B

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-20

Location ID: None	Collect Date: 02/05/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 11:40	Field Fluoride Result: None
Sampling Point: SB-2-W(12-16)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		100	70-130	%	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Surrogate: 4-Bromofluorobenzene		105	70-130	%	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Surrogate: Dibromofluoromethane		100	70-130	%	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Surrogate: Toluene-d8		99	70-130	%	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,1,1,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,1,1-Trichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,1,2,2-Tetrachloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,1,2-Trichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,1-Dichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,1-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,1-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,2,3-Trichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,2,3-Trichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,2,4-Trichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,2,4-Trimethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,2-Dibromoethane (EDB)		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,2-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,2-Dichloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,2-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,3,5-Trimethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,3-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,3-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
1,4-Dichlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-20

Location ID: None	Collect Date: 02/05/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 11:40	Field Fluoride Result: None
Sampling Point: SB-2-W(12-16)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
2,2-Dichloropropane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
2-Chlorotoluene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
4-Chlorotoluene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Acetone		<	20	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Allyl chloride		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Benzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Bromobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Bromochloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Bromodichloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Bromoform		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Bromomethane		<	2.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Carbon tetrachloride		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Chlorobenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Chlorodibromomethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Chloroethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Chloroform		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Chloromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
cis-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
cis-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Dibromomethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Dichlorodifluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Dichlorofluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Ethyl ether		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Ethylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Hexachlorobutadiene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Isopropylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Methyl ethyl ketone (MEK)		<	10	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Analytical Results

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

MDH Sample Number: 14B0351-20

Location ID: None	Collect Date: 02/05/14	Field Residual Chlorine Result: None
Field Name: None	Collect Time: 11:40	Field Fluoride Result: None
Sampling Point: SB-2-W(12-16)	Matrix: Non-potable Water	Field pH Result: None
QA Type: None		Field PO ₄ Result: None

Receiving Comments: No matrix on lab form/Temp. > 6 C. ECB

Results were produced by the Minnesota Department of Health, except where noted.

VOCs by GCMS - Continued

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Methylene chloride		<	2.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Naphthalene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
n-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
n-Propylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
o-Xylene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
p&m-Xylene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
p-Isopropyltoluene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
sec-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Styrene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
tert-Butylbenzene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Tetrachloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Tetrahydrofuran (THF)		<	10	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Toluene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
trans-1,2-Dichloroethene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
trans-1,3-Dichloropropene		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Trichloroethene (TCE)		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Trichlorofluoromethane		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B
Vinyl chloride		<	1.0	ug/L	1	B4B0181	02/11/14 23:55	02/11/14 23:55	EPA 8260B

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Public Health Laboratory, Minnesota Department of Health

Final Report
Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: [none]
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Batch Summary

Samples in Batch: B4B0119 - EPA 5030B Preparation

14B0351-03	14B0351-04	14B0351-05	14B0351-06	14B0351-07	14B0351-08	14B0351-09
14B0351-10	14B0351-11	14B0351-12				

Samples in Batch: B4B0181 - EPA 5030B Preparation

14B0351-13	14B0351-16	14B0351-17	14B0351-18	14B0351-19	14B0351-20
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Samples in Batch: B4B0241 - EPA 5030B Preparation

14B0351-01

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Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0119 - EPA 5030B Preparation

Blank (B4B0119-BLK1)

Prepared: 02/11/14 13:07 Analyzed: 02/11/14 13:07

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	10					
Surrogate: 1,2-Dichloroethane-d4		103	70-130	%	10					
Surrogate: 4-Bromofluorobenzene		104	70-130	%	10					
Surrogate: Dibromofluoromethane		103	70-130	%	10					
Surrogate: Toluene-d8		101	70-130	%	10					
1,1,1,2-Tetrachloroethane		<	1.0	ug/L						
1,1,1-Trichloroethane		<	1.0	ug/L						
1,1,2,2-Tetrachloroethane		<	1.0	ug/L						
1,1,2-Trichloroethane		<	1.0	ug/L						
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L						
1,1-Dichloroethane		<	1.0	ug/L						
1,1-Dichloroethene		<	1.0	ug/L						
1,1-Dichloropropene		<	1.0	ug/L						
1,2,3-Trichlorobenzene		<	1.0	ug/L						
1,2,3-Trichloropropane		<	1.0	ug/L						
1,2,4-Trichlorobenzene		<	1.0	ug/L						
1,2,4-Trimethylbenzene		<	1.0	ug/L						
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L						
1,2-Dibromoethane (EDB)		<	1.0	ug/L						
1,2-Dichlorobenzene		<	1.0	ug/L						
1,2-Dichloroethane		<	1.0	ug/L						
1,2-Dichloropropane		<	1.0	ug/L						
1,3,5-Trimethylbenzene		<	1.0	ug/L						
1,3-Dichlorobenzene		<	1.0	ug/L						
1,3-Dichloropropane		<	1.0	ug/L						
1,4-Dichlorobenzene		<	1.0	ug/L						
2,2-Dichloropropane		<	1.0	ug/L						
2-Chlorotoluene		<	1.0	ug/L						
4-Chlorotoluene		<	1.0	ug/L						
Acetone		<	20	ug/L						
Allyl chloride		<	1.0	ug/L						
Benzene		<	1.0	ug/L						
Bromobenzene		<	1.0	ug/L						
Bromochloromethane		<	1.0	ug/L						
Bromodichloromethane		<	1.0	ug/L						

FINAL REPORT

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Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0119 - EPA 5030B Preparation

Blank (B4B0119-BLK1)

Prepared: 02/11/14 13:07 Analyzed: 02/11/14 13:07

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Bromoform		<	1.0	ug/L						
Bromomethane		<	2.0	ug/L						
Carbon tetrachloride		<	1.0	ug/L						
Chlorobenzene		<	1.0	ug/L						
Chlorodibromomethane		<	1.0	ug/L						
Chloroethane		<	1.0	ug/L						
Chloroform		<	1.0	ug/L						
Chloromethane		<	1.0	ug/L						
cis-1,2-Dichloroethene		<	1.0	ug/L						
cis-1,3-Dichloropropene		<	1.0	ug/L						
Dibromomethane		<	1.0	ug/L						
Dichlorodifluoromethane		<	1.0	ug/L						
Dichlorofluoromethane		<	1.0	ug/L						
Ethyl ether		<	1.0	ug/L						
Ethylbenzene		<	1.0	ug/L						
Hexachlorobutadiene		<	1.0	ug/L						
Isopropylbenzene		<	1.0	ug/L						
Methyl ethyl ketone (MEK)		<	10	ug/L						
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L						
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L						
Methylene chloride		<	2.0	ug/L						
Naphthalene		<	1.0	ug/L						
n-Butylbenzene		<	1.0	ug/L						
n-Propylbenzene		<	1.0	ug/L						
o-Xylene		<	1.0	ug/L						
p&m-Xylene		<	1.0	ug/L						
p-Isopropyltoluene		<	1.0	ug/L						
sec-Butylbenzene		<	1.0	ug/L						
Styrene		<	1.0	ug/L						
tert-Butylbenzene		<	1.0	ug/L						
Tetrachloroethene		<	1.0	ug/L						
Tetrahydrofuran (THF)		<	10	ug/L						
Toluene		<	1.0	ug/L						
trans-1,2-Dichloroethene		<	1.0	ug/L						
trans-1,3-Dichloropropene		<	1.0	ug/L						

FINAL REPORT

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Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0119 - EPA 5030B Preparation

Blank (B4B0119-BLK1)

Prepared: 02/11/14 13:07 Analyzed: 02/11/14 13:07

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Trichloroethene (TCE)		<	1.0	ug/L						
Trichlorofluoromethane		<	1.0	ug/L						
Vinyl chloride		<	1.0	ug/L						

LCS (B4B0119-BS1)

Prepared: 02/11/14 12:14 Analyzed: 02/11/14 12:14

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	10					
Surrogate: 1,2-Dichloroethane-d4		102	70-130	%	10					
Surrogate: 4-Bromofluorobenzene		103	70-130	%	10					
Surrogate: Dibromofluoromethane		105	70-130	%	10					
Surrogate: Toluene-d8		102	70-130	%	10					
1,1,1,2-Tetrachloroethane		11	1.0	ug/L	10		114	70-130		
1,1,1-Trichloroethane		10	1.0	ug/L	10		103	70-130		
1,1,2,2-Tetrachloroethane		9.9	1.0	ug/L	10		99	70-130		
1,1,2-Trichloroethane		9.8	1.0	ug/L	10		98	70-130		
1,1,2-Trichlorotrifluoroethane		10	1.0	ug/L	10		101	70-130		
1,1-Dichloroethane		9.9	1.0	ug/L	10		99	70-130		
1,1-Dichloroethene		10	1.0	ug/L	10		102	80-120		
1,1-Dichloropropene		9.8	1.0	ug/L	10		98	70-130		
1,2,3-Trichlorobenzene		9.7	1.0	ug/L	10		97	70-130		
1,2,3-Trichloropropane		9.8	1.0	ug/L	10		98	70-130		
1,2,4-Trichlorobenzene		9.8	1.0	ug/L	10		98	70-130		
1,2,4-Trimethylbenzene		10	1.0	ug/L	10		102	70-130		
1,2-Dibromo-3-chloropropane (DBCP)		12	5.0	ug/L	10		117	70-130		
1,2-Dibromoethane (EDB)		10	1.0	ug/L	10		100	70-130		
1,2-Dichlorobenzene		9.8	1.0	ug/L	10		98	70-130		
1,2-Dichloroethane		9.6	1.0	ug/L	10		96	70-130		
1,2-Dichloropropane		9.9	1.0	ug/L	10		99	80-120		
1,3,5-Trimethylbenzene		10	1.0	ug/L	10		103	70-130		
1,3-Dichlorobenzene		9.9	1.0	ug/L	10		99	70-130		
1,3-Dichloropropane		9.8	1.0	ug/L	10		98	70-130		
1,4-Dichlorobenzene		9.8	1.0	ug/L	10		98	70-130		
2,2-Dichloropropane		9.5	1.0	ug/L	10		95	70-130		
2-Chlorotoluene		10	1.0	ug/L	10		103	70-130		

FINAL REPORT

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Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL Program Name: Metro MERLA-SF Collected By: Ben Klaus Collector ID: None	Project ID: St. Louis Park Solvent Plume Facility Name/ID: None City: None Generated: 02/19/14 16:17
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Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0119 - EPA 5030B Preparation

LCS (B4B0119-BS1)

Prepared: 02/11/14 12:14 Analyzed: 02/11/14 12:14

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
4-Chlorotoluene		10	1.0	ug/L	10		103	70-130		
Acetone		110	20	ug/L	100		105	70-130		
Allyl chloride		10	1.0	ug/L	10		101	70-130		
Benzene		10	1.0	ug/L	10		101	70-130		
Bromobenzene		9.9	1.0	ug/L	10		99	70-130		
Bromochloromethane		9.9	1.0	ug/L	10		99	70-130		
Bromodichloromethane		10	1.0	ug/L	10		103	70-130		
Bromoform		12	1.0	ug/L	10		124	70-130		
Bromomethane		10	2.0	ug/L	10		103	70-130		
Carbon tetrachloride		11	1.0	ug/L	10		109	70-130		
Chlorobenzene		9.9	1.0	ug/L	10		99	70-130		
Chlorodibromomethane		12	1.0	ug/L	10		117	70-130		
Chloroethane		10	1.0	ug/L	10		103	70-130		
Chloroform		9.7	1.0	ug/L	10		97	80-120		
Chloromethane		10	1.0	ug/L	10		102	70-130		
cis-1,2-Dichloroethene		10	1.0	ug/L	10		100	70-130		
cis-1,3-Dichloropropene		10	1.0	ug/L	10		100	70-130		
Dibromomethane		9.8	1.0	ug/L	10		98	70-130		
Dichlorodifluoromethane		9.6	1.0	ug/L	10		96	70-130		
Dichlorofluoromethane		10	1.0	ug/L	10		101	70-130		
Ethyl ether		10	1.0	ug/L	10		103	70-130		
Ethylbenzene		10	1.0	ug/L	10		102	80-120		
Hexachlorobutadiene		9.6	1.0	ug/L	10		96	70-130		
Isopropylbenzene		10	1.0	ug/L	10		103	70-130		
Methyl ethyl ketone (MEK)		50	10	ug/L	50		101	70-130		
Methyl isobutyl ketone (MIBK)		52	5.0	ug/L	50		104	70-130		
Methyl tertiary butyl ether (MTBE)		9.8	2.0	ug/L	10		98	70-130		
Methylene chloride		9.4	2.0	ug/L	10		94	70-130		
Naphthalene		9.9	1.0	ug/L	10		99	70-130		
n-Butylbenzene		11	1.0	ug/L	10		105	70-130		
n-Propylbenzene		10	1.0	ug/L	10		104	70-130		
o-Xylene		9.9	1.0	ug/L	10		99	70-130		
p&m-Xylene		10	1.0	ug/L	10		100	70-130		
p-Isopropyltoluene		10	1.0	ug/L	10		104	70-130		
sec-Butylbenzene		11	1.0	ug/L	10		108	70-130		

FINAL REPORT

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Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL Program Name: Metro MERLA-SF Collected By: Ben Klaus Collector ID: None	Project ID: St. Louis Park Solvent Plume Facility Name/ID: None City: None Generated: 02/19/14 16:17
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Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0119 - EPA 5030B Preparation

LCS (B4B0119-BS1)

Prepared: 02/11/14 12:14 Analyzed: 02/11/14 12:14

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Styrene		10	1.0	ug/L	10		102	70-130		
tert-Butylbenzene		10	1.0	ug/L	10		101	70-130		
Tetrachloroethene		9.9	1.0	ug/L	10		99	70-130		
Tetrahydrofuran (THF)		100	10	ug/L	100		103	70-130		
Toluene		9.9	1.0	ug/L	10		99	80-120		
trans-1,2-Dichloroethene		10	1.0	ug/L	10		100	70-130		
trans-1,3-Dichloropropene		10	1.0	ug/L	10		103	70-130		
Trichloroethene (TCE)		9.8	1.0	ug/L	10		98	70-130		
Trichlorofluoromethane		10	1.0	ug/L	10		100	70-130		
Vinyl chloride		10	1.0	ug/L	10		102	80-120		

LCS Dup (B4B0119-BSD1)

Prepared: 02/11/14 17:57 Analyzed: 02/11/14 17:57

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	10					
Surrogate: 1,2-Dichloroethane-d4		100	70-130	%	10					
Surrogate: 4-Bromofluorobenzene		103	70-130	%	10					
Surrogate: Dibromofluoromethane		103	70-130	%	10					
Surrogate: Toluene-d8		100	70-130	%	10					
1,1,1,2-Tetrachloroethane		9.4	1.0	ug/L	10		94	70-130	18	30
1,1,1-Trichloroethane		9.3	1.0	ug/L	10		93	70-130	10	30
1,1,2,2-Tetrachloroethane		9.4	1.0	ug/L	10		94	70-130	5	30
1,1,2-Trichloroethane		9.6	1.0	ug/L	10		96	70-130	2	30
1,1,2-Trichlorotrifluoroethane		9.4	1.0	ug/L	10		94	70-130	7	30
1,1-Dichloroethane		9.8	1.0	ug/L	10		98	70-130	0.3	30
1,1-Dichloroethene		9.8	1.0	ug/L	10		98	80-120	4	30
1,1-Dichloropropene		9.6	1.0	ug/L	10		96	70-130	2	30
1,2,3-Trichlorobenzene		9.0	1.0	ug/L	10		90	70-130	7	30
1,2,3-Trichloropropane		9.4	1.0	ug/L	10		94	70-130	3	30
1,2,4-Trichlorobenzene		9.0	1.0	ug/L	10		90	70-130	8	30
1,2,4-Trimethylbenzene		9.7	1.0	ug/L	10		97	70-130	6	30
1,2-Dibromo-3-chloropropane (DBCP)		9.5	5.0	ug/L	10		95	70-130	21	30
1,2-Dibromoethane (EDB)		9.5	1.0	ug/L	10		95	70-130	5	30
1,2-Dichlorobenzene		9.4	1.0	ug/L	10		94	70-130	5	30
1,2-Dichloroethane		9.8	1.0	ug/L	10		98	70-130	1	30

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0119 - EPA 5030B Preparation

LCS Dup (B4B0119-BSD1)

Prepared: 02/11/14 17:57 Analyzed: 02/11/14 17:57

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,2-Dichloropropane		9.9	1.0	ug/L	10		99	80-120	0.3	30
1,3,5-Trimethylbenzene		9.5	1.0	ug/L	10		95	70-130	8	30
1,3-Dichlorobenzene		9.3	1.0	ug/L	10		93	70-130	6	30
1,3-Dichloropropane		9.6	1.0	ug/L	10		96	70-130	2	30
1,4-Dichlorobenzene		9.2	1.0	ug/L	10		92	70-130	7	30
2,2-Dichloropropane		8.3	1.0	ug/L	10		83	70-130	14	30
2-Chlorotoluene		9.5	1.0	ug/L	10		95	70-130	8	30
4-Chlorotoluene		9.4	1.0	ug/L	10		94	70-130	9	30
Acetone		100	20	ug/L	100		102	70-130	3	30
Allyl chloride		9.6	1.0	ug/L	10		96	70-130	5	30
Benzene		10	1.0	ug/L	10		100	70-130	0.8	30
Bromobenzene		9.4	1.0	ug/L	10		94	70-130	5	30
Bromochloromethane		9.8	1.0	ug/L	10		98	70-130	0.7	30
Bromodichloromethane		9.2	1.0	ug/L	10		92	70-130	11	30
Bromoform		9.7	1.0	ug/L	10		97	70-130	24	30
Bromomethane		9.1	2.0	ug/L	10		91	70-130	12	30
Carbon tetrachloride		9.2	1.0	ug/L	10		92	70-130	18	30
Chlorobenzene		9.5	1.0	ug/L	10		95	70-130	4	30
Chlorodibromomethane		9.6	1.0	ug/L	10		96	70-130	20	30
Chloroethane		10	1.0	ug/L	10		100	70-130	3	30
Chloroform		9.7	1.0	ug/L	10		97	80-120	0.1	30
Chloromethane		9.4	1.0	ug/L	10		94	70-130	8	30
cis-1,2-Dichloroethene		9.9	1.0	ug/L	10		99	70-130	0.9	30
cis-1,3-Dichloropropene		9.0	1.0	ug/L	10		90	70-130	11	30
Dibromomethane		9.8	1.0	ug/L	10		98	70-130	0.05	30
Dichlorodifluoromethane		9.2	1.0	ug/L	10		92	70-130	4	30
Dichlorofluoromethane		9.7	1.0	ug/L	10		97	70-130	3	30
Ethyl ether		10	1.0	ug/L	10		102	70-130	1	30
Ethylbenzene		9.7	1.0	ug/L	10		97	80-120	5	30
Hexachlorobutadiene		8.9	1.0	ug/L	10		89	70-130	7	30
Isopropylbenzene		9.5	1.0	ug/L	10		95	70-130	8	30
Methyl ethyl ketone (MEK)		50	10	ug/L	50		100	70-130	0.8	30
Methyl isobutyl ketone (MIBK)		51	5.0	ug/L	50		103	70-130	1	30
Methyl tertiary butyl ether (MTBE)		10	2.0	ug/L	10		100	70-130	1	30
Methylene chloride		9.3	2.0	ug/L	10		93	70-130	0.8	30

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0119 - EPA 5030B Preparation

LCS Dup (B4B0119-BSD1)

Prepared: 02/11/14 17:57 Analyzed: 02/11/14 17:57

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Naphthalene		9.5	1.0	ug/L	10		95	70-130	4	30
n-Butylbenzene		9.8	1.0	ug/L	10		98	70-130	7	30
n-Propylbenzene		9.7	1.0	ug/L	10		97	70-130	7	30
o-Xylene		9.4	1.0	ug/L	10		94	70-130	5	30
p&m-Xylene		9.3	1.0	ug/L	10		93	70-130	7	30
p-Isopropyltoluene		9.6	1.0	ug/L	10		96	70-130	8	30
sec-Butylbenzene		10	1.0	ug/L	10		100	70-130	8	30
Styrene		9.6	1.0	ug/L	10		96	70-130	6	30
tert-Butylbenzene		9.5	1.0	ug/L	10		95	70-130	6	30
Tetrachloroethene		9.1	1.0	ug/L	10		91	70-130	8	30
Tetrahydrofuran (THF)		100	10	ug/L	100		101	70-130	2	30
Toluene		9.3	1.0	ug/L	10		93	80-120	6	30
trans-1,2-Dichloroethene		9.7	1.0	ug/L	10		97	70-130	3	30
trans-1,3-Dichloropropene		9.2	1.0	ug/L	10		92	70-130	10	30
Trichloroethene (TCE)		9.6	1.0	ug/L	10		96	70-130	2	30
Trichlorofluoromethane		9.7	1.0	ug/L	10		97	70-130	3	30
Vinyl chloride		9.4	1.0	ug/L	10		94	80-120	8	30

Matrix Spike (B4B0119-MS1)

Source: 14B0351-03

Prepared: 02/11/14 19:58 Analyzed: 02/11/14 19:58

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	10					
Surrogate: 1,2-Dichloroethane-d4		102	70-130	%	10					
Surrogate: 4-Bromofluorobenzene		104	70-130	%	10					
Surrogate: Dibromofluoromethane		104	70-130	%	10					
Surrogate: Toluene-d8		98	70-130	%	10					
1,1,1,2-Tetrachloroethane		11	1.0	ug/L	10	<	109	70-130		
1,1,1-Trichloroethane		11	1.0	ug/L	10	<	112	70-130		
1,1,2,2-Tetrachloroethane		10	1.0	ug/L	10	<	100	70-130		
1,1,2-Trichloroethane		10	1.0	ug/L	10	<	101	70-130		
1,1,2-Trichlorotrifluoroethane		12	1.0	ug/L	10	<	116	70-130		
1,1-Dichloroethane		11	1.0	ug/L	10	<	112	70-130		
1,1-Dichloroethene		12	1.0	ug/L	10	<	118	70-130		
1,1-Dichloropropene		12	1.0	ug/L	10	<	116	70-130		
1,2,3-Trichlorobenzene		9.8	1.0	ug/L	10	<	98	70-150		
1,2,3-Trichloropropane		10	1.0	ug/L	10	<	100	70-130		

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL Program Name: Metro MERLA-SF Collected By: Ben Klaus Collector ID: None	Project ID: St. Louis Park Solvent Plume Facility Name/ID: None City: None Generated: 02/19/14 16:17
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Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0119 - EPA 5030B Preparation

Matrix Spike (B4B0119-MS1)

Source: 14B0351-03

Prepared: 02/11/14 19:58 Analyzed: 02/11/14 19:58

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene		9.8	1.0	ug/L	10	<	98	70-130		
1,2,4-Trimethylbenzene		11	1.0	ug/L	10	<	108	70-130		
1,2-Dibromo-3-chloropropane (DBCP)		11	5.0	ug/L	10	<	107	70-130		
1,2-Dibromoethane (EDB)		10	1.0	ug/L	10	<	104	70-130		
1,2-Dichlorobenzene		10	1.0	ug/L	10	<	101	70-130		
1,2-Dichloroethane		11	1.0	ug/L	10	<	109	70-130		
1,2-Dichloropropane		11	1.0	ug/L	10	<	111	70-130		
1,3,5-Trimethylbenzene		11	1.0	ug/L	10	<	110	70-130		
1,3-Dichlorobenzene		10	1.0	ug/L	10	<	101	70-130		
1,3-Dichloropropane		10	1.0	ug/L	10	<	104	70-130		
1,4-Dichlorobenzene		10	1.0	ug/L	10	<	101	70-130		
2,2-Dichloropropane		12	1.0	ug/L	10	<	116	70-130		
2-Chlorotoluene		10	1.0	ug/L	10	<	105	70-130		
4-Chlorotoluene		11	1.0	ug/L	10	<	109	70-130		
Acetone		110	20	ug/L	100	<	107	70-130		
Allyl chloride		11	1.0	ug/L	10	<	112	70-130		
Benzene		11	1.0	ug/L	10	<	114	70-130		
Bromobenzene		10	1.0	ug/L	10	<	101	70-130		
Bromochloromethane		11	1.0	ug/L	10	<	109	70-130		
Bromodichloromethane		11	1.0	ug/L	10	<	107	70-130		
Bromoform		11	1.0	ug/L	10	<	107	70-130		
Bromomethane		12	2.0	ug/L	10	<	117	70-130		
Carbon tetrachloride		11	1.0	ug/L	10	<	115	70-130		
Chlorobenzene		10	1.0	ug/L	10	<	102	70-130		
Chlorodibromomethane		11	1.0	ug/L	10	<	106	70-130		
Chloroethane		12	1.0	ug/L	10	<	117	70-130		
Chloroform		11	1.0	ug/L	10	<	109	70-130		
Chloromethane		12	1.0	ug/L	10	<	123	70-130		
cis-1,2-Dichloroethene		11	1.0	ug/L	10	<	111	70-130		
cis-1,3-Dichloropropene		10	1.0	ug/L	10	<	104	70-130		
Dibromomethane		11	1.0	ug/L	10	<	107	70-130		
Dichlorodifluoromethane	QD	13	1.0	ug/L	10	<	133	70-130		
Dichlorofluoromethane		12	1.0	ug/L	10	<	116	70-130		
Ethyl ether		11	1.0	ug/L	10	<	109	70-130		
Ethylbenzene		11	1.0	ug/L	10	<	110	70-130		

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0119 - EPA 5030B Preparation

Matrix Spike (B4B0119-MS1)

Source: 14B0351-03

Prepared: 02/11/14 19:58 Analyzed: 02/11/14 19:58

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Hexachlorobutadiene		9.6	1.0	ug/L	10	<	96	70-130		
Isopropylbenzene		11	1.0	ug/L	10	<	111	70-130		
Methyl ethyl ketone (MEK)		52	10	ug/L	50	<	105	70-130		
Methyl isobutyl ketone (MIBK)		54	5.0	ug/L	50	<	108	70-130		
Methyl tertiary butyl ether (MTBE)		11	2.0	ug/L	10	<	114	70-130		
Methylene chloride		10	2.0	ug/L	10	<	104	70-130		
Naphthalene		9.7	1.0	ug/L	10	<	97	70-130		
n-Butylbenzene		11	1.0	ug/L	10	<	110	70-130		
n-Propylbenzene		12	1.0	ug/L	10	<	115	70-130		
o-Xylene		11	1.0	ug/L	10	<	106	70-130		
p&m-Xylene		11	1.0	ug/L	10	<	108	70-130		
p-Isopropyltoluene		11	1.0	ug/L	10	<	110	70-130		
sec-Butylbenzene		11	1.0	ug/L	10	<	113	70-130		
Styrene		11	1.0	ug/L	10	<	110	70-130		
tert-Butylbenzene		11	1.0	ug/L	10	<	108	70-130		
Tetrachloroethene		11	1.0	ug/L	10	<	108	70-130		
Tetrahydrofuran (THF)		110	10	ug/L	100	<	106	70-130		
Toluene		11	1.0	ug/L	10	<	106	70-130		
trans-1,2-Dichloroethene		11	1.0	ug/L	10	<	113	70-130		
trans-1,3-Dichloropropene		11	1.0	ug/L	10	<	107	70-130		
Trichloroethene (TCE)		11	1.0	ug/L	10	<	112	70-130		
Trichlorofluoromethane		12	1.0	ug/L	10	<	120	70-130		
Vinyl chloride		12	1.0	ug/L	10	<	122	70-130		

Matrix Spike Dup (B4B0119-MSD1)

Source: 14B0351-03

Prepared: 02/11/14 20:25 Analyzed: 02/11/14 20:25

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		104	70-130	%	10					
Surrogate: 1,2-Dichloroethane-d4		100	70-130	%	10					
Surrogate: 4-Bromofluorobenzene		106	70-130	%	10					
Surrogate: Dibromofluoromethane		104	70-130	%	10					
Surrogate: Toluene-d8		101	70-130	%	10					
1,1,1,2-Tetrachloroethane		11	1.0	ug/L	10	<	110	70-130	0.2	30
1,1,1-Trichloroethane		11	1.0	ug/L	10	<	111	70-130	0.5	30
1,1,2,2-Tetrachloroethane		9.8	1.0	ug/L	10	<	98	70-130	3	30
1,1,2-Trichloroethane		9.9	1.0	ug/L	10	<	99	70-130	2	30

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0119 - EPA 5030B Preparation

Matrix Spike Dup (B4B0119-MSD1)

Source: 14B0351-03

Prepared: 02/11/14 20:25 Analyzed: 02/11/14 20:25

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,1,2-Trichlorotrifluoroethane		11	1.0	ug/L	10	<	111	70-130	5	30
1,1-Dichloroethane		11	1.0	ug/L	10	<	107	70-130	4	30
1,1-Dichloroethene		11	1.0	ug/L	10	<	110	70-130	7	30
1,1-Dichloropropene		11	1.0	ug/L	10	<	108	70-130	7	30
1,2,3-Trichlorobenzene		9.3	1.0	ug/L	10	<	93	70-150	6	30
1,2,3-Trichloropropane		9.7	1.0	ug/L	10	<	97	70-130	3	30
1,2,4-Trichlorobenzene		9.3	1.0	ug/L	10	<	93	70-130	5	30
1,2,4-Trimethylbenzene		10	1.0	ug/L	10	<	102	70-130	6	30
1,2-Dibromo-3-chloropropane (DBCP)		11	5.0	ug/L	10	<	109	70-130	2	30
1,2-Dibromoethane (EDB)		9.9	1.0	ug/L	10	<	99	70-130	5	30
1,2-Dichlorobenzene		9.7	1.0	ug/L	10	<	97	70-130	4	30
1,2-Dichloroethane		10	1.0	ug/L	10	<	104	70-130	5	30
1,2-Dichloropropane		10	1.0	ug/L	10	<	104	70-130	6	30
1,3,5-Trimethylbenzene		11	1.0	ug/L	10	<	106	70-130	3	30
1,3-Dichlorobenzene		9.7	1.0	ug/L	10	<	97	70-130	4	30
1,3-Dichloropropane		10	1.0	ug/L	10	<	101	70-130	3	30
1,4-Dichlorobenzene		9.5	1.0	ug/L	10	<	95	70-130	7	30
2,2-Dichloropropane		11	1.0	ug/L	10	<	114	70-130	1	30
2-Chlorotoluene		10	1.0	ug/L	10	<	101	70-130	4	30
4-Chlorotoluene		10	1.0	ug/L	10	<	104	70-130	5	30
Acetone		110	20	ug/L	100	<	108	70-130	0.9	30
Allyl chloride		11	1.0	ug/L	10	<	107	70-130	4	30
Benzene		11	1.0	ug/L	10	<	109	70-130	4	30
Bromobenzene		9.8	1.0	ug/L	10	<	98	70-130	3	30
Bromochloromethane		10	1.0	ug/L	10	<	103	70-130	6	30
Bromodichloromethane		10	1.0	ug/L	10	<	104	70-130	3	30
Bromoform		11	1.0	ug/L	10	<	109	70-130	2	30
Bromomethane		11	2.0	ug/L	10	<	111	70-130	5	30
Carbon tetrachloride		11	1.0	ug/L	10	<	114	70-130	0.5	30
Chlorobenzene		10	1.0	ug/L	10	<	100	70-130	3	30
Chlorodibromomethane		11	1.0	ug/L	10	<	106	70-130	0.02	30
Chloroethane		11	1.0	ug/L	10	<	110	70-130	6	30
Chloroform		10	1.0	ug/L	10	<	105	70-130	4	30
Chloromethane		12	1.0	ug/L	10	<	119	70-130	4	30
cis-1,2-Dichloroethene		11	1.0	ug/L	10	<	105	70-130	5	30

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL Program Name: Metro MERLA-SF Collected By: Ben Klaus Collector ID: None	Project ID: St. Louis Park Solvent Plume Facility Name/ID: None City: None Generated: 02/19/14 16:17
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Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0119 - EPA 5030B Preparation

Matrix Spike Dup (B4B0119-MSD1)

Source: 14B0351-03

Prepared: 02/11/14 20:25 Analyzed: 02/11/14 20:25

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
cis-1,3-Dichloropropene		10	1.0	ug/L	10	<	101	70-130	3	30
Dibromomethane		10	1.0	ug/L	10	<	102	70-130	4	30
Dichlorodifluoromethane		13	1.0	ug/L	10	<	129	70-130	3	30
Dichlorofluoromethane		11	1.0	ug/L	10	<	110	70-130	5	30
Ethyl ether		11	1.0	ug/L	10	<	106	70-130	3	30
Ethylbenzene		11	1.0	ug/L	10	<	105	70-130	5	30
Hexachlorobutadiene		9.1	1.0	ug/L	10	<	91	70-130	6	30
Isopropylbenzene		11	1.0	ug/L	10	<	106	70-130	4	30
Methyl ethyl ketone (MEK)		53	10	ug/L	50	<	105	70-130	0.3	30
Methyl isobutyl ketone (MIBK)		52	5.0	ug/L	50	<	105	70-130	3	30
Methyl tertiary butyl ether (MTBE)		11	2.0	ug/L	10	<	109	70-130	4	30
Methylene chloride		9.9	2.0	ug/L	10	<	99	70-130	5	30
Naphthalene		9.5	1.0	ug/L	10	<	95	70-130	2	30
n-Butylbenzene		11	1.0	ug/L	10	<	107	70-130	3	30
n-Propylbenzene		11	1.0	ug/L	10	<	109	70-130	5	30
o-Xylene		10	1.0	ug/L	10	<	101	70-130	5	30
p&m-Xylene		10	1.0	ug/L	10	<	103	70-130	5	30
p-Isopropyltoluene		10	1.0	ug/L	10	<	104	70-130	5	30
sec-Butylbenzene		11	1.0	ug/L	10	<	108	70-130	4	30
Styrene		10	1.0	ug/L	10	<	104	70-130	5	30
tert-Butylbenzene		10	1.0	ug/L	10	<	103	70-130	5	30
Tetrachloroethene		10	1.0	ug/L	10	<	102	70-130	5	30
Tetrahydrofuran (THF)		110	10	ug/L	100	<	105	70-130	1	30
Toluene		10	1.0	ug/L	10	<	102	70-130	4	30
trans-1,2-Dichloroethene		11	1.0	ug/L	10	<	107	70-130	5	30
trans-1,3-Dichloropropene		11	1.0	ug/L	10	<	106	70-130	1	30
Trichloroethene (TCE)		10	1.0	ug/L	10	<	105	70-130	7	30
Trichlorofluoromethane		11	1.0	ug/L	10	<	111	70-130	7	30
Vinyl chloride		12	1.0	ug/L	10	<	116	70-130	5	30

FINAL REPORT

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0181 - EPA 5030B Preparation

Blank (B4B0181-BLK1)

Prepared: 02/11/14 21:17 Analyzed: 02/11/14 21:17

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		100	70-130	%	10					
Surrogate: 1,2-Dichloroethane-d4		103	70-130	%	10					
Surrogate: 4-Bromofluorobenzene		105	70-130	%	10					
Surrogate: Dibromofluoromethane		101	70-130	%	10					
Surrogate: Toluene-d8		101	70-130	%	10					
1,1,1,2-Tetrachloroethane		<	1.0	ug/L						
1,1,1-Trichloroethane		<	1.0	ug/L						
1,1,2,2-Tetrachloroethane		<	1.0	ug/L						
1,1,2-Trichloroethane		<	1.0	ug/L						
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L						
1,1-Dichloroethane		<	1.0	ug/L						
1,1-Dichloroethene		<	1.0	ug/L						
1,1-Dichloropropene		<	1.0	ug/L						
1,2,3-Trichlorobenzene		<	1.0	ug/L						
1,2,3-Trichloropropane		<	1.0	ug/L						
1,2,4-Trichlorobenzene		<	1.0	ug/L						
1,2,4-Trimethylbenzene		<	1.0	ug/L						
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L						
1,2-Dibromoethane (EDB)		<	1.0	ug/L						
1,2-Dichlorobenzene		<	1.0	ug/L						
1,2-Dichloroethane		<	1.0	ug/L						
1,2-Dichloropropane		<	1.0	ug/L						
1,3,5-Trimethylbenzene		<	1.0	ug/L						
1,3-Dichlorobenzene		<	1.0	ug/L						
1,3-Dichloropropane		<	1.0	ug/L						
1,4-Dichlorobenzene		<	1.0	ug/L						
2,2-Dichloropropane		<	1.0	ug/L						
2-Chlorotoluene		<	1.0	ug/L						
4-Chlorotoluene		<	1.0	ug/L						
Acetone		<	20	ug/L						
Allyl chloride		<	1.0	ug/L						
Benzene		<	1.0	ug/L						
Bromobenzene		<	1.0	ug/L						
Bromochloromethane		<	1.0	ug/L						
Bromodichloromethane		<	1.0	ug/L						

FINAL REPORT

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Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0181 - EPA 5030B Preparation

Blank (B4B0181-BLK1)

Prepared: 02/11/14 21:17 Analyzed: 02/11/14 21:17

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Bromoform		<	1.0	ug/L						
Bromomethane		<	2.0	ug/L						
Carbon tetrachloride		<	1.0	ug/L						
Chlorobenzene		<	1.0	ug/L						
Chlorodibromomethane		<	1.0	ug/L						
Chloroethane		<	1.0	ug/L						
Chloroform		<	1.0	ug/L						
Chloromethane		<	1.0	ug/L						
cis-1,2-Dichloroethene		<	1.0	ug/L						
cis-1,3-Dichloropropene		<	1.0	ug/L						
Dibromomethane		<	1.0	ug/L						
Dichlorodifluoromethane		<	1.0	ug/L						
Dichlorofluoromethane		<	1.0	ug/L						
Ethyl ether		<	1.0	ug/L						
Ethylbenzene		<	1.0	ug/L						
Hexachlorobutadiene		<	1.0	ug/L						
Isopropylbenzene		<	1.0	ug/L						
Methyl ethyl ketone (MEK)		<	10	ug/L						
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L						
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L						
Methylene chloride		<	2.0	ug/L						
Naphthalene		<	1.0	ug/L						
n-Butylbenzene		<	1.0	ug/L						
n-Propylbenzene		<	1.0	ug/L						
o-Xylene		<	1.0	ug/L						
p&m-Xylene		<	1.0	ug/L						
p-Isopropyltoluene		<	1.0	ug/L						
sec-Butylbenzene		<	1.0	ug/L						
Styrene		<	1.0	ug/L						
tert-Butylbenzene		<	1.0	ug/L						
Tetrachloroethene		<	1.0	ug/L						
Tetrahydrofuran (THF)		<	10	ug/L						
Toluene		<	1.0	ug/L						
trans-1,2-Dichloroethene		<	1.0	ug/L						
trans-1,3-Dichloropropene		<	1.0	ug/L						

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL Program Name: Metro MERLA-SF Collected By: Ben Klaus Collector ID: None	Project ID: St. Louis Park Solvent Plume Facility Name/ID: None City: None Generated: 02/19/14 16:17
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Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0181 - EPA 5030B Preparation

Blank (B4B0181-BLK1)

Prepared: 02/11/14 21:17 Analyzed: 02/11/14 21:17

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Trichloroethene (TCE)		<	1.0	ug/L						
Trichlorofluoromethane		<	1.0	ug/L						
Vinyl chloride		<	1.0	ug/L						

LCS (B4B0181-BS1)

Prepared: 02/11/14 17:57 Analyzed: 02/11/14 17:57

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	10					
Surrogate: 1,2-Dichloroethane-d4		100	70-130	%	10					
Surrogate: 4-Bromofluorobenzene		103	70-130	%	10					
Surrogate: Dibromofluoromethane		103	70-130	%	10					
Surrogate: Toluene-d8		100	70-130	%	10					
1,1,1,2-Tetrachloroethane		9.4	1.0	ug/L	10		94	70-130		
1,1,1-Trichloroethane		9.3	1.0	ug/L	10		93	70-130		
1,1,2,2-Tetrachloroethane		9.4	1.0	ug/L	10		94	70-130		
1,1,2-Trichloroethane		9.6	1.0	ug/L	10		96	70-130		
1,1,2-Trichlorotrifluoroethane		9.4	1.0	ug/L	10		94	70-130		
1,1-Dichloroethane		9.8	1.0	ug/L	10		98	70-130		
1,1-Dichloroethene		9.8	1.0	ug/L	10		98	80-120		
1,1-Dichloropropene		9.6	1.0	ug/L	10		96	70-130		
1,2,3-Trichlorobenzene		9.0	1.0	ug/L	10		90	70-130		
1,2,3-Trichloropropane		9.4	1.0	ug/L	10		94	70-130		
1,2,4-Trichlorobenzene		9.0	1.0	ug/L	10		90	70-130		
1,2,4-Trimethylbenzene		9.7	1.0	ug/L	10		97	70-130		
1,2-Dibromo-3-chloropropane (DBCP)		9.5	5.0	ug/L	10		95	70-130		
1,2-Dibromoethane (EDB)		9.5	1.0	ug/L	10		95	70-130		
1,2-Dichlorobenzene		9.4	1.0	ug/L	10		94	70-130		
1,2-Dichloroethane		9.8	1.0	ug/L	10		98	70-130		
1,2-Dichloropropane		9.9	1.0	ug/L	10		99	80-120		
1,3,5-Trimethylbenzene		9.5	1.0	ug/L	10		95	70-130		
1,3-Dichlorobenzene		9.3	1.0	ug/L	10		93	70-130		
1,3-Dichloropropane		9.6	1.0	ug/L	10		96	70-130		
1,4-Dichlorobenzene		9.2	1.0	ug/L	10		92	70-130		
2,2-Dichloropropane		8.3	1.0	ug/L	10		83	70-130		
2-Chlorotoluene		9.5	1.0	ug/L	10		95	70-130		

FINAL REPORT

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Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0181 - EPA 5030B Preparation

LCS (B4B0181-BS1)

Prepared: 02/11/14 17:57 Analyzed: 02/11/14 17:57

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
4-Chlorotoluene		9.4	1.0	ug/L	10		94	70-130		
Acetone		100	20	ug/L	100		102	70-130		
Allyl chloride		9.6	1.0	ug/L	10		96	70-130		
Benzene		10	1.0	ug/L	10		100	70-130		
Bromobenzene		9.4	1.0	ug/L	10		94	70-130		
Bromochloromethane		9.8	1.0	ug/L	10		98	70-130		
Bromodichloromethane		9.2	1.0	ug/L	10		92	70-130		
Bromoform		9.7	1.0	ug/L	10		97	70-130		
Bromomethane		9.1	2.0	ug/L	10		91	70-130		
Carbon tetrachloride		9.2	1.0	ug/L	10		92	70-130		
Chlorobenzene		9.5	1.0	ug/L	10		95	70-130		
Chlorodibromomethane		9.6	1.0	ug/L	10		96	70-130		
Chloroethane		10	1.0	ug/L	10		100	70-130		
Chloroform		9.7	1.0	ug/L	10		97	80-120		
Chloromethane		9.4	1.0	ug/L	10		94	70-130		
cis-1,2-Dichloroethene		9.9	1.0	ug/L	10		99	70-130		
cis-1,3-Dichloropropene		9.0	1.0	ug/L	10		90	70-130		
Dibromomethane		9.8	1.0	ug/L	10		98	70-130		
Dichlorodifluoromethane		9.2	1.0	ug/L	10		92	70-130		
Dichlorofluoromethane		9.7	1.0	ug/L	10		97	70-130		
Ethyl ether		10	1.0	ug/L	10		102	70-130		
Ethylbenzene		9.7	1.0	ug/L	10		97	80-120		
Hexachlorobutadiene		8.9	1.0	ug/L	10		89	70-130		
Isopropylbenzene		9.5	1.0	ug/L	10		95	70-130		
Methyl ethyl ketone (MEK)		50	10	ug/L	50		100	70-130		
Methyl isobutyl ketone (MIBK)		51	5.0	ug/L	50		103	70-130		
Methyl tertiary butyl ether (MTBE)		10	2.0	ug/L	10		100	70-130		
Methylene chloride		9.3	2.0	ug/L	10		93	70-130		
Naphthalene		9.5	1.0	ug/L	10		95	70-130		
n-Butylbenzene		9.8	1.0	ug/L	10		98	70-130		
n-Propylbenzene		9.7	1.0	ug/L	10		97	70-130		
o-Xylene		9.4	1.0	ug/L	10		94	70-130		
p&m-Xylene		9.3	1.0	ug/L	10		93	70-130		
p-Isopropyltoluene		9.6	1.0	ug/L	10		96	70-130		
sec-Butylbenzene		10	1.0	ug/L	10		100	70-130		

FINAL REPORT

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Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0181 - EPA 5030B Preparation

LCS (B4B0181-BS1)

Prepared: 02/11/14 17:57 Analyzed: 02/11/14 17:57

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Styrene		9.6	1.0	ug/L	10		96	70-130		
tert-Butylbenzene		9.5	1.0	ug/L	10		95	70-130		
Tetrachloroethene		9.1	1.0	ug/L	10		91	70-130		
Tetrahydrofuran (THF)		100	10	ug/L	100		101	70-130		
Toluene		9.3	1.0	ug/L	10		93	80-120		
trans-1,2-Dichloroethene		9.7	1.0	ug/L	10		97	70-130		
trans-1,3-Dichloropropene		9.2	1.0	ug/L	10		92	70-130		
Trichloroethene (TCE)		9.6	1.0	ug/L	10		96	70-130		
Trichlorofluoromethane		9.7	1.0	ug/L	10		97	70-130		
Vinyl chloride		9.4	1.0	ug/L	10		94	80-120		

LCS Dup (B4B0181-BSD1)

Prepared: 02/12/14 00:22 Analyzed: 02/12/14 00:22

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		100	70-130	%	10					
Surrogate: 1,2-Dichloroethane-d4		98	70-130	%	10					
Surrogate: 4-Bromofluorobenzene		105	70-130	%	10					
Surrogate: Dibromofluoromethane		101	70-130	%	10					
Surrogate: Toluene-d8		100	70-130	%	10					
1,1,1,2-Tetrachloroethane		9.5	1.0	ug/L	10		95	70-130	0.9	30
1,1,1-Trichloroethane		9.7	1.0	ug/L	10		97	70-130	4	30
1,1,2,2-Tetrachloroethane		9.6	1.0	ug/L	10		96	70-130	1	30
1,1,2-Trichloroethane		9.8	1.0	ug/L	10		98	70-130	2	30
1,1,2-Trichlorotrifluoroethane		9.9	1.0	ug/L	10		99	70-130	6	30
1,1-Dichloroethane		10	1.0	ug/L	10		103	70-130	4	30
1,1-Dichloroethene		10	1.0	ug/L	10		103	80-120	5	30
1,1-Dichloropropene		10	1.0	ug/L	10		101	70-130	5	30
1,2,3-Trichlorobenzene		9.0	1.0	ug/L	10		90	70-130	0.3	30
1,2,3-Trichloropropane		9.4	1.0	ug/L	10		94	70-130	0.7	30
1,2,4-Trichlorobenzene		8.9	1.0	ug/L	10		89	70-130	1	30
1,2,4-Trimethylbenzene		9.8	1.0	ug/L	10		98	70-130	2	30
1,2-Dibromo-3-chloropropane (DBCP)		9.4	5.0	ug/L	10		94	70-130	2	30
1,2-Dibromoethane (EDB)		9.7	1.0	ug/L	10		97	70-130	2	30
1,2-Dichlorobenzene		9.2	1.0	ug/L	10		92	70-130	1	30
1,2-Dichloroethane		10	1.0	ug/L	10		103	70-130	5	30

FINAL REPORT

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Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0181 - EPA 5030B Preparation

LCS Dup (B4B0181-BSD1)

Prepared: 02/12/14 00:22 Analyzed: 02/12/14 00:22

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,2-Dichloropropane		10	1.0	ug/L	10		103	80-120	4	30
1,3,5-Trimethylbenzene		9.9	1.0	ug/L	10		99	70-130	4	30
1,3-Dichlorobenzene		9.3	1.0	ug/L	10		93	70-130	0.2	30
1,3-Dichloropropane		9.8	1.0	ug/L	10		98	70-130	1	30
1,4-Dichlorobenzene		9.3	1.0	ug/L	10		93	70-130	1	30
2,2-Dichloropropane		7.7	1.0	ug/L	10		77	70-130	7	30
2-Chlorotoluene		9.6	1.0	ug/L	10		96	70-130	1	30
4-Chlorotoluene		9.9	1.0	ug/L	10		99	70-130	5	30
Acetone		120	20	ug/L	100		119	70-130	15	30
Allyl chloride		9.6	1.0	ug/L	10		96	70-130	0.2	30
Benzene		11	1.0	ug/L	10		106	70-130	5	30
Bromobenzene		9.5	1.0	ug/L	10		95	70-130	0.2	30
Bromochloromethane		10	1.0	ug/L	10		100	70-130	2	30
Bromodichloromethane		9.5	1.0	ug/L	10		95	70-130	2	30
Bromoform		9.1	1.0	ug/L	10		91	70-130	6	30
Bromomethane		10	2.0	ug/L	10		105	70-130	14	30
Carbon tetrachloride		9.4	1.0	ug/L	10		94	70-130	3	30
Chlorobenzene		9.5	1.0	ug/L	10		95	70-130	0.6	30
Chlorodibromomethane		9.1	1.0	ug/L	10		91	70-130	5	30
Chloroethane		11	1.0	ug/L	10		110	70-130	10	30
Chloroform		10	1.0	ug/L	10		101	80-120	4	30
Chloromethane		11	1.0	ug/L	10		109	70-130	14	30
cis-1,2-Dichloroethene		10	1.0	ug/L	10		101	70-130	3	30
cis-1,3-Dichloropropene		8.8	1.0	ug/L	10		88	70-130	1	30
Dibromomethane		10	1.0	ug/L	10		100	70-130	2	30
Dichlorodifluoromethane		11	1.0	ug/L	10		106	70-130	14	30
Dichlorofluoromethane		11	1.0	ug/L	10		108	70-130	10	30
Ethyl ether		10	1.0	ug/L	10		105	70-130	3	30
Ethylbenzene		9.8	1.0	ug/L	10		98	80-120	1	30
Hexachlorobutadiene		9.0	1.0	ug/L	10		90	70-130	1	30
Isopropylbenzene		9.9	1.0	ug/L	10		99	70-130	4	30
Methyl ethyl ketone (MEK)		54	10	ug/L	50		108	70-130	7	30
Methyl isobutyl ketone (MIBK)		53	5.0	ug/L	50		107	70-130	4	30
Methyl tertiary butyl ether (MTBE)		10	2.0	ug/L	10		100	70-130	0.7	30
Methylene chloride		9.7	2.0	ug/L	10		97	70-130	4	30

FINAL REPORT

Report ID: 02192014161718

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0181 - EPA 5030B Preparation

LCS Dup (B4B0181-BSD1)

Prepared: 02/12/14 00:22 Analyzed: 02/12/14 00:22

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Naphthalene		9.2	1.0	ug/L	10		92	70-130	3	30
n-Butylbenzene		9.8	1.0	ug/L	10		98	70-130	0.1	30
n-Propylbenzene		10	1.0	ug/L	10		103	70-130	5	30
o-Xylene		9.5	1.0	ug/L	10		95	70-130	0.3	30
p&m-Xylene		9.7	1.0	ug/L	10		97	70-130	4	30
p-Isopropyltoluene		9.8	1.0	ug/L	10		98	70-130	2	30
sec-Butylbenzene		10	1.0	ug/L	10		102	70-130	2	30
Styrene		9.7	1.0	ug/L	10		97	70-130	0.8	30
tert-Butylbenzene		9.8	1.0	ug/L	10		98	70-130	3	30
Tetrachloroethene		9.3	1.0	ug/L	10		93	70-130	1	30
Tetrahydrofuran (THF)		110	10	ug/L	100		109	70-130	7	30
Toluene		9.7	1.0	ug/L	10		97	80-120	4	30
trans-1,2-Dichloroethene		10	1.0	ug/L	10		101	70-130	4	30
trans-1,3-Dichloropropene		9.2	1.0	ug/L	10		92	70-130	0.9	30
Trichloroethene (TCE)		10	1.0	ug/L	10		100	70-130	4	30
Trichlorofluoromethane		10	1.0	ug/L	10		102	70-130	5	30
Vinyl chloride		11	1.0	ug/L	10		108	80-120	13	30

Batch B4B0241 - EPA 5030B Preparation

Blank (B4B0241-BLK1)

Prepared: 02/18/14 17:46 Analyzed: 02/18/14 17:46

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	10					
Surrogate: 1,2-Dichloroethane-d4		101	70-130	%	10					
Surrogate: 4-Bromofluorobenzene		104	70-130	%	10					
Surrogate: Dibromofluoromethane		103	70-130	%	10					
Surrogate: Toluene-d8		99	70-130	%	10					
1,1,1,2-Tetrachloroethane		<	1.0	ug/L						
1,1,1-Trichloroethane		<	1.0	ug/L						
1,1,2,2-Tetrachloroethane		<	1.0	ug/L						
1,1,2-Trichloroethane		<	1.0	ug/L						
1,1,2-Trichlorotrifluoroethane		<	1.0	ug/L						
1,1-Dichloroethane		<	1.0	ug/L						
1,1-Dichloroethene		<	1.0	ug/L						
1,1-Dichloropropene		<	1.0	ug/L						

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Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0241 - EPA 5030B Preparation

Blank (B4B0241-BLK1)

Prepared: 02/18/14 17:46 Analyzed: 02/18/14 17:46

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,2,3-Trichlorobenzene		<	1.0	ug/L						
1,2,3-Trichloropropane		<	1.0	ug/L						
1,2,4-Trichlorobenzene		<	1.0	ug/L						
1,2,4-Trimethylbenzene		<	1.0	ug/L						
1,2-Dibromo-3-chloropropane (DBCP)		<	5.0	ug/L						
1,2-Dibromoethane (EDB)		<	1.0	ug/L						
1,2-Dichlorobenzene		<	1.0	ug/L						
1,2-Dichloroethane		<	1.0	ug/L						
1,2-Dichloropropane		<	1.0	ug/L						
1,3,5-Trimethylbenzene		<	1.0	ug/L						
1,3-Dichlorobenzene		<	1.0	ug/L						
1,3-Dichloropropane		<	1.0	ug/L						
1,4-Dichlorobenzene		<	1.0	ug/L						
2,2-Dichloropropane		<	1.0	ug/L						
2-Chlorotoluene		<	1.0	ug/L						
4-Chlorotoluene		<	1.0	ug/L						
Acetone		<	20	ug/L						
Allyl chloride		<	1.0	ug/L						
Benzene		<	1.0	ug/L						
Bromobenzene		<	1.0	ug/L						
Bromochloromethane		<	1.0	ug/L						
Bromodichloromethane		<	1.0	ug/L						
Bromoform		<	1.0	ug/L						
Bromomethane		<	2.0	ug/L						
Carbon tetrachloride		<	1.0	ug/L						
Chlorobenzene		<	1.0	ug/L						
Chlorodibromomethane		<	1.0	ug/L						
Chloroethane		<	1.0	ug/L						
Chloroform		<	1.0	ug/L						
Chloromethane		<	1.0	ug/L						
cis-1,2-Dichloroethene		<	1.0	ug/L						
cis-1,3-Dichloropropene		<	1.0	ug/L						
Dibromomethane		<	1.0	ug/L						
Dichlorodifluoromethane		<	1.0	ug/L						
Dichlorofluoromethane		<	1.0	ug/L						

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Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0241 - EPA 5030B Preparation

Blank (B4B0241-BLK1)

Prepared: 02/18/14 17:46 Analyzed: 02/18/14 17:46

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Ethyl ether		<	1.0	ug/L						
Ethylbenzene		<	1.0	ug/L						
Hexachlorobutadiene		<	1.0	ug/L						
Isopropylbenzene		<	1.0	ug/L						
Methyl ethyl ketone (MEK)		<	10	ug/L						
Methyl isobutyl ketone (MIBK)		<	5.0	ug/L						
Methyl tertiary butyl ether (MTBE)		<	2.0	ug/L						
Methylene chloride		<	2.0	ug/L						
Naphthalene		<	1.0	ug/L						
n-Butylbenzene		<	1.0	ug/L						
n-Propylbenzene		<	1.0	ug/L						
o-Xylene		<	1.0	ug/L						
p&m-Xylene		<	1.0	ug/L						
p-Isopropyltoluene		<	1.0	ug/L						
sec-Butylbenzene		<	1.0	ug/L						
Styrene		<	1.0	ug/L						
tert-Butylbenzene		<	1.0	ug/L						
Tetrachloroethene		<	1.0	ug/L						
Tetrahydrofuran (THF)		<	10	ug/L						
Toluene		<	1.0	ug/L						
trans-1,2-Dichloroethene		<	1.0	ug/L						
trans-1,3-Dichloropropene		<	1.0	ug/L						
Trichloroethene (TCE)		<	1.0	ug/L						
Trichlorofluoromethane		<	1.0	ug/L						
Vinyl chloride		<	1.0	ug/L						

LCS (B4B0241-BS1)

Prepared: 02/18/14 16:53 Analyzed: 02/18/14 16:53

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	10					
Surrogate: 1,2-Dichloroethane-d4		99	70-130	%	10					
Surrogate: 4-Bromofluorobenzene		104	70-130	%	10					
Surrogate: Dibromofluoromethane		105	70-130	%	10					
Surrogate: Toluene-d8		98	70-130	%	10					
1,1,1,2-Tetrachloroethane		11	1.0	ug/L	10		110	70-130		
1,1,1-Trichloroethane		11	1.0	ug/L	10		107	70-130		

FINAL REPORT

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Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0241 - EPA 5030B Preparation

LCS (B4B0241-BS1)

Prepared: 02/18/14 16:53 Analyzed: 02/18/14 16:53

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,1,2,2-Tetrachloroethane		9.4	1.0	ug/L	10		94	70-130		
1,1,2-Trichloroethane		9.6	1.0	ug/L	10		96	70-130		
1,1,2-Trichlorotrifluoroethane		10	1.0	ug/L	10		102	70-130		
1,1-Dichloroethane		10	1.0	ug/L	10		103	70-130		
1,1-Dichloroethene		10	1.0	ug/L	10		103	80-120		
1,1-Dichloropropene		10	1.0	ug/L	10		103	70-130		
1,2,3-Trichlorobenzene		9.0	1.0	ug/L	10		90	70-130		
1,2,3-Trichloropropane		9.4	1.0	ug/L	10		94	70-130		
1,2,4-Trichlorobenzene		9.0	1.0	ug/L	10		90	70-130		
1,2,4-Trimethylbenzene		9.6	1.0	ug/L	10		96	70-130		
1,2-Dibromo-3-chloropropane (DBCP)		11	5.0	ug/L	10		112	70-130		
1,2-Dibromoethane (EDB)		9.7	1.0	ug/L	10		97	70-130		
1,2-Dichlorobenzene		9.2	1.0	ug/L	10		92	70-130		
1,2-Dichloroethane		11	1.0	ug/L	10		106	70-130		
1,2-Dichloropropane		10	1.0	ug/L	10		103	80-120		
1,3,5-Trimethylbenzene		9.7	1.0	ug/L	10		97	70-130		
1,3-Dichlorobenzene		9.3	1.0	ug/L	10		93	70-130		
1,3-Dichloropropane		9.7	1.0	ug/L	10		97	70-130		
1,4-Dichlorobenzene		9.2	1.0	ug/L	10		92	70-130		
2,2-Dichloropropane		9.4	1.0	ug/L	10		94	70-130		
2-Chlorotoluene		9.3	1.0	ug/L	10		93	70-130		
4-Chlorotoluene		9.7	1.0	ug/L	10		97	70-130		
Acetone		120	20	ug/L	100		123	70-130		
Allyl chloride		10	1.0	ug/L	10		100	70-130		
Benzene		11	1.0	ug/L	10		106	70-130		
Bromobenzene		9.4	1.0	ug/L	10		94	70-130		
Bromochloromethane		10	1.0	ug/L	10		102	70-130		
Bromodichloromethane		11	1.0	ug/L	10		109	70-130		
Bromoform		12	1.0	ug/L	10		121	70-130		
Bromomethane		9.9	2.0	ug/L	10		99	70-130		
Carbon tetrachloride		11	1.0	ug/L	10		114	70-130		
Chlorobenzene		9.5	1.0	ug/L	10		95	70-130		
Chlorodibromomethane		12	1.0	ug/L	10		117	70-130		
Chloroethane		11	1.0	ug/L	10		106	70-130		
Chloroform		10	1.0	ug/L	10		103	80-120		

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Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0241 - EPA 5030B Preparation

LCS (B4B0241-BS1)

Prepared: 02/18/14 16:53 Analyzed: 02/18/14 16:53

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Chloromethane		11	1.0	ug/L	10		105	70-130		
cis-1,2-Dichloroethene		10	1.0	ug/L	10		102	70-130		
cis-1,3-Dichloropropene		9.7	1.0	ug/L	10		97	70-130		
Dibromomethane		10	1.0	ug/L	10		103	70-130		
Dichlorodifluoromethane		9.6	1.0	ug/L	10		96	70-130		
Dichlorofluoromethane		11	1.0	ug/L	10		106	70-130		
Ethyl ether		11	1.0	ug/L	10		110	70-130		
Ethylbenzene		9.9	1.0	ug/L	10		99	80-120		
Hexachlorobutadiene		8.8	1.0	ug/L	10		88	70-130		
Isopropylbenzene		9.6	1.0	ug/L	10		96	70-130		
Methyl ethyl ketone (MEK)		56	10	ug/L	50		112	70-130		
Methyl isobutyl ketone (MIBK)		53	5.0	ug/L	50		106	70-130		
Methyl tertiary butyl ether (MTBE)		10	2.0	ug/L	10		103	70-130		
Methylene chloride		9.7	2.0	ug/L	10		97	70-130		
Naphthalene		9.2	1.0	ug/L	10		92	70-130		
n-Butylbenzene		9.7	1.0	ug/L	10		97	70-130		
n-Propylbenzene		10	1.0	ug/L	10		100	70-130		
o-Xylene		9.4	1.0	ug/L	10		94	70-130		
p&m-Xylene		9.6	1.0	ug/L	10		96	70-130		
p-Isopropyltoluene		9.7	1.0	ug/L	10		97	70-130		
sec-Butylbenzene		10	1.0	ug/L	10		100	70-130		
Styrene		9.9	1.0	ug/L	10		99	70-130		
tert-Butylbenzene		9.5	1.0	ug/L	10		95	70-130		
Tetrachloroethene		9.3	1.0	ug/L	10		93	70-130		
Tetrahydrofuran (THF)		110	10	ug/L	100		114	70-130		
Toluene		9.5	1.0	ug/L	10		95	80-120		
trans-1,2-Dichloroethene		10	1.0	ug/L	10		102	70-130		
trans-1,3-Dichloropropene		9.9	1.0	ug/L	10		99	70-130		
Trichloroethene (TCE)		10	1.0	ug/L	10		102	70-130		
Trichlorofluoromethane		10	1.0	ug/L	10		104	70-130		
Vinyl chloride		10	1.0	ug/L	10		104	80-120		

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Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0241 - EPA 5030B Preparation

LCS Dup (B4B0241-BSD1)

Prepared: 02/18/14 18:38 Analyzed: 02/18/14 18:38

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		102	70-130	%	10					
Surrogate: 1,2-Dichloroethane-d4		100	70-130	%	10					
Surrogate: 4-Bromofluorobenzene		101	70-130	%	10					
Surrogate: Dibromofluoromethane		104	70-130	%	10					
Surrogate: Toluene-d8		99	70-130	%	10					
1,1,1,2-Tetrachloroethane		11	1.0	ug/L	10		112	70-130	1	30
1,1,1-Trichloroethane		11	1.0	ug/L	10		110	70-130	2	30
1,1,2,2-Tetrachloroethane		9.4	1.0	ug/L	10		94	70-130	0.1	30
1,1,2-Trichloroethane		9.8	1.0	ug/L	10		98	70-130	2	30
1,1,2-Trichlorotrifluoroethane		10	1.0	ug/L	10		104	70-130	2	30
1,1-Dichloroethane		10	1.0	ug/L	10		104	70-130	0.7	30
1,1-Dichloroethene		10	1.0	ug/L	10		105	80-120	1	30
1,1-Dichloropropene		10	1.0	ug/L	10		102	70-130	0.5	30
1,2,3-Trichlorobenzene		9.2	1.0	ug/L	10		92	70-130	2	30
1,2,3-Trichloropropane		9.4	1.0	ug/L	10		94	70-130	0.6	30
1,2,4-Trichlorobenzene		9.1	1.0	ug/L	10		91	70-130	0.9	30
1,2,4-Trimethylbenzene		9.9	1.0	ug/L	10		99	70-130	3	30
1,2-Dibromo-3-chloropropane (DBCP)		11	5.0	ug/L	10		111	70-130	1	30
1,2-Dibromoethane (EDB)		9.8	1.0	ug/L	10		98	70-130	0.8	30
1,2-Dichlorobenzene		9.4	1.0	ug/L	10		94	70-130	2	30
1,2-Dichloroethane		10	1.0	ug/L	10		105	70-130	0.8	30
1,2-Dichloropropane		10	1.0	ug/L	10		103	80-120	0.05	30
1,3,5-Trimethylbenzene		9.9	1.0	ug/L	10		99	70-130	2	30
1,3-Dichlorobenzene		9.4	1.0	ug/L	10		94	70-130	2	30
1,3-Dichloropropane		9.7	1.0	ug/L	10		97	70-130	0.4	30
1,4-Dichlorobenzene		9.4	1.0	ug/L	10		94	70-130	2	30
2,2-Dichloropropane		10	1.0	ug/L	10		102	70-130	8	30
2-Chlorotoluene		9.5	1.0	ug/L	10		95	70-130	3	30
4-Chlorotoluene		9.8	1.0	ug/L	10		98	70-130	1	30
Acetone		110	20	ug/L	100		110	70-130	11	30
Allyl chloride		10	1.0	ug/L	10		103	70-130	2	30
Benzene		11	1.0	ug/L	10		106	70-130	0.2	30
Bromobenzene		9.4	1.0	ug/L	10		94	70-130	0.9	30
Bromochloromethane		10	1.0	ug/L	10		103	70-130	0.3	30
Bromodichloromethane		11	1.0	ug/L	10		108	70-130	0.9	30

FINAL REPORT

Report ID: 02192014161718

Authorized by:

The results in this report apply only to the samples analyzed.
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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0241 - EPA 5030B Preparation

LCS Dup (B4B0241-BSD1)

Prepared: 02/18/14 18:38 Analyzed: 02/18/14 18:38

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Bromoform		12	1.0	ug/L	10		119	70-130	2	30
Bromomethane		10	2.0	ug/L	10		102	70-130	3	30
Carbon tetrachloride		12	1.0	ug/L	10		117	70-130	3	30
Chlorobenzene		9.7	1.0	ug/L	10		97	70-130	2	30
Chlorodibromomethane		11	1.0	ug/L	10		114	70-130	2	30
Chloroethane		11	1.0	ug/L	10		106	70-130	0.7	30
Chloroform		10	1.0	ug/L	10		103	80-120	0.8	30
Chloromethane		9.9	1.0	ug/L	10		99	70-130	6	30
cis-1,2-Dichloroethene		10	1.0	ug/L	10		102	70-130	0.8	30
cis-1,3-Dichloropropene		9.8	1.0	ug/L	10		98	70-130	1	30
Dibromomethane		10	1.0	ug/L	10		103	70-130	0.3	30
Dichlorodifluoromethane		9.9	1.0	ug/L	10		99	70-130	4	30
Dichlorofluoromethane		11	1.0	ug/L	10		107	70-130	2	30
Ethyl ether		11	1.0	ug/L	10		105	70-130	4	30
Ethylbenzene		10	1.0	ug/L	10		101	80-120	2	30
Hexachlorobutadiene		8.8	1.0	ug/L	10		88	70-130	0.4	30
Isopropylbenzene		9.9	1.0	ug/L	10		99	70-130	3	30
Methyl ethyl ketone (MEK)		52	10	ug/L	50		104	70-130	8	30
Methyl isobutyl ketone (MIBK)		52	5.0	ug/L	50		103	70-130	3	30
Methyl tertiary butyl ether (MTBE)		10	2.0	ug/L	10		102	70-130	0.3	30
Methylene chloride		9.7	2.0	ug/L	10		97	70-130	0.03	30
Naphthalene		9.2	1.0	ug/L	10		92	70-130	0.2	30
n-Butylbenzene		9.8	1.0	ug/L	10		98	70-130	2	30
n-Propylbenzene		10	1.0	ug/L	10		101	70-130	2	30
o-Xylene		9.7	1.0	ug/L	10		97	70-130	3	30
p&m-Xylene		9.8	1.0	ug/L	10		98	70-130	2	30
p-Isopropyltoluene		9.9	1.0	ug/L	10		99	70-130	2	30
sec-Butylbenzene		10	1.0	ug/L	10		101	70-130	1	30
Styrene		10	1.0	ug/L	10		100	70-130	1	30
tert-Butylbenzene		9.7	1.0	ug/L	10		97	70-130	2	30
Tetrachloroethene		9.7	1.0	ug/L	10		97	70-130	3	30
Tetrahydrofuran (THF)		110	10	ug/L	100		105	70-130	8	30
Toluene		9.7	1.0	ug/L	10		97	80-120	2	30
trans-1,2-Dichloroethene		10	1.0	ug/L	10		102	70-130	0.7	30
trans-1,3-Dichloropropene		10	1.0	ug/L	10		104	70-130	4	30

FINAL REPORT

Report ID: 02192014161718

Authorized by:

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report
Quality Control

Program Code: PL	Project ID: St. Louis Park Solvent Plume
Program Name: Metro MERLA-SF	Facility Name/ID: None
Collected By: Ben Klaus	City: None
Collector ID: None	Generated: 02/19/14 16:17

Results were produced by Minnesota Department of Health, except where noted.

Batch B4B0241 - EPA 5030B Preparation

LCS Dup (B4B0241-BSD1)

Prepared: 02/18/14 18:38 Analyzed: 02/18/14 18:38

Analyte	Analyte Qualifier(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Trichloroethene (TCE)		10	1.0	ug/L	10		102	70-130	0.7	30
Trichlorofluoromethane		11	1.0	ug/L	10		107	70-130	3	30
Vinyl chloride		10	1.0	ug/L	10		103	80-120	1	30

FINAL REPORT

Report ID: 02192014161718

Authorized by:

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Final Report
Quality Control

Data Qualifiers and Definitions

QE	Recovery in MS not within acceptance limits. Analyte concentration in the unspiked sample too high.
QD	Recovery in MS not within acceptance limits.
HP	Holding time exceeded. Analysis performed per client request.
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
%REC	Percent Recovery

FINAL REPORT

Report ID: 02192014161718

Authorized by:

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Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

February 18, 2014

Dan Phelps
AECOM
800 LaSalle Avenue
Minneapolis, MN 55402

RE: Project: 60314270 MPCA Flame Metals
Pace Project No.: 10256995

Dear Dan Phelps:

Enclosed are the analytical results for sample(s) received by the laboratory on February 06, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Carol Davy
carol.davy@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Dept of Environmental Management #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 5 #WD-15J
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322

Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10256995001	SB-1-VP	Air	02/05/14 08:20	02/06/14 08:56
10256995002	SB-3-VP	Air	02/05/14 08:45	02/06/14 08:56
10256995003	VP-1	Air	02/05/14 12:40	02/06/14 08:56
10256995004	VP-2	Air	02/05/14 13:16	02/06/14 08:56
10256995005	VP-3	Air	02/05/14 13:32	02/06/14 08:56
10256995006	VP-4	Air	02/05/14 14:45	02/06/14 08:56
10256995007	DUP-VP-4	Air	02/05/14 14:45	02/06/14 08:56
10256995008	VP-5	Air	02/05/14 15:10	02/06/14 08:56

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10256995001	SB-1-VP	TO-15	DR1	61
10256995002	SB-3-VP	TO-15	DR1	61
10256995003	VP-1	TO-15	DR1	61
10256995004	VP-2	TO-15	DR1	61
10256995005	VP-3	TO-15	DR1	61
10256995006	VP-4	TO-15	DR1, JAM	61
10256995007	DUP-VP-4	TO-15	DR1, JAM	61
10256995008	VP-5	TO-15	DR1	61

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Method: TO-15

Description: TO15 MSV AIR

Client: AECOM

Date: February 18, 2014

General Information:

8 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/19430

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- DUP (Lab ID: 1625446)
 - Ethanol
- LCS (Lab ID: 1625254)
 - Ethanol
- VP-3 (Lab ID: 10256995005)
 - Ethanol

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/19418

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 1624494)
 - Methylene Chloride
- DUP-VP-4 (Lab ID: 10256995007)
 - Methylene Chloride
- LCS (Lab ID: 1624495)
 - Methylene Chloride
- SB-1-VP (Lab ID: 10256995001)
 - Methylene Chloride
- SB-3-VP (Lab ID: 10256995002)
 - Methylene Chloride
- VP-1 (Lab ID: 10256995003)
 - Methylene Chloride
- VP-2 (Lab ID: 10256995004)
 - Methylene Chloride
- VP-5 (Lab ID: 10256995008)
 - Methylene Chloride

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Method: TO-15

Description: TO15 MSV AIR

Client: AECOM

Date: February 18, 2014

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Sample Comments:

K3: The Total Hydrocarbon (THC) pattern is evenly distributed throughout the chromatogram (before and after toluene).
• SB-1-VP (Lab ID: 10256995001)

K1: The Total Hydrocarbon (THC) pattern occurred in the first half of the chromatogram (before toluene).
• SB-3-VP (Lab ID: 10256995002)

K3: The Total Hydrocarbon (THC) pattern is evenly distributed throughout the chromatogram (before and after toluene).
• VP-1 (Lab ID: 10256995003)
• VP-2 (Lab ID: 10256995004)
• VP-3 (Lab ID: 10256995005)

K1: The Total Hydrocarbon (THC) pattern occurred in the first half of the chromatogram (before toluene).
• VP-4 (Lab ID: 10256995006)
• DUP-VP-4 (Lab ID: 10256995007)

K3: The Total Hydrocarbon (THC) pattern is evenly distributed throughout the chromatogram (before and after toluene).
• VP-5 (Lab ID: 10256995008)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: SB-1-VP		Lab ID: 10256995001		Collected: 02/05/14 08:20		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Acetone	49.7	ug/m3	1.1	0.55	2.29		02/14/14 02:21	67-64-1	
Benzene	8.3	ug/m3	0.74	0.37	2.29		02/14/14 02:21	71-43-2	
Benzyl chloride	ND	ug/m3	2.4	1.2	2.29		02/14/14 02:21	100-44-7	
Bromodichloromethane	ND	ug/m3	3.1	0.41	2.29		02/14/14 02:21	75-27-4	
Bromoform	ND	ug/m3	4.8	2.4	2.29		02/14/14 02:21	75-25-2	
Bromomethane	ND	ug/m3	1.8	0.41	2.29		02/14/14 02:21	74-83-9	
1,3-Butadiene	ND	ug/m3	1.0	0.52	2.29		02/14/14 02:21	106-99-0	
2-Butanone (MEK)	11.0	ug/m3	1.4	0.36	2.29		02/14/14 02:21	78-93-3	
Carbon disulfide	4.8	ug/m3	1.4	0.73	2.29		02/14/14 02:21	75-15-0	
Carbon tetrachloride	ND	ug/m3	1.5	0.73	2.29		02/14/14 02:21	56-23-5	
Chlorobenzene	ND	ug/m3	2.2	1.1	2.29		02/14/14 02:21	108-90-7	
Chloroethane	ND	ug/m3	1.2	0.62	2.29		02/14/14 02:21	75-00-3	
Chloroform	ND	ug/m3	2.3	1.1	2.29		02/14/14 02:21	67-66-3	
Chloromethane	ND	ug/m3	0.96	0.48	2.29		02/14/14 02:21	74-87-3	
Cyclohexane	4.0	ug/m3	1.6	0.80	2.29		02/14/14 02:21	110-82-7	
Dibromochloromethane	ND	ug/m3	4.0	2.0	2.29		02/14/14 02:21	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	3.6	1.8	2.29		02/14/14 02:21	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	2.8	1.4	2.29		02/14/14 02:21	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	2.8	1.4	2.29		02/14/14 02:21	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	2.8	1.4	2.29		02/14/14 02:21	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	2.3	1.2	2.29		02/14/14 02:21	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.9	0.94	2.29		02/14/14 02:21	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.94	0.47	2.29		02/14/14 02:21	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.9	0.92	2.29		02/14/14 02:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.9	0.35	2.29		02/14/14 02:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.9	0.92	2.29		02/14/14 02:21	156-60-5	
1,2-Dichloropropane	ND	ug/m3	2.2	1.1	2.29		02/14/14 02:21	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	2.1	0.25	2.29		02/14/14 02:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	2.1	1.1	2.29		02/14/14 02:21	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	3.3	0.49	2.29		02/14/14 02:21	76-14-2	
Ethanol	ND	ug/m3	0.87	0.44	2.29		02/14/14 02:21	64-17-5	
Ethyl acetate	36.0	ug/m3	1.7	0.82	2.29		02/14/14 02:21	141-78-6	
Ethylbenzene	5.6	ug/m3	2.0	0.27	2.29		02/14/14 02:21	100-41-4	
4-Ethyltoluene	ND	ug/m3	2.3	1.1	2.29		02/14/14 02:21	622-96-8	
n-Heptane	6.2	ug/m3	1.9	0.95	2.29		02/14/14 02:21	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	5.0	2.5	2.29		02/14/14 02:21	87-68-3	
n-Hexane	9.4	ug/m3	1.6	0.82	2.29		02/14/14 02:21	110-54-3	
2-Hexanone	ND	ug/m3	1.9	0.95	2.29		02/14/14 02:21	591-78-6	
Methylene Chloride	26.7	ug/m3	1.6	0.81	2.29		02/14/14 02:21	75-09-2	CL
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.9	0.95	2.29		02/14/14 02:21	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.7	0.20	2.29		02/14/14 02:21	1634-04-4	
Naphthalene	ND	ug/m3	2.5	1.2	2.29		02/14/14 02:21	91-20-3	
2-Propanol	ND	ug/m3	1.1	0.21	2.29		02/14/14 02:21	67-63-0	
Propylene	ND	ug/m3	0.80	0.40	2.29		02/14/14 02:21	115-07-1	
Styrene	4.0	ug/m3	2.0	0.99	2.29		02/14/14 02:21	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.6	0.43	2.29		02/14/14 02:21	79-34-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: SB-1-VP		Lab ID: 10256995001		Collected: 02/05/14 08:20		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrachloroethene	6.2	ug/m3	1.6	0.79	2.29		02/14/14 02:21	127-18-4	
Tetrahydrofuran	ND	ug/m3	1.4	0.69	2.29		02/14/14 02:21	109-99-9	
Toluene	14.4	ug/m3	1.8	0.88	2.29		02/14/14 02:21	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	3.5	1.7	2.29		02/14/14 02:21	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.5	1.3	2.29		02/14/14 02:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.3	0.63	2.29		02/14/14 02:21	79-00-5	
Trichloroethene	ND	ug/m3	1.3	0.63	2.29		02/14/14 02:21	79-01-6	
Trichlorofluoromethane	ND	ug/m3	2.6	0.51	2.29		02/14/14 02:21	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	3.7	1.8	2.29		02/14/14 02:21	76-13-1	
1,2,4-Trimethylbenzene	2.9	ug/m3	2.3	1.1	2.29		02/14/14 02:21	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	2.3	0.30	2.29		02/14/14 02:21	108-67-8	
Vinyl acetate	ND	ug/m3	1.6	0.82	2.29		02/14/14 02:21	108-05-4	
Vinyl chloride	ND	ug/m3	0.60	0.30	2.29		02/14/14 02:21	75-01-4	
m&p-Xylene	7.8	ug/m3	4.0	2.0	2.29		02/14/14 02:21	179601-23-1	
o-Xylene	2.9	ug/m3	2.0	0.29	2.29		02/14/14 02:21	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: SB-3-VP		Lab ID: 10256995002		Collected: 02/05/14 08:45		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Acetone	64.2	ug/m3	1.1	0.55	2.29		02/14/14 00:48	67-64-1	
Benzene	4.8	ug/m3	0.74	0.37	2.29		02/14/14 00:48	71-43-2	
Benzyl chloride	ND	ug/m3	2.4	1.2	2.29		02/14/14 00:48	100-44-7	
Bromodichloromethane	ND	ug/m3	3.1	0.41	2.29		02/14/14 00:48	75-27-4	
Bromoform	ND	ug/m3	4.8	2.4	2.29		02/14/14 00:48	75-25-2	
Bromomethane	ND	ug/m3	1.8	0.41	2.29		02/14/14 00:48	74-83-9	
1,3-Butadiene	ND	ug/m3	1.0	0.52	2.29		02/14/14 00:48	106-99-0	
2-Butanone (MEK)	15.5	ug/m3	1.4	0.36	2.29		02/14/14 00:48	78-93-3	
Carbon disulfide	6.1	ug/m3	1.4	0.73	2.29		02/14/14 00:48	75-15-0	
Carbon tetrachloride	ND	ug/m3	1.5	0.73	2.29		02/14/14 00:48	56-23-5	
Chlorobenzene	ND	ug/m3	2.2	1.1	2.29		02/14/14 00:48	108-90-7	
Chloroethane	ND	ug/m3	1.2	0.62	2.29		02/14/14 00:48	75-00-3	
Chloroform	ND	ug/m3	2.3	1.1	2.29		02/14/14 00:48	67-66-3	
Chloromethane	ND	ug/m3	0.96	0.48	2.29		02/14/14 00:48	74-87-3	
Cyclohexane	3.4	ug/m3	1.6	0.80	2.29		02/14/14 00:48	110-82-7	
Dibromochloromethane	ND	ug/m3	4.0	2.0	2.29		02/14/14 00:48	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	3.6	1.8	2.29		02/14/14 00:48	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	2.8	1.4	2.29		02/14/14 00:48	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	2.8	1.4	2.29		02/14/14 00:48	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	2.8	1.4	2.29		02/14/14 00:48	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	2.3	1.2	2.29		02/14/14 00:48	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.9	0.94	2.29		02/14/14 00:48	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.94	0.47	2.29		02/14/14 00:48	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.9	0.92	2.29		02/14/14 00:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.9	0.35	2.29		02/14/14 00:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.9	0.92	2.29		02/14/14 00:48	156-60-5	
1,2-Dichloropropane	ND	ug/m3	2.2	1.1	2.29		02/14/14 00:48	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	2.1	0.25	2.29		02/14/14 00:48	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	2.1	1.1	2.29		02/14/14 00:48	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	3.3	0.49	2.29		02/14/14 00:48	76-14-2	
Ethanol	6.5	ug/m3	0.87	0.44	2.29		02/14/14 00:48	64-17-5	
Ethyl acetate	13.2	ug/m3	1.7	0.82	2.29		02/14/14 00:48	141-78-6	
Ethylbenzene	ND	ug/m3	2.0	0.27	2.29		02/14/14 00:48	100-41-4	
4-Ethyltoluene	ND	ug/m3	2.3	1.1	2.29		02/14/14 00:48	622-96-8	
n-Heptane	ND	ug/m3	1.9	0.95	2.29		02/14/14 00:48	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	5.0	2.5	2.29		02/14/14 00:48	87-68-3	
n-Hexane	7.3	ug/m3	1.6	0.82	2.29		02/14/14 00:48	110-54-3	
2-Hexanone	ND	ug/m3	1.9	0.95	2.29		02/14/14 00:48	591-78-6	
Methylene Chloride	11.1	ug/m3	1.6	0.81	2.29		02/14/14 00:48	75-09-2	CL
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.9	0.95	2.29		02/14/14 00:48	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.7	0.20	2.29		02/14/14 00:48	1634-04-4	
Naphthalene	ND	ug/m3	2.5	1.2	2.29		02/14/14 00:48	91-20-3	
2-Propanol	ND	ug/m3	1.1	0.21	2.29		02/14/14 00:48	67-63-0	
Propylene	ND	ug/m3	0.80	0.40	2.29		02/14/14 00:48	115-07-1	
Styrene	ND	ug/m3	2.0	0.99	2.29		02/14/14 00:48	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.6	0.43	2.29		02/14/14 00:48	79-34-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: SB-3-VP		Lab ID: 10256995002		Collected: 02/05/14 08:45		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrachloroethene	1.6	ug/m3	1.6	0.79	2.29		02/14/14 00:48	127-18-4	
Tetrahydrofuran	ND	ug/m3	1.4	0.69	2.29		02/14/14 00:48	109-99-9	
Toluene	5.9	ug/m3	1.8	0.88	2.29		02/14/14 00:48	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	3.5	1.7	2.29		02/14/14 00:48	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.5	1.3	2.29		02/14/14 00:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.3	0.63	2.29		02/14/14 00:48	79-00-5	
Trichloroethene	ND	ug/m3	1.3	0.63	2.29		02/14/14 00:48	79-01-6	
Trichlorofluoromethane	ND	ug/m3	2.6	0.51	2.29		02/14/14 00:48	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	3.7	1.8	2.29		02/14/14 00:48	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	2.3	1.1	2.29		02/14/14 00:48	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	2.3	0.30	2.29		02/14/14 00:48	108-67-8	
Vinyl acetate	ND	ug/m3	1.6	0.82	2.29		02/14/14 00:48	108-05-4	
Vinyl chloride	ND	ug/m3	0.60	0.30	2.29		02/14/14 00:48	75-01-4	
m&p-Xylene	ND	ug/m3	4.0	2.0	2.29		02/14/14 00:48	179601-23-1	
o-Xylene	ND	ug/m3	2.0	0.29	2.29		02/14/14 00:48	95-47-6	

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: VP-1		Lab ID: 10256995003		Collected: 02/05/14 12:40		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Acetone	48.9	ug/m3	0.67	0.33	1.39		02/14/14 01:50	67-64-1	
Benzene	14.0	ug/m3	0.45	0.23	1.39		02/14/14 01:50	71-43-2	
Benzyl chloride	ND	ug/m3	1.5	0.73	1.39		02/14/14 01:50	100-44-7	
Bromodichloromethane	ND	ug/m3	1.9	0.25	1.39		02/14/14 01:50	75-27-4	
Bromoform	ND	ug/m3	2.9	1.5	1.39		02/14/14 01:50	75-25-2	
Bromomethane	ND	ug/m3	1.1	0.25	1.39		02/14/14 01:50	74-83-9	
1,3-Butadiene	16.1	ug/m3	0.63	0.31	1.39		02/14/14 01:50	106-99-0	
2-Butanone (MEK)	11.1	ug/m3	0.83	0.22	1.39		02/14/14 01:50	78-93-3	
Carbon disulfide	ND	ug/m3	0.88	0.44	1.39		02/14/14 01:50	75-15-0	
Carbon tetrachloride	ND	ug/m3	0.89	0.44	1.39		02/14/14 01:50	56-23-5	
Chlorobenzene	ND	ug/m3	1.3	0.65	1.39		02/14/14 01:50	108-90-7	
Chloroethane	ND	ug/m3	0.75	0.38	1.39		02/14/14 01:50	75-00-3	
Chloroform	ND	ug/m3	1.4	0.69	1.39		02/14/14 01:50	67-66-3	
Chloromethane	ND	ug/m3	0.58	0.29	1.39		02/14/14 01:50	74-87-3	
Cyclohexane	20.2	ug/m3	0.97	0.49	1.39		02/14/14 01:50	110-82-7	
Dibromochloromethane	ND	ug/m3	2.4	1.2	1.39		02/14/14 01:50	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.2	1.1	1.39		02/14/14 01:50	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1.7	0.85	1.39		02/14/14 01:50	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	1.7	0.85	1.39		02/14/14 01:50	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1.7	0.85	1.39		02/14/14 01:50	106-46-7	
Dichlorodifluoromethane	1.8	ug/m3	1.4	0.70	1.39		02/14/14 01:50	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	0.57	1.39		02/14/14 01:50	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.57	0.29	1.39		02/14/14 01:50	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	0.56	1.39		02/14/14 01:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	0.21	1.39		02/14/14 01:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	0.56	1.39		02/14/14 01:50	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.3	0.65	1.39		02/14/14 01:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.3	0.15	1.39		02/14/14 01:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.3	0.64	1.39		02/14/14 01:50	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.0	0.30	1.39		02/14/14 01:50	76-14-2	
Ethanol	6.0	ug/m3	0.53	0.27	1.39		02/14/14 01:50	64-17-5	
Ethyl acetate	19.8	ug/m3	1.0	0.50	1.39		02/14/14 01:50	141-78-6	
Ethylbenzene	8.2	ug/m3	1.2	0.17	1.39		02/14/14 01:50	100-41-4	
4-Ethyltoluene	3.7	ug/m3	1.4	0.70	1.39		02/14/14 01:50	622-96-8	
n-Heptane	22.6	ug/m3	1.2	0.58	1.39		02/14/14 01:50	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	3.1	1.5	1.39		02/14/14 01:50	87-68-3	
n-Hexane	3.5	ug/m3	1.0	0.50	1.39		02/14/14 01:50	110-54-3	
2-Hexanone	ND	ug/m3	1.2	0.58	1.39		02/14/14 01:50	591-78-6	
Methylene Chloride	1.9	ug/m3	0.99	0.49	1.39		02/14/14 01:50	75-09-2	CL
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.2	0.58	1.39		02/14/14 01:50	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.0	0.12	1.39		02/14/14 01:50	1634-04-4	
Naphthalene	5.7	ug/m3	1.5	0.74	1.39		02/14/14 01:50	91-20-3	
2-Propanol	ND	ug/m3	0.70	0.13	1.39		02/14/14 01:50	67-63-0	
Propylene	ND	ug/m3	0.49	0.24	1.39		02/14/14 01:50	115-07-1	
Styrene	5.0	ug/m3	1.2	0.60	1.39		02/14/14 01:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	0.97	0.26	1.39		02/14/14 01:50	79-34-5	

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: VP-1		Lab ID: 10256995003		Collected: 02/05/14 12:40		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrachloroethene	1.7	ug/m3	0.96	0.48	1.39		02/14/14 01:50	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.83	0.42	1.39		02/14/14 01:50	109-99-9	
Toluene	17.3	ug/m3	1.1	0.53	1.39		02/14/14 01:50	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.1	1.0	1.39		02/14/14 01:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	0.77	1.39		02/14/14 01:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.76	0.39	1.39		02/14/14 01:50	79-00-5	
Trichloroethene	ND	ug/m3	0.76	0.38	1.39		02/14/14 01:50	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1.6	0.31	1.39		02/14/14 01:50	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.2	1.1	1.39		02/14/14 01:50	76-13-1	
1,2,4-Trimethylbenzene	5.8	ug/m3	1.4	0.70	1.39		02/14/14 01:50	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	0.18	1.39		02/14/14 01:50	108-67-8	
Vinyl acetate	ND	ug/m3	1.0	0.50	1.39		02/14/14 01:50	108-05-4	
Vinyl chloride	ND	ug/m3	0.36	0.18	1.39		02/14/14 01:50	75-01-4	
m&p-Xylene	15.5	ug/m3	2.4	1.2	1.39		02/14/14 01:50	179601-23-1	
o-Xylene	8.2	ug/m3	1.2	0.18	1.39		02/14/14 01:50	95-47-6	

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: VP-2		Lab ID: 10256995004		Collected: 02/05/14 13:16		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Acetone	25.2	ug/m3	0.72	0.36	1.49		02/14/14 00:17	67-64-1	
Benzene	7.3	ug/m3	0.48	0.24	1.49		02/14/14 00:17	71-43-2	
Benzyl chloride	ND	ug/m3	1.6	0.78	1.49		02/14/14 00:17	100-44-7	
Bromodichloromethane	ND	ug/m3	2.0	0.26	1.49		02/14/14 00:17	75-27-4	
Bromoform	ND	ug/m3	3.1	1.6	1.49		02/14/14 00:17	75-25-2	
Bromomethane	ND	ug/m3	1.2	0.27	1.49		02/14/14 00:17	74-83-9	
1,3-Butadiene	8.7	ug/m3	0.67	0.34	1.49		02/14/14 00:17	106-99-0	
2-Butanone (MEK)	4.4	ug/m3	0.89	0.23	1.49		02/14/14 00:17	78-93-3	
Carbon disulfide	ND	ug/m3	0.94	0.47	1.49		02/14/14 00:17	75-15-0	
Carbon tetrachloride	ND	ug/m3	0.95	0.48	1.49		02/14/14 00:17	56-23-5	
Chlorobenzene	ND	ug/m3	1.4	0.70	1.49		02/14/14 00:17	108-90-7	
Chloroethane	ND	ug/m3	0.80	0.40	1.49		02/14/14 00:17	75-00-3	
Chloroform	ND	ug/m3	1.5	0.74	1.49		02/14/14 00:17	67-66-3	
Chloromethane	ND	ug/m3	0.63	0.31	1.49		02/14/14 00:17	74-87-3	
Cyclohexane	2.0	ug/m3	1.0	0.52	1.49		02/14/14 00:17	110-82-7	
Dibromochloromethane	ND	ug/m3	2.6	1.3	1.49		02/14/14 00:17	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.3	1.2	1.49		02/14/14 00:17	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1.8	0.91	1.49		02/14/14 00:17	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	1.8	0.91	1.49		02/14/14 00:17	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1.8	0.91	1.49		02/14/14 00:17	106-46-7	
Dichlorodifluoromethane	1.9	ug/m3	1.5	0.75	1.49		02/14/14 00:17	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	0.61	1.49		02/14/14 00:17	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	0.31	1.49		02/14/14 00:17	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	0.60	1.49		02/14/14 00:17	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	0.23	1.49		02/14/14 00:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	0.60	1.49		02/14/14 00:17	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.4	0.70	1.49		02/14/14 00:17	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.4	0.17	1.49		02/14/14 00:17	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.4	0.69	1.49		02/14/14 00:17	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.1	0.32	1.49		02/14/14 00:17	76-14-2	
Ethanol	4.5	ug/m3	0.57	0.29	1.49		02/14/14 00:17	64-17-5	
Ethyl acetate	7.1	ug/m3	1.1	0.53	1.49		02/14/14 00:17	141-78-6	
Ethylbenzene	2.6	ug/m3	1.3	0.18	1.49		02/14/14 00:17	100-41-4	
4-Ethyltoluene	1.6	ug/m3	1.5	0.74	1.49		02/14/14 00:17	622-96-8	
n-Heptane	3.1	ug/m3	1.2	0.62	1.49		02/14/14 00:17	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	3.3	1.6	1.49		02/14/14 00:17	87-68-3	
n-Hexane	2.5	ug/m3	1.1	0.54	1.49		02/14/14 00:17	110-54-3	
2-Hexanone	ND	ug/m3	1.2	0.62	1.49		02/14/14 00:17	591-78-6	
Methylene Chloride	ND	ug/m3	1.1	0.53	1.49		02/14/14 00:17	75-09-2	CL
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.2	0.62	1.49		02/14/14 00:17	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.1	0.13	1.49		02/14/14 00:17	1634-04-4	
Naphthalene	3.3	ug/m3	1.6	0.79	1.49		02/14/14 00:17	91-20-3	
2-Propanol	ND	ug/m3	0.74	0.14	1.49		02/14/14 00:17	67-63-0	
Propylene	ND	ug/m3	0.52	0.26	1.49		02/14/14 00:17	115-07-1	
Styrene	3.4	ug/m3	1.3	0.65	1.49		02/14/14 00:17	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.0	0.28	1.49		02/14/14 00:17	79-34-5	

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: VP-2		Lab ID: 10256995004		Collected: 02/05/14 13:16		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrachloroethene	2.7	ug/m3	1.0	0.51	1.49		02/14/14 00:17	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.89	0.45	1.49		02/14/14 00:17	109-99-9	
Toluene	5.8	ug/m3	1.1	0.57	1.49		02/14/14 00:17	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.2	1.1	1.49		02/14/14 00:17	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	0.83	1.49		02/14/14 00:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	0.41	1.49		02/14/14 00:17	79-00-5	
Trichloroethene	ND	ug/m3	0.82	0.41	1.49		02/14/14 00:17	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1.7	0.33	1.49		02/14/14 00:17	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.4	1.2	1.49		02/14/14 00:17	76-13-1	
1,2,4-Trimethylbenzene	2.7	ug/m3	1.5	0.74	1.49		02/14/14 00:17	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	0.19	1.49		02/14/14 00:17	108-67-8	
Vinyl acetate	ND	ug/m3	1.1	0.53	1.49		02/14/14 00:17	108-05-4	
Vinyl chloride	ND	ug/m3	0.39	0.19	1.49		02/14/14 00:17	75-01-4	
m&p-Xylene	5.1	ug/m3	2.6	1.3	1.49		02/14/14 00:17	179601-23-1	
o-Xylene	2.3	ug/m3	1.3	0.19	1.49		02/14/14 00:17	95-47-6	

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: VP-3		Lab ID: 10256995005		Collected: 02/05/14 13:32		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Acetone	6.1	ug/m3	0.69	0.35	1.44		02/16/14 01:42	67-64-1	
Benzene	2.4	ug/m3	0.47	0.23	1.44		02/16/14 01:42	71-43-2	
Benzyl chloride	ND	ug/m3	1.5	0.76	1.44		02/16/14 01:42	100-44-7	
Bromodichloromethane	ND	ug/m3	2.0	0.25	1.44		02/16/14 01:42	75-27-4	
Bromoform	ND	ug/m3	3.0	1.5	1.44		02/16/14 01:42	75-25-2	
Bromomethane	ND	ug/m3	1.1	0.26	1.44		02/16/14 01:42	74-83-9	
1,3-Butadiene	2.4	ug/m3	0.65	0.32	1.44		02/16/14 01:42	106-99-0	
2-Butanone (MEK)	1.6	ug/m3	0.86	0.22	1.44		02/16/14 01:42	78-93-3	
Carbon disulfide	ND	ug/m3	0.91	0.46	1.44		02/16/14 01:42	75-15-0	
Carbon tetrachloride	ND	ug/m3	0.92	0.46	1.44		02/16/14 01:42	56-23-5	
Chlorobenzene	ND	ug/m3	1.4	0.67	1.44		02/16/14 01:42	108-90-7	
Chloroethane	ND	ug/m3	0.78	0.39	1.44		02/16/14 01:42	75-00-3	
Chloroform	ND	ug/m3	1.4	0.72	1.44		02/16/14 01:42	67-66-3	
Chloromethane	1.0	ug/m3	0.60	0.30	1.44		02/16/14 01:42	74-87-3	
Cyclohexane	ND	ug/m3	1.0	0.50	1.44		02/16/14 01:42	110-82-7	
Dibromochloromethane	ND	ug/m3	2.5	1.2	1.44		02/16/14 01:42	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.2	1.1	1.44		02/16/14 01:42	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1.8	0.88	1.44		02/16/14 01:42	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	1.8	0.88	1.44		02/16/14 01:42	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1.8	0.88	1.44		02/16/14 01:42	106-46-7	
Dichlorodifluoromethane	1.8	ug/m3	1.5	0.72	1.44		02/16/14 01:42	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	0.59	1.44		02/16/14 01:42	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	0.30	1.44		02/16/14 01:42	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	0.58	1.44		02/16/14 01:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	0.22	1.44		02/16/14 01:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	0.58	1.44		02/16/14 01:42	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.4	0.68	1.44		02/16/14 01:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.3	0.16	1.44		02/16/14 01:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.3	0.66	1.44		02/16/14 01:42	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.0	0.31	1.44		02/16/14 01:42	76-14-2	
Ethanol	2.8	ug/m3	0.55	0.28	1.44		02/16/14 01:42	64-17-5	SS
Ethyl acetate	ND	ug/m3	1.1	0.52	1.44		02/16/14 01:42	141-78-6	
Ethylbenzene	ND	ug/m3	1.3	0.17	1.44		02/16/14 01:42	100-41-4	
4-Ethyltoluene	ND	ug/m3	1.4	0.72	1.44		02/16/14 01:42	622-96-8	
n-Heptane	ND	ug/m3	1.2	0.60	1.44		02/16/14 01:42	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	3.2	1.6	1.44		02/16/14 01:42	87-68-3	
n-Hexane	ND	ug/m3	1.0	0.52	1.44		02/16/14 01:42	110-54-3	
2-Hexanone	ND	ug/m3	1.2	0.60	1.44		02/16/14 01:42	591-78-6	
Methylene Chloride	1.1	ug/m3	1.0	0.51	1.44		02/16/14 01:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.2	0.60	1.44		02/16/14 01:42	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.1	0.13	1.44		02/16/14 01:42	1634-04-4	
Naphthalene	10.3	ug/m3	1.5	0.77	1.44		02/16/14 01:42	91-20-3	
2-Propanol	ND	ug/m3	0.72	0.13	1.44		02/16/14 01:42	67-63-0	
Propylene	12.7	ug/m3	0.50	0.25	1.44		02/16/14 01:42	115-07-1	
Styrene	ND	ug/m3	1.3	0.62	1.44		02/16/14 01:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.0	0.27	1.44		02/16/14 01:42	79-34-5	

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: VP-3		Lab ID: 10256995005		Collected: 02/05/14 13:32		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrachloroethene	ND	ug/m3	0.99	0.50	1.44		02/16/14 01:42	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.86	0.43	1.44		02/16/14 01:42	109-99-9	
Toluene	1.6	ug/m3	1.1	0.55	1.44		02/16/14 01:42	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.2	1.1	1.44		02/16/14 01:42	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	0.80	1.44		02/16/14 01:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	0.40	1.44		02/16/14 01:42	79-00-5	
Trichloroethene	ND	ug/m3	0.79	0.39	1.44		02/16/14 01:42	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1.6	0.32	1.44		02/16/14 01:42	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.3	1.2	1.44		02/16/14 01:42	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	0.72	1.44		02/16/14 01:42	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	0.19	1.44		02/16/14 01:42	108-67-8	
Vinyl acetate	ND	ug/m3	1.0	0.52	1.44		02/16/14 01:42	108-05-4	
Vinyl chloride	ND	ug/m3	0.37	0.19	1.44		02/16/14 01:42	75-01-4	
m&p-Xylene	ND	ug/m3	2.5	1.3	1.44		02/16/14 01:42	179601-23-1	
o-Xylene	ND	ug/m3	1.3	0.18	1.44		02/16/14 01:42	95-47-6	

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: VP-4		Lab ID: 10256995006		Collected: 02/05/14 14:45		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Acetone	ND	ug/m3	0.64	0.32	1.34		02/13/14 23:15	67-64-1	
Benzene	13.8	ug/m3	0.44	0.22	1.34		02/13/14 23:15	71-43-2	
Benzyl chloride	ND	ug/m3	1.4	0.70	1.34		02/13/14 23:15	100-44-7	
Bromodichloromethane	ND	ug/m3	1.8	0.24	1.34		02/13/14 23:15	75-27-4	
Bromoform	ND	ug/m3	2.8	1.4	1.34		02/13/14 23:15	75-25-2	
Bromomethane	ND	ug/m3	1.1	0.24	1.34		02/13/14 23:15	74-83-9	
1,3-Butadiene	ND	ug/m3	0.60	0.30	1.34		02/13/14 23:15	106-99-0	
2-Butanone (MEK)	10.0	ug/m3	0.80	0.21	1.34		02/13/14 23:15	78-93-3	
Carbon disulfide	2.2	ug/m3	0.84	0.42	1.34		02/13/14 23:15	75-15-0	
Carbon tetrachloride	ND	ug/m3	0.86	0.43	1.34		02/13/14 23:15	56-23-5	
Chlorobenzene	ND	ug/m3	1.3	0.63	1.34		02/13/14 23:15	108-90-7	
Chloroethane	ND	ug/m3	0.72	0.36	1.34		02/13/14 23:15	75-00-3	
Chloroform	ND	ug/m3	1.3	0.67	1.34		02/13/14 23:15	67-66-3	
Chloromethane	ND	ug/m3	0.56	0.28	1.34		02/13/14 23:15	74-87-3	
Cyclohexane	9.1	ug/m3	0.94	0.47	1.34		02/13/14 23:15	110-82-7	
Dibromochloromethane	ND	ug/m3	2.3	1.2	1.34		02/13/14 23:15	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.1	1.0	1.34		02/13/14 23:15	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1.6	0.82	1.34		02/13/14 23:15	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	1.6	0.82	1.34		02/13/14 23:15	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1.6	0.82	1.34		02/13/14 23:15	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	1.4	0.67	1.34		02/13/14 23:15	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	0.55	1.34		02/13/14 23:15	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	0.28	1.34		02/13/14 23:15	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	0.54	1.34		02/13/14 23:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	0.21	1.34		02/13/14 23:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	0.54	1.34		02/13/14 23:15	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.3	0.63	1.34		02/13/14 23:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.2	0.15	1.34		02/13/14 23:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.2	0.62	1.34		02/13/14 23:15	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	1.9	0.29	1.34		02/13/14 23:15	76-14-2	
Ethanol	13.4	ug/m3	0.51	0.26	1.34		02/13/14 23:15	64-17-5	
Ethyl acetate	ND	ug/m3	0.98	0.48	1.34		02/13/14 23:15	141-78-6	
Ethylbenzene	3.6	ug/m3	1.2	0.16	1.34		02/13/14 23:15	100-41-4	
4-Ethyltoluene	2.1	ug/m3	1.3	0.67	1.34		02/13/14 23:15	622-96-8	
n-Heptane	21.0	ug/m3	1.1	0.56	1.34		02/13/14 23:15	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	2.9	1.5	1.34		02/13/14 23:15	87-68-3	
n-Hexane	78.0	ug/m3	0.96	0.48	1.34		02/13/14 23:15	110-54-3	
2-Hexanone	ND	ug/m3	1.1	0.56	1.34		02/13/14 23:15	591-78-6	
Methylene Chloride	88.7	ug/m3	12.8	6.3	17.96		02/16/14 22:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.1	0.56	1.34		02/13/14 23:15	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	0.98	0.12	1.34		02/13/14 23:15	1634-04-4	
Naphthalene	4.3	ug/m3	1.4	0.71	1.34		02/13/14 23:15	91-20-3	
2-Propanol	ND	ug/m3	0.67	0.12	1.34		02/13/14 23:15	67-63-0	
Propylene	ND	ug/m3	0.47	0.23	1.34		02/13/14 23:15	115-07-1	
Styrene	3.3	ug/m3	1.2	0.58	1.34		02/13/14 23:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	0.94	0.25	1.34		02/13/14 23:15	79-34-5	

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: VP-4		Lab ID: 10256995006		Collected: 02/05/14 14:45		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrachloroethene	1.1	ug/m3	0.92	0.46	1.34		02/13/14 23:15	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.80	0.40	1.34		02/13/14 23:15	109-99-9	
Toluene	13.2	ug/m3	1.0	0.51	1.34		02/13/14 23:15	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.0	1.0	1.34		02/13/14 23:15	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	0.74	1.34		02/13/14 23:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	0.37	1.34		02/13/14 23:15	79-00-5	
Trichloroethene	ND	ug/m3	0.74	0.37	1.34		02/13/14 23:15	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1.5	0.30	1.34		02/13/14 23:15	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.1	1.1	1.34		02/13/14 23:15	76-13-1	
1,2,4-Trimethylbenzene	3.8	ug/m3	1.3	0.67	1.34		02/13/14 23:15	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	0.17	1.34		02/13/14 23:15	108-67-8	
Vinyl acetate	ND	ug/m3	0.96	0.48	1.34		02/13/14 23:15	108-05-4	
Vinyl chloride	ND	ug/m3	0.35	0.17	1.34		02/13/14 23:15	75-01-4	
m&p-Xylene	7.4	ug/m3	2.4	1.2	1.34		02/13/14 23:15	179601-23-1	
o-Xylene	3.0	ug/m3	1.2	0.17	1.34		02/13/14 23:15	95-47-6	

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: DUP-VP-4		Lab ID: 10256995007		Collected: 02/05/14 14:45		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Acetone	ND	ug/m3	0.64	0.32	1.34		02/13/14 22:44	67-64-1	
Benzene	24.9	ug/m3	0.44	0.22	1.34		02/13/14 22:44	71-43-2	
Benzyl chloride	ND	ug/m3	1.4	0.70	1.34		02/13/14 22:44	100-44-7	
Bromodichloromethane	ND	ug/m3	1.8	0.24	1.34		02/13/14 22:44	75-27-4	
Bromoform	ND	ug/m3	2.8	1.4	1.34		02/13/14 22:44	75-25-2	
Bromomethane	ND	ug/m3	1.1	0.24	1.34		02/13/14 22:44	74-83-9	
1,3-Butadiene	ND	ug/m3	0.60	0.30	1.34		02/13/14 22:44	106-99-0	
2-Butanone (MEK)	5.8	ug/m3	0.80	0.21	1.34		02/13/14 22:44	78-93-3	
Carbon disulfide	3.8	ug/m3	0.84	0.42	1.34		02/13/14 22:44	75-15-0	
Carbon tetrachloride	ND	ug/m3	0.86	0.43	1.34		02/13/14 22:44	56-23-5	
Chlorobenzene	ND	ug/m3	1.3	0.63	1.34		02/13/14 22:44	108-90-7	
Chloroethane	ND	ug/m3	0.72	0.36	1.34		02/13/14 22:44	75-00-3	
Chloroform	ND	ug/m3	1.3	0.67	1.34		02/13/14 22:44	67-66-3	
Chloromethane	ND	ug/m3	0.56	0.28	1.34		02/13/14 22:44	74-87-3	
Cyclohexane	15.6	ug/m3	0.94	0.47	1.34		02/13/14 22:44	110-82-7	
Dibromochloromethane	ND	ug/m3	2.3	1.2	1.34		02/13/14 22:44	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.1	1.0	1.34		02/13/14 22:44	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1.6	0.82	1.34		02/13/14 22:44	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	1.6	0.82	1.34		02/13/14 22:44	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1.6	0.82	1.34		02/13/14 22:44	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	1.4	0.67	1.34		02/13/14 22:44	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	0.55	1.34		02/13/14 22:44	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	0.28	1.34		02/13/14 22:44	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	0.54	1.34		02/13/14 22:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	0.21	1.34		02/13/14 22:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	0.54	1.34		02/13/14 22:44	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.3	0.63	1.34		02/13/14 22:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.2	0.15	1.34		02/13/14 22:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.2	0.62	1.34		02/13/14 22:44	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	1.9	0.29	1.34		02/13/14 22:44	76-14-2	
Ethanol	ND	ug/m3	0.51	0.26	1.34		02/13/14 22:44	64-17-5	
Ethyl acetate	ND	ug/m3	0.98	0.48	1.34		02/13/14 22:44	141-78-6	
Ethylbenzene	5.8	ug/m3	1.2	0.16	1.34		02/13/14 22:44	100-41-4	
4-Ethyltoluene	2.2	ug/m3	1.3	0.67	1.34		02/13/14 22:44	622-96-8	
n-Heptane	37.4	ug/m3	1.1	0.56	1.34		02/13/14 22:44	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	2.9	1.5	1.34		02/13/14 22:44	87-68-3	
n-Hexane	83.0	ug/m3	0.96	0.48	1.34		02/13/14 22:44	110-54-3	
2-Hexanone	ND	ug/m3	1.1	0.56	1.34		02/13/14 22:44	591-78-6	
Methylene Chloride	ND	ug/m3	0.95	0.47	1.34		02/13/14 22:44	75-09-2	CL
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.1	0.56	1.34		02/13/14 22:44	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	0.98	0.12	1.34		02/13/14 22:44	1634-04-4	
Naphthalene	2.2	ug/m3	1.4	0.71	1.34		02/13/14 22:44	91-20-3	
2-Propanol	ND	ug/m3	0.67	0.12	1.34		02/13/14 22:44	67-63-0	
Propylene	658	ug/m3	9.4	4.7	26.8		02/16/14 23:18	115-07-1	
Styrene	4.1	ug/m3	1.2	0.58	1.34		02/13/14 22:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	0.94	0.25	1.34		02/13/14 22:44	79-34-5	

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: DUP-VP-4		Lab ID: 10256995007		Collected: 02/05/14 14:45		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrachloroethene	2.0	ug/m3	0.92	0.46	1.34		02/13/14 22:44	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.80	0.40	1.34		02/13/14 22:44	109-99-9	
Toluene	21.0	ug/m3	1.0	0.51	1.34		02/13/14 22:44	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.0	1.0	1.34		02/13/14 22:44	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	0.74	1.34		02/13/14 22:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	0.37	1.34		02/13/14 22:44	79-00-5	
Trichloroethene	ND	ug/m3	0.74	0.37	1.34		02/13/14 22:44	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1.5	0.30	1.34		02/13/14 22:44	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.1	1.1	1.34		02/13/14 22:44	76-13-1	
1,2,4-Trimethylbenzene	5.2	ug/m3	1.3	0.67	1.34		02/13/14 22:44	95-63-6	
1,3,5-Trimethylbenzene	1.8	ug/m3	1.3	0.17	1.34		02/13/14 22:44	108-67-8	
Vinyl acetate	ND	ug/m3	0.96	0.48	1.34		02/13/14 22:44	108-05-4	
Vinyl chloride	ND	ug/m3	0.35	0.17	1.34		02/13/14 22:44	75-01-4	
m&p-Xylene	13.0	ug/m3	2.4	1.2	1.34		02/13/14 22:44	179601-23-1	
o-Xylene	5.4	ug/m3	1.2	0.17	1.34		02/13/14 22:44	95-47-6	

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: VP-5		Lab ID: 10256995008		Collected: 02/05/14 15:10		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Acetone	66.2	ug/m3	6.4	3.2	13.4		02/16/14 09:17	67-64-1	
Benzene	42.0	ug/m3	0.44	0.22	1.34		02/14/14 01:19	71-43-2	
Benzyl chloride	ND	ug/m3	1.4	0.70	1.34		02/14/14 01:19	100-44-7	
Bromodichloromethane	ND	ug/m3	1.8	0.24	1.34		02/14/14 01:19	75-27-4	
Bromoform	ND	ug/m3	2.8	1.4	1.34		02/14/14 01:19	75-25-2	
Bromomethane	ND	ug/m3	1.1	0.24	1.34		02/14/14 01:19	74-83-9	
1,3-Butadiene	ND	ug/m3	0.60	0.30	1.34		02/14/14 01:19	106-99-0	
2-Butanone (MEK)	30.4	ug/m3	0.80	0.21	1.34		02/14/14 01:19	78-93-3	
Carbon disulfide	3.9	ug/m3	0.84	0.42	1.34		02/14/14 01:19	75-15-0	
Carbon tetrachloride	ND	ug/m3	0.86	0.43	1.34		02/14/14 01:19	56-23-5	
Chlorobenzene	ND	ug/m3	1.3	0.63	1.34		02/14/14 01:19	108-90-7	
Chloroethane	ND	ug/m3	0.72	0.36	1.34		02/14/14 01:19	75-00-3	
Chloroform	ND	ug/m3	1.3	0.67	1.34		02/14/14 01:19	67-66-3	
Chloromethane	ND	ug/m3	0.56	0.28	1.34		02/14/14 01:19	74-87-3	
Cyclohexane	168	ug/m3	9.4	4.7	13.4		02/16/14 09:17	110-82-7	
Dibromochloromethane	ND	ug/m3	2.3	1.2	1.34		02/14/14 01:19	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.1	1.0	1.34		02/14/14 01:19	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1.6	0.82	1.34		02/14/14 01:19	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	1.6	0.82	1.34		02/14/14 01:19	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1.6	0.82	1.34		02/14/14 01:19	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	1.4	0.67	1.34		02/14/14 01:19	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.1	0.55	1.34		02/14/14 01:19	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.55	0.28	1.34		02/14/14 01:19	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.1	0.54	1.34		02/14/14 01:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.1	0.21	1.34		02/14/14 01:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.1	0.54	1.34		02/14/14 01:19	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.3	0.63	1.34		02/14/14 01:19	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.2	0.15	1.34		02/14/14 01:19	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.2	0.62	1.34		02/14/14 01:19	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	1.9	0.29	1.34		02/14/14 01:19	76-14-2	
Ethanol	10	ug/m3	0.51	0.26	1.34		02/14/14 01:19	64-17-5	
Ethyl acetate	21.1	ug/m3	0.98	0.48	1.34		02/14/14 01:19	141-78-6	
Ethylbenzene	34.4	ug/m3	1.2	0.16	1.34		02/14/14 01:19	100-41-4	
4-Ethyltoluene	4.4	ug/m3	1.3	0.67	1.34		02/14/14 01:19	622-96-8	
n-Heptane	277	ug/m3	11.1	5.6	13.4		02/16/14 09:17	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	2.9	1.5	1.34		02/14/14 01:19	87-68-3	
n-Hexane	75.9	ug/m3	0.96	0.48	1.34		02/14/14 01:19	110-54-3	
2-Hexanone	ND	ug/m3	1.1	0.56	1.34		02/14/14 01:19	591-78-6	
Methylene Chloride	ND	ug/m3	0.95	0.47	1.34		02/14/14 01:19	75-09-2	CL
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.1	0.56	1.34		02/14/14 01:19	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	0.98	0.12	1.34		02/14/14 01:19	1634-04-4	
Naphthalene	2.1	ug/m3	1.4	0.71	1.34		02/14/14 01:19	91-20-3	
2-Propanol	ND	ug/m3	0.67	0.12	1.34		02/14/14 01:19	67-63-0	
Propylene	ND	ug/m3	0.47	0.23	1.34		02/14/14 01:19	115-07-1	
Styrene	3.5	ug/m3	1.2	0.58	1.34		02/14/14 01:19	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	0.94	0.25	1.34		02/14/14 01:19	79-34-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Sample: VP-5		Lab ID: 10256995008		Collected: 02/05/14 15:10		Received: 02/06/14 08:56		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrachloroethene	ND	ug/m3	0.92	0.46	1.34		02/14/14 01:19	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.80	0.40	1.34		02/14/14 01:19	109-99-9	
Toluene	115	ug/m3	1.0	0.51	1.34		02/14/14 01:19	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.0	1.0	1.34		02/14/14 01:19	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.5	0.74	1.34		02/14/14 01:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.74	0.37	1.34		02/14/14 01:19	79-00-5	
Trichloroethene	ND	ug/m3	0.74	0.37	1.34		02/14/14 01:19	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1.5	0.30	1.34		02/14/14 01:19	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.1	1.1	1.34		02/14/14 01:19	76-13-1	
1,2,4-Trimethylbenzene	6.9	ug/m3	1.3	0.67	1.34		02/14/14 01:19	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.3	0.17	1.34		02/14/14 01:19	108-67-8	
Vinyl acetate	ND	ug/m3	0.96	0.48	1.34		02/14/14 01:19	108-05-4	
Vinyl chloride	ND	ug/m3	0.35	0.17	1.34		02/14/14 01:19	75-01-4	
m&p-Xylene	54.9	ug/m3	2.4	1.2	1.34		02/14/14 01:19	179601-23-1	
o-Xylene	24.2	ug/m3	1.2	0.17	1.34		02/14/14 01:19	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

QC Batch:	AIR/19418	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	TO15 MSV AIR Low Level
Associated Lab Samples:	10256995001, 10256995002, 10256995003, 10256995004, 10256995006, 10256995007, 10256995008		

METHOD BLANK:	1624494	Matrix:	Air
Associated Lab Samples:	10256995001, 10256995002, 10256995003, 10256995004, 10256995006, 10256995007, 10256995008		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	02/13/14 11:12	
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.70	02/13/14 11:12	
1,1,2-Trichloroethane	ug/m3	ND	0.55	02/13/14 11:12	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	1.6	02/13/14 11:12	
1,1-Dichloroethane	ug/m3	ND	0.82	02/13/14 11:12	
1,1-Dichloroethene	ug/m3	ND	0.81	02/13/14 11:12	
1,2,4-Trichlorobenzene	ug/m3	ND	1.5	02/13/14 11:12	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	02/13/14 11:12	
1,2-Dibromoethane (EDB)	ug/m3	ND	1.6	02/13/14 11:12	
1,2-Dichlorobenzene	ug/m3	ND	1.2	02/13/14 11:12	
1,2-Dichloroethane	ug/m3	ND	0.41	02/13/14 11:12	
1,2-Dichloropropane	ug/m3	ND	0.94	02/13/14 11:12	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	02/13/14 11:12	
1,3-Butadiene	ug/m3	ND	0.45	02/13/14 11:12	
1,3-Dichlorobenzene	ug/m3	ND	1.2	02/13/14 11:12	
1,4-Dichlorobenzene	ug/m3	ND	1.2	02/13/14 11:12	
2-Butanone (MEK)	ug/m3	ND	0.60	02/13/14 11:12	
2-Hexanone	ug/m3	ND	0.83	02/13/14 11:12	
2-Propanol	ug/m3	ND	0.50	02/13/14 11:12	
4-Ethyltoluene	ug/m3	ND	1.0	02/13/14 11:12	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	0.83	02/13/14 11:12	
Acetone	ug/m3	ND	0.48	02/13/14 11:12	
Benzene	ug/m3	ND	0.32	02/13/14 11:12	
Benzyl chloride	ug/m3	ND	1.0	02/13/14 11:12	
Bromodichloromethane	ug/m3	ND	1.4	02/13/14 11:12	
Bromoform	ug/m3	ND	2.1	02/13/14 11:12	
Bromomethane	ug/m3	ND	0.79	02/13/14 11:12	
Carbon disulfide	ug/m3	ND	0.63	02/13/14 11:12	
Carbon tetrachloride	ug/m3	ND	0.64	02/13/14 11:12	
Chlorobenzene	ug/m3	ND	0.94	02/13/14 11:12	
Chloroethane	ug/m3	ND	0.54	02/13/14 11:12	
Chloroform	ug/m3	ND	0.99	02/13/14 11:12	
Chloromethane	ug/m3	ND	0.42	02/13/14 11:12	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	02/13/14 11:12	
cis-1,3-Dichloropropene	ug/m3	ND	0.92	02/13/14 11:12	
Cyclohexane	ug/m3	ND	0.70	02/13/14 11:12	
Dibromochloromethane	ug/m3	ND	1.7	02/13/14 11:12	
Dichlorodifluoromethane	ug/m3	ND	1.0	02/13/14 11:12	
Dichlorotetrafluoroethane	ug/m3	ND	1.4	02/13/14 11:12	
Ethanol	ug/m3	ND	0.38	02/13/14 11:12	
Ethyl acetate	ug/m3	ND	0.73	02/13/14 11:12	
Ethylbenzene	ug/m3	ND	0.88	02/13/14 11:12	
Hexachloro-1,3-butadiene	ug/m3	ND	2.2	02/13/14 11:12	

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

METHOD BLANK: 1624494

Matrix: Air

Associated Lab Samples: 10256995001, 10256995002, 10256995003, 10256995004, 10256995006, 10256995007, 10256995008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
m&p-Xylene	ug/m3	ND	1.8	02/13/14 11:12	
Methyl-tert-butyl ether	ug/m3	ND	0.73	02/13/14 11:12	
Methylene Chloride	ug/m3	ND	0.71	02/13/14 11:12	CL
n-Heptane	ug/m3	ND	0.83	02/13/14 11:12	
n-Hexane	ug/m3	ND	0.72	02/13/14 11:12	
Naphthalene	ug/m3	ND	1.1	02/13/14 11:12	
o-Xylene	ug/m3	ND	0.88	02/13/14 11:12	
Propylene	ug/m3	ND	0.35	02/13/14 11:12	
Styrene	ug/m3	ND	0.87	02/13/14 11:12	
Tetrachloroethene	ug/m3	ND	0.69	02/13/14 11:12	
Tetrahydrofuran	ug/m3	ND	0.60	02/13/14 11:12	
Toluene	ug/m3	ND	0.77	02/13/14 11:12	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	02/13/14 11:12	
trans-1,3-Dichloropropene	ug/m3	ND	0.92	02/13/14 11:12	
Trichloroethene	ug/m3	ND	0.55	02/13/14 11:12	
Trichlorofluoromethane	ug/m3	ND	1.1	02/13/14 11:12	
Vinyl acetate	ug/m3	ND	0.72	02/13/14 11:12	
Vinyl chloride	ug/m3	ND	0.26	02/13/14 11:12	

LABORATORY CONTROL SAMPLE: 1624495

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	50.1	90	72-128	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	68.5	98	72-136	
1,1,2-Trichloroethane	ug/m3	55.5	55.7	100	72-130	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	66.1	85	68-126	
1,1-Dichloroethane	ug/m3	41.2	34.2	83	68-128	
1,1-Dichloroethene	ug/m3	40.3	36.0	89	68-130	
1,2,4-Trichlorobenzene	ug/m3	75.5	80.7	107	30-150	
1,2,4-Trimethylbenzene	ug/m3	50	52.4	105	71-140	
1,2-Dibromoethane (EDB)	ug/m3	78.1	83.8	107	73-136	
1,2-Dichlorobenzene	ug/m3	61.2	61.5	101	63-150	
1,2-Dichloroethane	ug/m3	41.2	37.3	91	71-132	
1,2-Dichloropropane	ug/m3	47	47.8	102	72-130	
1,3,5-Trimethylbenzene	ug/m3	50	50.8	102	73-136	
1,3-Butadiene	ug/m3	22.5	21.2	94	72-130	
1,3-Dichlorobenzene	ug/m3	61.2	65.6	107	69-142	
1,4-Dichlorobenzene	ug/m3	61.2	63.4	104	65-142	
2-Butanone (MEK)	ug/m3	30	26.4	88	71-135	
2-Hexanone	ug/m3	41.7	40.3	97	75-133	
2-Propanol	ug/m3	25	22.9	91	68-135	
4-Ethyltoluene	ug/m3	50	55.1	110	73-134	
4-Methyl-2-pentanone (MIBK)	ug/m3	41.7	45.4	109	72-137	
Acetone	ug/m3	24.2	22.6	94	68-136	
Benzene	ug/m3	32.5	31.5	97	69-134	

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

LABORATORY CONTROL SAMPLE: 1624495

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzyl chloride	ug/m3	52.5	47.0	90	71-136	
Bromodichloromethane	ug/m3	68.2	64.4	94	74-129	
Bromoform	ug/m3	105	116	110	69-138	
Bromomethane	ug/m3	39.5	34.4	87	68-127	
Carbon disulfide	ug/m3	31.7	25.5	80	68-130	
Carbon tetrachloride	ug/m3	64	58.8	92	66-134	
Chlorobenzene	ug/m3	46.8	48.4	103	72-137	
Chloroethane	ug/m3	26.8	23.1	86	69-128	
Chloroform	ug/m3	49.7	44.4	89	72-127	
Chloromethane	ug/m3	21	19.5	93	69-125	
cis-1,2-Dichloroethene	ug/m3	40.3	36.9	92	71-135	
cis-1,3-Dichloropropene	ug/m3	46.2	45.2	98	74-134	
Cyclohexane	ug/m3	35	35.6	102	72-130	
Dibromochloromethane	ug/m3	86.6	90.5	104	73-133	
Dichlorodifluoromethane	ug/m3	50.3	44.5	88	69-125	
Dichlorotetrafluoroethane	ug/m3	71.1	65.4	92	68-128	
Ethanol	ug/m3	19.2	16.6	86	70-134	
Ethyl acetate	ug/m3	36.6	37.7	103	71-134	
Ethylbenzene	ug/m3	44.2	46.7	106	73-139	
Hexachloro-1,3-butadiene	ug/m3	108	99.6	92	30-150	
m&p-Xylene	ug/m3	44.2	47.8	108	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	30.9	84	72-132	
Methylene Chloride	ug/m3	35.3	26.5	75	64-134	CL
n-Heptane	ug/m3	41.7	44.5	107	70-130	
n-Hexane	ug/m3	35.8	32.2	90	69-128	
Naphthalene	ug/m3	53.3	55.3	104	61-150	
o-Xylene	ug/m3	44.2	46.9	106	71-138	
Propylene	ug/m3	17.5	18.8	107	69-133	
Styrene	ug/m3	43.3	38.2	88	74-136	
Tetrachloroethene	ug/m3	69	70.5	102	69-136	
Tetrahydrofuran	ug/m3	30	31.0	103	73-131	
Toluene	ug/m3	38.3	34.1	89	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	33.1	82	70-131	
trans-1,3-Dichloropropene	ug/m3	46.2	49.3	107	72-135	
Trichloroethene	ug/m3	54.6	54.1	99	70-135	
Trichlorofluoromethane	ug/m3	57.1	48.5	85	67-125	
Vinyl acetate	ug/m3	35.8	31.1	87	72-133	
Vinyl chloride	ug/m3	26	23.8	91	69-132	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

QC Batch: AIR/19430

Analysis Method: TO-15

QC Batch Method: TO-15

Analysis Description: TO15 MSV AIR Low Level

Associated Lab Samples: 10256995005

METHOD BLANK: 1625253

Matrix: Air

Associated Lab Samples: 10256995005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	02/15/14 21:01	
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.70	02/15/14 21:01	
1,1,2-Trichloroethane	ug/m3	ND	0.55	02/15/14 21:01	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	1.6	02/15/14 21:01	
1,1-Dichloroethane	ug/m3	ND	0.82	02/15/14 21:01	
1,1-Dichloroethene	ug/m3	ND	0.81	02/15/14 21:01	
1,2,4-Trichlorobenzene	ug/m3	ND	1.5	02/15/14 21:01	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	02/15/14 21:01	
1,2-Dibromoethane (EDB)	ug/m3	ND	1.6	02/15/14 21:01	
1,2-Dichlorobenzene	ug/m3	ND	1.2	02/15/14 21:01	
1,2-Dichloroethane	ug/m3	ND	0.41	02/15/14 21:01	
1,2-Dichloropropane	ug/m3	ND	0.94	02/15/14 21:01	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	02/15/14 21:01	
1,3-Butadiene	ug/m3	ND	0.45	02/15/14 21:01	
1,3-Dichlorobenzene	ug/m3	ND	1.2	02/15/14 21:01	
1,4-Dichlorobenzene	ug/m3	ND	1.2	02/15/14 21:01	
2-Butanone (MEK)	ug/m3	ND	0.60	02/15/14 21:01	
2-Hexanone	ug/m3	ND	0.83	02/15/14 21:01	
2-Propanol	ug/m3	ND	0.50	02/15/14 21:01	
4-Ethyltoluene	ug/m3	ND	1.0	02/15/14 21:01	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	0.83	02/15/14 21:01	
Acetone	ug/m3	ND	0.48	02/15/14 21:01	
Benzene	ug/m3	ND	0.32	02/15/14 21:01	
Benzyl chloride	ug/m3	ND	1.0	02/15/14 21:01	
Bromodichloromethane	ug/m3	ND	1.4	02/15/14 21:01	
Bromoform	ug/m3	ND	2.1	02/15/14 21:01	
Bromomethane	ug/m3	ND	0.79	02/15/14 21:01	
Carbon disulfide	ug/m3	ND	0.63	02/15/14 21:01	
Carbon tetrachloride	ug/m3	ND	0.64	02/15/14 21:01	
Chlorobenzene	ug/m3	ND	0.94	02/15/14 21:01	
Chloroethane	ug/m3	ND	0.54	02/15/14 21:01	
Chloroform	ug/m3	ND	0.99	02/15/14 21:01	
Chloromethane	ug/m3	ND	0.42	02/15/14 21:01	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	02/15/14 21:01	
cis-1,3-Dichloropropene	ug/m3	ND	0.92	02/15/14 21:01	
Cyclohexane	ug/m3	ND	0.70	02/15/14 21:01	
Dibromochloromethane	ug/m3	ND	1.7	02/15/14 21:01	
Dichlorodifluoromethane	ug/m3	ND	1.0	02/15/14 21:01	
Dichlorotetrafluoroethane	ug/m3	ND	1.4	02/15/14 21:01	
Ethanol	ug/m3	ND	0.38	02/15/14 21:01	
Ethyl acetate	ug/m3	ND	0.73	02/15/14 21:01	
Ethylbenzene	ug/m3	ND	0.88	02/15/14 21:01	
Hexachloro-1,3-butadiene	ug/m3	ND	2.2	02/15/14 21:01	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

METHOD BLANK: 1625253

Matrix: Air

Associated Lab Samples: 10256995005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
m&p-Xylene	ug/m3	ND	1.8	02/15/14 21:01	
Methyl-tert-butyl ether	ug/m3	ND	0.73	02/15/14 21:01	
Methylene Chloride	ug/m3	ND	0.71	02/15/14 21:01	
n-Heptane	ug/m3	ND	0.83	02/15/14 21:01	
n-Hexane	ug/m3	ND	0.72	02/15/14 21:01	
Naphthalene	ug/m3	ND	1.1	02/15/14 21:01	
o-Xylene	ug/m3	ND	0.88	02/15/14 21:01	
Propylene	ug/m3	ND	0.35	02/15/14 21:01	
Styrene	ug/m3	ND	0.87	02/15/14 21:01	
Tetrachloroethene	ug/m3	ND	0.69	02/15/14 21:01	
Tetrahydrofuran	ug/m3	ND	0.60	02/15/14 21:01	
Toluene	ug/m3	ND	0.77	02/15/14 21:01	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	02/15/14 21:01	
trans-1,3-Dichloropropene	ug/m3	ND	0.92	02/15/14 21:01	
Trichloroethene	ug/m3	ND	0.55	02/15/14 21:01	
Trichlorofluoromethane	ug/m3	ND	1.1	02/15/14 21:01	
Vinyl acetate	ug/m3	ND	0.72	02/15/14 21:01	
Vinyl chloride	ug/m3	ND	0.26	02/15/14 21:01	

LABORATORY CONTROL SAMPLE: 1625254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	58.0	104	72-128	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	69.1	99	72-136	
1,1,2-Trichloroethane	ug/m3	55.5	54.9	99	72-130	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	75.0	96	68-126	
1,1-Dichloroethane	ug/m3	41.2	38.1	93	68-128	
1,1-Dichloroethene	ug/m3	40.3	38.2	95	68-130	
1,2,4-Trichlorobenzene	ug/m3	75.5	75.4	100	30-150	
1,2,4-Trimethylbenzene	ug/m3	50	43.8	88	71-140	
1,2-Dibromoethane (EDB)	ug/m3	78.1	87.9	112	73-136	
1,2-Dichlorobenzene	ug/m3	61.2	56.2	92	63-150	
1,2-Dichloroethane	ug/m3	41.2	40.1	97	71-132	
1,2-Dichloropropane	ug/m3	47	46.8	100	72-130	
1,3,5-Trimethylbenzene	ug/m3	50	47.5	95	73-136	
1,3-Butadiene	ug/m3	22.5	25.1	112	72-130	
1,3-Dichlorobenzene	ug/m3	61.2	59.0	96	69-142	
1,4-Dichlorobenzene	ug/m3	61.2	56.9	93	65-142	
2-Butanone (MEK)	ug/m3	30	27.9	93	71-135	
2-Hexanone	ug/m3	41.7	40.7	98	75-133	
2-Propanol	ug/m3	25	26.3	105	68-135	
4-Ethyltoluene	ug/m3	50	48.1	96	73-134	
4-Methyl-2-pentanone (MIBK)	ug/m3	41.7	41.4	99	72-137	
Acetone	ug/m3	24.2	18.2	75	68-136	
Benzene	ug/m3	32.5	31.6	97	69-134	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

LABORATORY CONTROL SAMPLE: 1625254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzyl chloride	ug/m3	52.5	49.2	94	71-136	
Bromodichloromethane	ug/m3	68.2	70.6	104	74-129	
Bromoform	ug/m3	105	99.9	95	69-138	
Bromomethane	ug/m3	39.5	38.8	98	68-127	
Carbon disulfide	ug/m3	31.7	30.8	97	68-130	
Carbon tetrachloride	ug/m3	64	74.0	116	66-134	
Chlorobenzene	ug/m3	46.8	49.6	106	72-137	
Chloroethane	ug/m3	26.8	26.0	97	69-128	
Chloroform	ug/m3	49.7	45.5	92	72-127	
Chloromethane	ug/m3	21	21.1	100	69-125	
cis-1,2-Dichloroethene	ug/m3	40.3	39.6	98	71-135	
cis-1,3-Dichloropropene	ug/m3	46.2	57.0	123	74-134	
Cyclohexane	ug/m3	35	36.5	104	72-130	
Dibromochloromethane	ug/m3	86.6	81.6	94	73-133	
Dichlorodifluoromethane	ug/m3	50.3	50.2	100	69-125	
Dichlorotetrafluoroethane	ug/m3	71.1	68.4	96	68-128	
Ethanol	ug/m3	19.2	18.7	98	70-134	SS
Ethyl acetate	ug/m3	36.6	35.8	98	71-134	
Ethylbenzene	ug/m3	44.2	43.6	99	73-139	
Hexachloro-1,3-butadiene	ug/m3	108	97.5	90	30-150	
m&p-Xylene	ug/m3	44.2	42.5	96	73-139	
Methyl-tert-butyl ether	ug/m3	36.7	36.5	99	72-132	
Methylene Chloride	ug/m3	35.3	29.3	83	64-134	
n-Heptane	ug/m3	41.7	46.5	112	70-130	
n-Hexane	ug/m3	35.8	32.4	90	69-128	
Naphthalene	ug/m3	53.3	52.1	98	61-150	
o-Xylene	ug/m3	44.2	42.7	97	71-138	
Propylene	ug/m3	17.5	19.0	108	69-133	
Styrene	ug/m3	43.3	42.9	99	74-136	
Tetrachloroethene	ug/m3	69	77.5	112	69-136	
Tetrahydrofuran	ug/m3	30	30.3	101	73-131	
Toluene	ug/m3	38.3	33.7	88	67-133	
trans-1,2-Dichloroethene	ug/m3	40.3	39.9	99	70-131	
trans-1,3-Dichloropropene	ug/m3	46.2	44.7	97	72-135	
Trichloroethene	ug/m3	54.6	64.2	118	70-135	
Trichlorofluoromethane	ug/m3	57.1	55.8	98	67-125	
Vinyl acetate	ug/m3	35.8	38.9	109	72-133	
Vinyl chloride	ug/m3	26	27.2	105	69-132	

SAMPLE DUPLICATE: 1625446

Parameter	Units	10257118001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1,2,2-Tetrachloroethane	ug/m3	ND	ND		25	
1,1,2-Trichloroethane	ug/m3	ND	ND		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

SAMPLE DUPLICATE: 1625446

Parameter	Units	10257118001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2,4-Trichlorobenzene	ug/m3	ND	ND		25	
1,2,4-Trimethylbenzene	ug/m3	ND	1.5J		25	
1,2-Dibromoethane (EDB)	ug/m3	ND	ND		25	
1,2-Dichlorobenzene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
1,2-Dichloropropane	ug/m3	ND	ND		25	
1,3,5-Trimethylbenzene	ug/m3	ND	ND		25	
1,3-Butadiene	ug/m3	ND	ND		25	
1,3-Dichlorobenzene	ug/m3	ND	ND		25	
1,4-Dichlorobenzene	ug/m3	ND	ND		25	
2-Butanone (MEK)	ug/m3	ND	ND		25	
2-Hexanone	ug/m3	ND	ND		25	
2-Propanol	ug/m3	ND	ND		25	
4-Ethyltoluene	ug/m3	ND	ND		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	ND		25	
Acetone	ug/m3	10.4	11.3	8	25	
Benzene	ug/m3	1.5	1.6	3	25	
Benzyl chloride	ug/m3	ND	ND		25	
Bromodichloromethane	ug/m3	ND	ND		25	
Bromoform	ug/m3	ND	ND		25	
Bromomethane	ug/m3	ND	ND		25	
Carbon disulfide	ug/m3	ND	ND		25	
Carbon tetrachloride	ug/m3	ND	ND		25	
Chlorobenzene	ug/m3	ND	ND		25	
Chloroethane	ug/m3	ND	ND		25	
Chloroform	ug/m3	ND	ND		25	
Chloromethane	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
cis-1,3-Dichloropropene	ug/m3	ND	ND		25	
Cyclohexane	ug/m3	ND	ND		25	
Dibromochloromethane	ug/m3	ND	ND		25	
Dichlorodifluoromethane	ug/m3	2.5	2.7	6	25	
Dichlorotetrafluoroethane	ug/m3	ND	ND		25	
Ethanol	ug/m3	14.6	14.6	.1	25	SS
Ethyl acetate	ug/m3	ND	ND		25	
Ethylbenzene	ug/m3	ND	ND		25	
Hexachloro-1,3-butadiene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	ND		25	
Methyl-tert-butyl ether	ug/m3	ND	ND		25	
Methylene Chloride	ug/m3	68.4	72.7	6	25	
n-Heptane	ug/m3	ND	.99J		25	
n-Hexane	ug/m3	6.3	6.8	7	25	
Naphthalene	ug/m3	ND	1.8J		25	
o-Xylene	ug/m3	ND	ND		25	
Propylene	ug/m3	ND	ND		25	
Styrene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

SAMPLE DUPLICATE: 1625446

Parameter	Units	10257118001 Result	Dup Result	RPD	Max RPD	Qualifiers
Tetrahydrofuran	ug/m3	ND	ND		25	
Toluene	ug/m3	2.5	2.6	2	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
trans-1,3-Dichloropropene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Trichlorofluoromethane	ug/m3	ND	1.8J		25	
Vinyl acetate	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 10256995001

[1] The Total Hydrocarbon (THC) pattern is evenly distributed throughout the chromatogram (before and after toluene).

Sample: 10256995002

[1] The Total Hydrocarbon (THC) pattern occurred in the first half of the chromatogram (before toluene).

Sample: 10256995003

[1] The Total Hydrocarbon (THC) pattern is evenly distributed throughout the chromatogram (before and after toluene).

Sample: 10256995004

[1] The Total Hydrocarbon (THC) pattern is evenly distributed throughout the chromatogram (before and after toluene).

Sample: 10256995005

[1] The Total Hydrocarbon (THC) pattern is evenly distributed throughout the chromatogram (before and after toluene).

Sample: 10256995006

[1] The Total Hydrocarbon (THC) pattern occurred in the first half of the chromatogram (before toluene).

Sample: 10256995007

[1] The Total Hydrocarbon (THC) pattern occurred in the first half of the chromatogram (before toluene).

Sample: 10256995008

[1] The Total Hydrocarbon (THC) pattern is evenly distributed throughout the chromatogram (before and after toluene).

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

ANALYTE QUALIFIERS

SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.
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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256995

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10256995001	SB-1-VP	TO-15	AIR/19418		
10256995002	SB-3-VP	TO-15	AIR/19418		
10256995003	VP-1	TO-15	AIR/19418		
10256995004	VP-2	TO-15	AIR/19418		
10256995005	VP-3	TO-15	AIR/19430		
10256995006	VP-4	TO-15	AIR/19418		
10256995007	DUP-VP-4	TO-15	AIR/19418		
10256995008	VP-5	TO-15	AIR/19418		

REPORT OF LABORATORY ANALYSIS

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: <u>AELCOM</u> Address: <u>800 L. Salko Ave. Suite 110</u> <u>Minneapolis, MN 55402</u> Email To: <u>David.C. Phelps@aelcom.com</u> Phone: <u>612-766-2000</u> Fax: _____ Requested Due Date/TAT: <u>5/2</u>		Section B Required Project Information: Report To: <u>Don Phelps</u> Copy To: _____ Purchase Order No.: _____ Project Name: <u>NRCA Flow Meters</u> Project Number: <u>20314270</u>		Section C Invoice Information: Attention: <u>Don Phelps</u> Company Name: <u>AELCOM</u> Address: _____ Pace Quote Reference: _____ Pace Project Manager/Sales Rep: <u>Carol Dany</u> Pace Profile #: _____		Page: <u>1</u> of <u>1</u> 14539	
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ITEM #	Section D Required Client Information		COLLECTED				Summa Can Number	Flow Control Number	Method:	Pace Lab ID
	Valid Media Codes	CODE	COMPOSITE -		DATE	TIME				
			DATE	TIME						
1	50-1-VP	1LC	2-5-14	0800			2445		TO-15 Short List	001
2	50-3-VP	1LC		0845			2498		TO-15 Short List	002
3	VP-1	6LC		1240			1621		TO-15 Short List	003
4	VP-2			1316			1517		TO-15 Short List	004
5	VP-3			1332			1480		TO-15 Short List	005
6	VP-4			1445			1753		TO-15 Short List	006
7	VP-4 Dup. VP-4			1445			1650		TO-15 Short List	007
8	VP-5			1510			1609		TO-15 Short List	008
9										
10										
11										
12										

Comments:		RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
NO flow controls were used. Items 1-3 have no pressure gauge.		Ben Hays / AELCOM	5-5-14	0850	Carol Dany	5-5-14	8550	Temp in °C
								Received on
								Ice
								Custody
								Sealed Cooler
								Samples Intact

SAMPPLER NAME AND SIGNATURE PRINT Name of SAMPPLER: <u>Ben Hays</u> SIGNATURE of SAMPPLER: <u>[Signature]</u> DATE Signed (MM/DD/YY): <u>5-5-14</u>	
--	--

ORIGINAL

	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

**Air Sample Condition
Upon Receipt**

Client Name:

Project #:

WO#: 10256995



10256995

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other:

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No

Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other:

Temp Blank rec: ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): Corrected Temp (°C):

Thermom. Used: ☐ B88A912167504 ☐ 72337080
☐ B88A9132521491 ☐ 80512447

Date & Initials of Person Examining Contents:

Temp should be above freezing to 6°C Correction Factor:

Type of ice Received ☐ Blue ☐ Wet ☒ None

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☐ Yes ☐ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Media: <u>Air can</u>		11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12.

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
SB-1	2445				
SB-3	2448				
VP-1	1621				
VP-2	1517				
VP-3	1480				
VP-4	1753				
VP-4 dup	1652				
VP-5	1609				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted:

Date/Time:

Comments/Resolution:

Project Manager Review:

Sally Heinje

Digitally signed by Sally Heinje
 DN: cn=Sally Heinje, o=Pace Analytical, ou,
 email=sally.heinje@pacelabs.com, c=US
 Date: 2014.02.07 08:58:06 -06'00'

Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

February 13, 2014

Dan Phelps
AECOM
800 LaSalle Avenue
Minneapolis, MN 55402

RE: Project: 60314270 MPCA Flame Metals
Pace Project No.: 10256931

Dear Dan Phelps:

Enclosed are the analytical results for sample(s) received by the laboratory on February 06, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Carol Davy
carol.davy@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Dept of Environmental Management #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
EPA Region 5 #WD-15J
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322

Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10256931001	IDW-S	Solid	02/05/14 12:10	02/06/14 08:56
10256931002	IDW-W	Water	02/05/14 12:20	02/06/14 08:56

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10256931001	IDW-S	EPA 6010	WBS	7
		EPA 6010	IP	7
		EPA 7470A	AS2	1
		EPA 7471	AS2	1
		ASTM D2974	JLP	1
		EPA 8260	SH2	14
10256931002	IDW-W	EPA 8260	LPM	70

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Method: EPA 6010

Description: 6010 MET ICP

Client: AECOM

Date: February 13, 2014

General Information:

1 sample was analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3050 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Method: EPA 6010

Description: 6010 MET ICP, TCLP

Client: AECOM

Date: February 13, 2014

General Information:

1 sample was analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Method: EPA 7470A

Description: 7470 Mercury, TCLP

Client: AECOM

Date: February 13, 2014

General Information:

1 sample was analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Method: EPA 7471

Description: 7471 Mercury

Client: AECOM

Date: February 13, 2014

General Information:

1 sample was analyzed for EPA 7471. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7471 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Method: EPA 8260

Description: 8260 MSV TCLP

Client: AECOM

Date: February 13, 2014

General Information:

1 sample was analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

QC Batch: MSV/26330

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- LCS (Lab ID: 1623051)
 - Vinyl chloride
- MS (Lab ID: 1623052)
 - Vinyl chloride
- MSD (Lab ID: 1623053)
 - Vinyl chloride

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: MSV/26330

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 1623051)
 - Vinyl chloride
- MS (Lab ID: 1623052)
 - Vinyl chloride
- MSD (Lab ID: 1623053)
 - Vinyl chloride

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Method: EPA 8260

Description: 8260 MSV TCLP

Client: AECOM

Date: February 13, 2014

QC Batch: MSV/26330

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10256952001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 1623053)
- Vinyl chloride

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Method: EPA 8260

Description: 8260 VOC

Client: AECOM

Date: February 13, 2014

General Information:

1 sample was analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/26315

LO: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 1622113)
- 4-Methyl-2-pentanone (MIBK)

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/26315

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10256845012

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1624036)
 - 1,2-Dibromo-3-chloropropane
 - Hexachloro-1,3-butadiene

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Method: EPA 8260

Description: 8260 VOC

Client: AECOM

Date: February 13, 2014

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Sample: IDW-S **Lab ID:** 10256931001 **Collected:** 02/05/14 12:10 **Received:** 02/06/14 08:56 **Matrix:** Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Arsenic	ND	mg/kg	0.83	0.14	1	02/10/14 08:47	02/10/14 20:52	7440-38-2	
Barium	10.6	mg/kg	0.41	0.024	1	02/10/14 08:47	02/10/14 20:52	7440-39-3	
Cadmium	ND	mg/kg	0.12	0.062	1	02/10/14 08:47	02/10/14 20:52	7440-43-9	
Chromium	6.5	mg/kg	0.41	0.063	1	02/10/14 08:47	02/10/14 20:52	7440-47-3	
Lead	1.5	mg/kg	0.83	0.059	1	02/10/14 08:47	02/10/14 20:52	7439-92-1	
Selenium	2.0	mg/kg	0.62	0.20	1	02/10/14 08:47	02/10/14 20:52	7782-49-2	
Silver	ND	mg/kg	0.41	0.028	1	02/10/14 08:47	02/10/14 20:52	7440-22-4	
6010 MET ICP, TCLP Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Leachate Method/Date: EPA 1311; 02/11/14 12:08									
Arsenic	ND	ug/L	100	27.4	1	02/11/14 13:37	02/12/14 08:37	7440-38-2	
Barium	544	ug/L	50.0	0.65	1	02/11/14 13:37	02/12/14 08:37	7440-39-3	
Cadmium	ND	ug/L	15.0	1.4	1	02/11/14 13:37	02/12/14 08:37	7440-43-9	
Chromium	ND	ug/L	50.0	3.6	1	02/11/14 13:37	02/12/14 08:37	7440-47-3	
Lead	ND	mg/L	0.050	0.0062	1	02/11/14 13:37	02/12/14 08:37	7439-92-1	
Selenium	ND	ug/L	100	30.7	1	02/11/14 13:37	02/12/14 08:37	7782-49-2	
Silver	ND	ug/L	50.0	4.8	1	02/11/14 13:37	02/12/14 08:37	7440-22-4	
7470 Mercury, TCLP Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Leachate Method/Date: EPA 1311; 02/11/14 12:08									
Mercury	ND	ug/L	0.60	0.090	1	02/11/14 13:39	02/12/14 12:58	7439-97-6	
7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471									
Mercury	ND	mg/kg	0.020	0.0060	1	02/10/14 09:36	02/11/14 13:33	7439-97-6	
Dry Weight Analytical Method: ASTM D2974									
Percent Moisture	3.9	%	0.10	0.10	1		02/11/14 00:00		
8260 MSV TCLP Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 02/11/14 13:10									
Benzene	ND	ug/L	50.0	4.0	1		02/11/14 18:43	71-43-2	
2-Butanone (MEK)	ND	ug/L	200	12.0	1		02/11/14 18:43	78-93-3	
Carbon tetrachloride	ND	ug/L	200	6.0	1		02/11/14 18:43	56-23-5	
Chlorobenzene	ND	ug/L	50.0	4.0	1		02/11/14 18:43	108-90-7	
Chloroform	ND	ug/L	50.0	6.0	1		02/11/14 18:43	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	50.0	7.0	1		02/11/14 18:43	106-46-7	
1,2-Dichloroethane	ND	ug/L	50.0	6.0	1		02/11/14 18:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	50.0	11.0	1		02/11/14 18:43	75-35-4	
Tetrachloroethene	ND	ug/L	50.0	4.0	1		02/11/14 18:43	127-18-4	
Trichloroethene	ND	ug/L	50.0	5.0	1		02/11/14 18:43	79-01-6	
Vinyl chloride	ND	ug/L	20.0	5.0	1		02/11/14 18:43	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		02/11/14 18:43	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		02/11/14 18:43	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		02/11/14 18:43	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Sample: IDW-W		Lab ID: 10256931002		Collected: 02/05/14 12:20		Received: 02/06/14 08:56		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
Acetone	ND	ug/L	200	100	10		02/12/14 18:19	67-64-1	
Allyl chloride	ND	ug/L	40.0	2.3	10		02/12/14 18:19	107-05-1	
Benzene	ND	ug/L	10.0	2.4	10		02/12/14 18:19	71-43-2	
Bromobenzene	ND	ug/L	10.0	2.3	10		02/12/14 18:19	108-86-1	
Bromochloromethane	ND	ug/L	10.0	5.0	10		02/12/14 18:19	74-97-5	
Bromodichloromethane	ND	ug/L	10.0	2.5	10		02/12/14 18:19	75-27-4	
Bromoform	ND	ug/L	40.0	20.0	10		02/12/14 18:19	75-25-2	
Bromomethane	ND	ug/L	40.0	20.0	10		02/12/14 18:19	74-83-9	
2-Butanone (MEK)	ND	ug/L	50.0	25.0	10		02/12/14 18:19	78-93-3	
n-Butylbenzene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	104-51-8	
sec-Butylbenzene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	135-98-8	
tert-Butylbenzene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	98-06-6	
Carbon tetrachloride	ND	ug/L	10.0	3.1	10		02/12/14 18:19	56-23-5	
Chlorobenzene	ND	ug/L	10.0	2.4	10		02/12/14 18:19	108-90-7	
Chloroethane	ND	ug/L	10.0	5.0	10		02/12/14 18:19	75-00-3	
Chloroform	ND	ug/L	10.0	2.7	10		02/12/14 18:19	67-66-3	
Chloromethane	ND	ug/L	40.0	20.0	10		02/12/14 18:19	74-87-3	
2-Chlorotoluene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	95-49-8	
4-Chlorotoluene	ND	ug/L	10.0	2.3	10		02/12/14 18:19	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	40.0	20.0	10		02/12/14 18:19	96-12-8	
Dibromochloromethane	ND	ug/L	10.0	2.7	10		02/12/14 18:19	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	10.0	2.3	10		02/12/14 18:19	106-93-4	
Dibromomethane	ND	ug/L	40.0	3.8	10		02/12/14 18:19	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	10.0	0.92	10		02/12/14 18:19	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	106-46-7	
Dichlorodifluoromethane	ND	ug/L	10.0	4.0	10		02/12/14 18:19	75-71-8	
1,1-Dichloroethane	ND	ug/L	10.0	5.0	10		02/12/14 18:19	75-34-3	
1,2-Dichloroethane	ND	ug/L	10.0	2.2	10		02/12/14 18:19	107-06-2	
1,1-Dichloroethene	ND	ug/L	10.0	2.4	10		02/12/14 18:19	75-35-4	
cis-1,2-Dichloroethene	39.5	ug/L	10.0	2.3	10		02/12/14 18:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	10.0	2.4	10		02/12/14 18:19	156-60-5	
Dichlorofluoromethane	ND	ug/L	10.0	2.0	10		02/12/14 18:19	75-43-4	
1,2-Dichloropropane	ND	ug/L	40.0	2.0	10		02/12/14 18:19	78-87-5	
1,3-Dichloropropane	ND	ug/L	10.0	5.0	10		02/12/14 18:19	142-28-9	
2,2-Dichloropropane	ND	ug/L	40.0	5.0	10		02/12/14 18:19	594-20-7	
1,1-Dichloropropene	ND	ug/L	10.0	2.5	10		02/12/14 18:19	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	40.0	5.0	10		02/12/14 18:19	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	40.0	20.0	10		02/12/14 18:19	10061-02-6	
Diethyl ether (Ethyl ether)	ND	ug/L	40.0	20.0	10		02/12/14 18:19	60-29-7	
Ethylbenzene	ND	ug/L	10.0	2.4	10		02/12/14 18:19	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	10.0	5.0	10		02/12/14 18:19	98-82-8	
p-Isopropyltoluene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	99-87-6	
Methylene Chloride	ND	ug/L	40.0	20.0	10		02/12/14 18:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	25.0	10		02/12/14 18:19	108-10-1	L3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Sample: IDW-W		Lab ID: 10256931002		Collected: 02/05/14 12:20		Received: 02/06/14 08:56		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 VOC		Analytical Method: EPA 8260							
Methyl-tert-butyl ether	ND	ug/L	10.0	5.0	10		02/12/14 18:19	1634-04-4	
Naphthalene	ND	ug/L	40.0	20.0	10		02/12/14 18:19	91-20-3	
n-Propylbenzene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	103-65-1	
Styrene	ND	ug/L	10.0	2.4	10		02/12/14 18:19	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	10.0	5.0	10		02/12/14 18:19	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0	1.3	10		02/12/14 18:19	79-34-5	
Tetrachloroethene	ND	ug/L	10.0	2.9	10		02/12/14 18:19	127-18-4	
Tetrahydrofuran	ND	ug/L	100	29.4	10		02/12/14 18:19	109-99-9	
Toluene	ND	ug/L	10.0	2.3	10		02/12/14 18:19	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	10.0	5.0	10		02/12/14 18:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	10.0	1.6	10		02/12/14 18:19	79-00-5	
Trichloroethene	1030	ug/L	4.0	1.3	10		02/12/14 18:19	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	1.3	10		02/12/14 18:19	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	40.0	5.4	10		02/12/14 18:19	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	10.0	3.3	10		02/12/14 18:19	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	10.0	5.0	10		02/12/14 18:19	108-67-8	
Vinyl chloride	ND	ug/L	4.0	1.4	10		02/12/14 18:19	75-01-4	
Xylene (Total)	ND	ug/L	30.0	7.2	10		02/12/14 18:19	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	83 %		75-125		10		02/12/14 18:19	17060-07-0	
Toluene-d8 (S)	102 %		75-125		10		02/12/14 18:19	2037-26-5	
4-Bromofluorobenzene (S)	98 %		75-125		10		02/12/14 18:19	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

QC Batch:	MERP/10012	Analysis Method:	EPA 7470A
QC Batch Method:	EPA 7470A	Analysis Description:	7470 Mercury TCLP
Associated Lab Samples:	10256931001		

METHOD BLANK: 1622891 Matrix: Water
Associated Lab Samples: 10256931001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.60	02/12/14 12:51	

METHOD BLANK: 1622069 Matrix: Water
Associated Lab Samples: 10256931001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.60	02/12/14 13:47	

METHOD BLANK: 1622723 Matrix: Water
Associated Lab Samples: 10256931001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.60	02/12/14 13:49	

LABORATORY CONTROL SAMPLE: 1622892

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	15	15.3	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1622893 1622894

Parameter	Units	10256931001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	15	15	15.3	15.3	102	102	80-120	.4	20	

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

QC Batch: MERP/10009

Analysis Method: EPA 7471

QC Batch Method: EPA 7471

Analysis Description: 7471 Mercury

Associated Lab Samples: 10256931001

METHOD BLANK: 1622056

Matrix: Solid

Associated Lab Samples: 10256931001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	ND	0.019	02/11/14 13:29	

LABORATORY CONTROL SAMPLE: 1622057

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.47	0.47	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1622058 1622059

Parameter	Units	10256931001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	ND	.5	.47	0.48	0.46	95	98	80-120	3	20	

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

QC Batch:	MPRP/44373	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3050	Analysis Description:	6010 MET
Associated Lab Samples:	10256931001		

METHOD BLANK: 1622044 Matrix: Solid

Associated Lab Samples: 10256931001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.94	02/10/14 20:42	
Barium	mg/kg	ND	0.47	02/10/14 20:42	
Cadmium	mg/kg	ND	0.14	02/10/14 20:42	
Chromium	mg/kg	ND	0.47	02/10/14 20:42	
Lead	mg/kg	ND	0.94	02/10/14 20:42	
Selenium	mg/kg	ND	0.71	02/10/14 20:42	
Silver	mg/kg	ND	0.47	02/10/14 20:42	

LABORATORY CONTROL SAMPLE: 1622045

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	45.9	42.4	92	80-120	
Barium	mg/kg	45.9	43.8	95	80-120	
Cadmium	mg/kg	45.9	41.1	90	80-120	
Chromium	mg/kg	45.9	43.5	95	80-120	
Lead	mg/kg	45.9	42.3	92	80-120	
Selenium	mg/kg	45.9	40.6	89	80-120	
Silver	mg/kg	22.9	20.3	89	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1622046 1622047

Parameter	Units	10256931001		MS		MSD		MS		MSD		% Rec		Max		Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	% Rec	% Rec	Limits	RPD	RPD	RPD	
Arsenic	mg/kg	ND	43.7	46.4	40.7	42.8	93	92	75-125	5	30					
Barium	mg/kg	10.6	43.7	46.4	50.5	54.5	91	94	75-125	7	30					
Cadmium	mg/kg	ND	43.7	46.4	39.0	41.6	89	89	75-125	6	30					
Chromium	mg/kg	6.5	43.7	46.4	48.3	49.8	96	93	75-125	3	30					
Lead	mg/kg	1.5	43.7	46.4	39.7	42.4	87	88	75-125	7	30					
Selenium	mg/kg	2.0	43.7	46.4	39.2	43.7	85	90	75-125	11	30					
Silver	mg/kg	ND	21.9	23.2	20.0	21.3	91	91	75-125	6	30					

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

QC Batch: MPRP/44413

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET TCLP

Associated Lab Samples: 10256931001

METHOD BLANK: 1622896

Matrix: Water

Associated Lab Samples: 10256931001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	100	02/12/14 08:18	
Barium	ug/L	ND	50.0	02/12/14 08:18	
Cadmium	ug/L	ND	15.0	02/12/14 08:18	
Chromium	ug/L	ND	50.0	02/12/14 08:18	
Lead	mg/L	ND	0.050	02/12/14 08:18	
Selenium	ug/L	ND	100	02/12/14 08:18	
Silver	ug/L	ND	50.0	02/12/14 08:18	

METHOD BLANK: 1622069

Matrix: Water

Associated Lab Samples: 10256931001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	100	02/12/14 10:16	
Barium	ug/L	ND	50.0	02/12/14 10:16	
Cadmium	ug/L	ND	15.0	02/12/14 10:16	
Chromium	ug/L	ND	50.0	02/12/14 10:16	
Lead	mg/L	ND	0.050	02/12/14 10:16	
Selenium	ug/L	ND	100	02/12/14 10:16	
Silver	ug/L	ND	50.0	02/12/14 10:16	

METHOD BLANK: 1622723

Matrix: Water

Associated Lab Samples: 10256931001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	100	02/12/14 10:23	
Barium	ug/L	ND	50.0	02/12/14 10:23	
Cadmium	ug/L	ND	15.0	02/12/14 10:23	
Chromium	ug/L	ND	50.0	02/12/14 10:23	
Lead	mg/L	ND	0.050	02/12/14 10:23	
Selenium	ug/L	ND	100	02/12/14 10:23	
Silver	ug/L	ND	50.0	02/12/14 10:23	

LABORATORY CONTROL SAMPLE: 1622897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	5000	5180	104	80-120	
Barium	ug/L	5000	5090	102	80-120	

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

LABORATORY CONTROL SAMPLE: 1622897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	5000	5240	105	80-120	
Chromium	ug/L	5000	5110	102	80-120	
Lead	mg/L	5	4.7	95	80-120	
Selenium	ug/L	5000	5320	106	80-120	
Silver	ug/L	2500	2550	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1622898 1622899

Parameter	Units	10256931001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	ND	5000	5000	5260	5310	105	106	75-125	.9	30	
Barium	ug/L	544	5000	5000	5550	5550	100	100	75-125	.001	30	
Cadmium	ug/L	ND	5000	5000	5280	5250	106	105	75-125	.5	30	
Chromium	ug/L	ND	5000	5000	5180	5170	103	103	75-125	.2	30	
Lead	mg/L	ND	5	5	4.6	4.7	92	93	75-125	.9	30	
Selenium	ug/L	ND	5000	5000	5370	5430	107	109	75-125	1	30	
Silver	ug/L	ND	2500	2500	2600	2590	104	103	75-125	.3	30	

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

QC Batch: MPRP/44410

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 10256931001

SAMPLE DUPLICATE: 1622781

Parameter	Units	10256931001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.9	3.6	10	30	

SAMPLE DUPLICATE: 1622782

Parameter	Units	10257336004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.4	4.6	4	30	

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

QC Batch: MSV/26330

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV TCLP

Associated Lab Samples: 10256931001

METHOD BLANK: 1623050

Matrix: Water

Associated Lab Samples: 10256931001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	02/11/14 16:54	
1,2-Dichloroethane	ug/L	ND	50.0	02/11/14 16:54	
1,4-Dichlorobenzene	ug/L	ND	50.0	02/11/14 16:54	
2-Butanone (MEK)	ug/L	ND	200	02/11/14 16:54	
Benzene	ug/L	ND	50.0	02/11/14 16:54	
Carbon tetrachloride	ug/L	ND	200	02/11/14 16:54	
Chlorobenzene	ug/L	ND	50.0	02/11/14 16:54	
Chloroform	ug/L	ND	50.0	02/11/14 16:54	
Tetrachloroethene	ug/L	ND	50.0	02/11/14 16:54	
Trichloroethene	ug/L	ND	50.0	02/11/14 16:54	
Vinyl chloride	ug/L	ND	20.0	02/11/14 16:54	
1,2-Dichloroethane-d4 (S)	%	99	75-125	02/11/14 16:54	
4-Bromofluorobenzene (S)	%	101	75-125	02/11/14 16:54	
Toluene-d8 (S)	%	99	75-125	02/11/14 16:54	

LABORATORY CONTROL SAMPLE: 1623051

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	500	430	86	65-132	
1,2-Dichloroethane	ug/L	500	471	94	72-125	
1,4-Dichlorobenzene	ug/L	500	453	91	75-125	
2-Butanone (MEK)	ug/L	2500	2050	82	66-128	
Benzene	ug/L	500	441	88	73-125	
Carbon tetrachloride	ug/L	500	415	83	67-134	
Chlorobenzene	ug/L	500	440	88	75-125	
Chloroform	ug/L	500	431	86	70-127	
Tetrachloroethene	ug/L	500	439	88	69-128	
Trichloroethene	ug/L	500	418	84	75-125	
Vinyl chloride	ug/L	500	670	134	65-136	CH,SS
1,2-Dichloroethane-d4 (S)	%			102	75-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1623052

1623053

Parameter	Units	10256952001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	500	500	481	470	96	94	54-139	2	30	
1,2-Dichloroethane	ug/L	ND	500	500	473	527	95	105	70-125	11	30	
1,4-Dichlorobenzene	ug/L	ND	500	500	474	523	93	103	67-125	10	30	

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1623052 1623053												
Parameter	Units	10256952001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
2-Butanone (MEK)	ug/L	ND	2500	2500	2170	2510	87	100	65-136	14	30	
Benzene	ug/L	ND	500	500	481	516	88	95	66-125	7	30	
Carbon tetrachloride	ug/L	ND	500	500	408	490	82	98	70-139	18	30	
Chlorobenzene	ug/L	ND	500	500	448	482	89	96	70-125	7	30	
Chloroform	ug/L	ND	500	500	438	485	88	97	66-130	10	30	
Tetrachloroethene	ug/L	ND	500	500	447	472	89	94	63-127	6	30	
Trichloroethene	ug/L	ND	500	500	434	456	87	91	32-150	5	30	
Vinyl chloride	ug/L	ND	500	500	601	729	120	146	62-138	19	30	CH, M1, SS
1,2-Dichloroethane-d4 (S)	%						103	105	75-125			
4-Bromofluorobenzene (S)	%						102	100	75-125			
Toluene-d8 (S)	%						101	100	75-125			

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

QC Batch: MSV/26315

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 465 W

Associated Lab Samples: 10256931002

METHOD BLANK: 1622112

Matrix: Water

Associated Lab Samples: 10256931002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	02/12/14 11:13	
1,1,1-Trichloroethane	ug/L	ND	1.0	02/12/14 11:13	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	02/12/14 11:13	
1,1,2-Trichloroethane	ug/L	ND	1.0	02/12/14 11:13	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	02/12/14 11:13	
1,1-Dichloroethane	ug/L	ND	1.0	02/12/14 11:13	
1,1-Dichloroethene	ug/L	ND	1.0	02/12/14 11:13	
1,1-Dichloropropene	ug/L	ND	1.0	02/12/14 11:13	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	02/12/14 11:13	
1,2,3-Trichloropropane	ug/L	ND	4.0	02/12/14 11:13	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	02/12/14 11:13	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	02/12/14 11:13	
1,2-Dibromo-3-chloropropane	ug/L	ND	4.0	02/12/14 11:13	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	02/12/14 11:13	
1,2-Dichlorobenzene	ug/L	ND	1.0	02/12/14 11:13	
1,2-Dichloroethane	ug/L	ND	1.0	02/12/14 11:13	
1,2-Dichloropropane	ug/L	ND	4.0	02/12/14 11:13	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	02/12/14 11:13	
1,3-Dichlorobenzene	ug/L	ND	1.0	02/12/14 11:13	
1,3-Dichloropropane	ug/L	ND	1.0	02/12/14 11:13	
1,4-Dichlorobenzene	ug/L	ND	1.0	02/12/14 11:13	
2,2-Dichloropropane	ug/L	ND	4.0	02/12/14 11:13	
2-Butanone (MEK)	ug/L	ND	5.0	02/12/14 11:13	
2-Chlorotoluene	ug/L	ND	1.0	02/12/14 11:13	
4-Chlorotoluene	ug/L	ND	1.0	02/12/14 11:13	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	02/12/14 11:13	
Acetone	ug/L	ND	20.0	02/12/14 11:13	
Allyl chloride	ug/L	ND	4.0	02/12/14 11:13	
Benzene	ug/L	ND	1.0	02/12/14 11:13	
Bromobenzene	ug/L	ND	1.0	02/12/14 11:13	
Bromochloromethane	ug/L	ND	1.0	02/12/14 11:13	
Bromodichloromethane	ug/L	ND	1.0	02/12/14 11:13	
Bromoform	ug/L	ND	4.0	02/12/14 11:13	
Bromomethane	ug/L	ND	4.0	02/12/14 11:13	
Carbon tetrachloride	ug/L	ND	1.0	02/12/14 11:13	
Chlorobenzene	ug/L	ND	1.0	02/12/14 11:13	
Chloroethane	ug/L	ND	1.0	02/12/14 11:13	
Chloroform	ug/L	ND	1.0	02/12/14 11:13	
Chloromethane	ug/L	ND	4.0	02/12/14 11:13	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/12/14 11:13	
cis-1,3-Dichloropropene	ug/L	ND	4.0	02/12/14 11:13	
Dibromochloromethane	ug/L	ND	1.0	02/12/14 11:13	
Dibromomethane	ug/L	ND	4.0	02/12/14 11:13	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

METHOD BLANK: 1622112

Matrix: Water

Associated Lab Samples: 10256931002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	ND	1.0	02/12/14 11:13	
Dichlorofluoromethane	ug/L	ND	1.0	02/12/14 11:13	
Diethyl ether (Ethyl ether)	ug/L	ND	4.0	02/12/14 11:13	
Ethylbenzene	ug/L	ND	1.0	02/12/14 11:13	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	02/12/14 11:13	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	02/12/14 11:13	
Methyl-tert-butyl ether	ug/L	ND	1.0	02/12/14 11:13	
Methylene Chloride	ug/L	ND	4.0	02/12/14 11:13	
n-Butylbenzene	ug/L	ND	1.0	02/12/14 11:13	
n-Propylbenzene	ug/L	ND	1.0	02/12/14 11:13	
Naphthalene	ug/L	ND	4.0	02/12/14 11:13	
p-Isopropyltoluene	ug/L	ND	1.0	02/12/14 11:13	
sec-Butylbenzene	ug/L	ND	1.0	02/12/14 11:13	
Styrene	ug/L	ND	1.0	02/12/14 11:13	
tert-Butylbenzene	ug/L	ND	1.0	02/12/14 11:13	
Tetrachloroethene	ug/L	ND	1.0	02/12/14 11:13	
Tetrahydrofuran	ug/L	ND	10.0	02/12/14 11:13	
Toluene	ug/L	ND	1.0	02/12/14 11:13	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/12/14 11:13	
trans-1,3-Dichloropropene	ug/L	ND	4.0	02/12/14 11:13	
Trichloroethene	ug/L	ND	0.40	02/12/14 11:13	
Trichlorofluoromethane	ug/L	ND	1.0	02/12/14 11:13	
Vinyl chloride	ug/L	ND	0.40	02/12/14 11:13	
Xylene (Total)	ug/L	ND	3.0	02/12/14 11:13	
1,2-Dichloroethane-d4 (S)	%	85	75-125	02/12/14 11:13	
4-Bromofluorobenzene (S)	%	98	75-125	02/12/14 11:13	
Toluene-d8 (S)	%	103	75-125	02/12/14 11:13	

LABORATORY CONTROL SAMPLE: 1622113

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	20.5	102	75-125	
1,1,1-Trichloroethane	ug/L	20	18.0	90	73-125	
1,1,2,2-Tetrachloroethane	ug/L	20	18.4	92	74-125	
1,1,2-Trichloroethane	ug/L	20	20.7	103	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.3	101	56-133	
1,1-Dichloroethane	ug/L	20	17.1	86	75-125	
1,1-Dichloroethene	ug/L	20	17.0	85	70-125	
1,1-Dichloropropene	ug/L	20	18.0	90	73-125	
1,2,3-Trichlorobenzene	ug/L	20	20.1	101	75-125	
1,2,3-Trichloropropane	ug/L	20	18.9	95	75-125	
1,2,4-Trichlorobenzene	ug/L	20	20.4	102	75-125	
1,2,4-Trimethylbenzene	ug/L	20	20.2	101	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	61.0	122	70-125	
1,2-Dibromoethane (EDB)	ug/L	20	20.7	104	75-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

LABORATORY CONTROL SAMPLE: 1622113

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichlorobenzene	ug/L	20	18.4	92	75-125	
1,2-Dichloroethane	ug/L	20	17.3	86	75-125	
1,2-Dichloropropane	ug/L	20	18.8	94	75-125	
1,3,5-Trimethylbenzene	ug/L	20	20.0	100	75-125	
1,3-Dichlorobenzene	ug/L	20	18.7	93	75-125	
1,3-Dichloropropane	ug/L	20	21.3	107	75-125	
1,4-Dichlorobenzene	ug/L	20	18.0	90	75-125	
2,2-Dichloropropane	ug/L	20	18.4	92	66-130	
2-Butanone (MEK)	ug/L	100	99.4	99	64-126	
2-Chlorotoluene	ug/L	20	18.8	94	73-125	
4-Chlorotoluene	ug/L	20	19.5	97	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	127	127	71-125	L0
Acetone	ug/L	100	99.0	99	66-131	
Allyl chloride	ug/L	20	18.1	90	70-129	
Benzene	ug/L	20	17.1	85	75-125	
Bromobenzene	ug/L	20	18.6	93	75-125	
Bromochloromethane	ug/L	20	19.5	98	75-125	
Bromodichloromethane	ug/L	20	20.2	101	75-125	
Bromoform	ug/L	20	19.6	98	70-125	
Bromomethane	ug/L	20	16.5	82	30-150	
Carbon tetrachloride	ug/L	20	19.4	97	68-129	
Chlorobenzene	ug/L	20	18.5	93	75-125	
Chloroethane	ug/L	20	17.4	87	68-133	
Chloroform	ug/L	20	18.0	90	75-125	
Chloromethane	ug/L	20	19.9	100	57-140	
cis-1,2-Dichloroethene	ug/L	20	16.7	84	75-125	
cis-1,3-Dichloropropene	ug/L	20	22.1	111	75-125	
Dibromochloromethane	ug/L	20	20.3	101	75-125	
Dibromomethane	ug/L	20	21.2	106	75-125	
Dichlorodifluoromethane	ug/L	20	19.3	96	50-134	
Dichlorofluoromethane	ug/L	20	17.7	89	74-125	
Diethyl ether (Ethyl ether)	ug/L	20	18.4	92	75-125	
Ethylbenzene	ug/L	20	18.7	94	75-125	
Hexachloro-1,3-butadiene	ug/L	20	21.0	105	74-128	
Isopropylbenzene (Cumene)	ug/L	20	21.4	107	73-125	
Methyl-tert-butyl ether	ug/L	20	18.8	94	75-125	
Methylene Chloride	ug/L	20	17.5	88	75-125	
n-Butylbenzene	ug/L	20	20.4	102	73-125	
n-Propylbenzene	ug/L	20	19.1	96	72-125	
Naphthalene	ug/L	20	20.7	103	74-125	
p-Isopropyltoluene	ug/L	20	20.9	105	74-125	
sec-Butylbenzene	ug/L	20	20.5	102	74-125	
Styrene	ug/L	20	21.0	105	75-125	
tert-Butylbenzene	ug/L	20	20.4	102	74-125	
Tetrachloroethene	ug/L	20	20.1	101	71-125	
Tetrahydrofuran	ug/L	200	198	99	70-125	
Toluene	ug/L	20	19.2	96	75-125	
trans-1,2-Dichloroethene	ug/L	20	17.5	87	73-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

LABORATORY CONTROL SAMPLE: 1622113

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
trans-1,3-Dichloropropene	ug/L	20	21.5	107	75-125	
Trichloroethene	ug/L	20	19.7	98	75-125	
Trichlorofluoromethane	ug/L	20	20.1	101	70-128	
Vinyl chloride	ug/L	20	19.5	97	70-130	
Xylene (Total)	ug/L	60	63.0	105	75-125	
1,2-Dichloroethane-d4 (S)	%			88	75-125	
4-Bromofluorobenzene (S)	%			97	75-125	
Toluene-d8 (S)	%			105	75-125	

MATRIX SPIKE SAMPLE: 1624036

Parameter	Units	10256845012 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20.6	103	74-131	
1,1,1-Trichloroethane	ug/L	ND	20	18.7	93	73-139	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.9	100	72-125	
1,1,2-Trichloroethane	ug/L	ND	20	21.0	105	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	25.5	127	68-150	
1,1-Dichloroethane	ug/L	ND	20	16.8	84	73-132	
1,1-Dichloroethene	ug/L	ND	20	17.8	89	71-142	
1,1-Dichloropropene	ug/L	ND	20	18.7	93	73-139	
1,2,3-Trichlorobenzene	ug/L	ND	20	21.3	107	70-129	
1,2,3-Trichloropropane	ug/L	ND	20	20.3	101	74-125	
1,2,4-Trichlorobenzene	ug/L	ND	20	21.8	109	70-129	
1,2,4-Trimethylbenzene	ug/L	ND	20	21.2	106	72-136	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	64.9	130	66-127	M1
1,2-Dibromoethane (EDB)	ug/L	ND	20	20.8	104	75-125	
1,2-Dichlorobenzene	ug/L	ND	20	20.0	100	75-125	
1,2-Dichloroethane	ug/L	ND	20	16.7	84	68-128	
1,2-Dichloropropane	ug/L	ND	20	18.9	95	74-131	
1,3,5-Trimethylbenzene	ug/L	ND	20	20.8	104	75-131	
1,3-Dichlorobenzene	ug/L	ND	20	20.0	100	73-125	
1,3-Dichloropropane	ug/L	ND	20	20.8	104	75-125	
1,4-Dichlorobenzene	ug/L	ND	20	19.6	98	73-125	
2,2-Dichloropropane	ug/L	ND	20	14.7	74	58-150	
2-Butanone (MEK)	ug/L	ND	100	94.2	94	56-140	
2-Chlorotoluene	ug/L	ND	20	19.7	98	70-130	
4-Chlorotoluene	ug/L	ND	20	20.2	101	73-126	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	126	126	69-128	
Acetone	ug/L	ND	100	103	103	57-143	
Allyl chloride	ug/L	ND	20	16.9	85	65-146	
Benzene	ug/L	ND	20	17.0	85	75-129	
Bromobenzene	ug/L	ND	20	20.6	103	74-125	
Bromochloromethane	ug/L	ND	20	20.0	100	75-126	
Bromodichloromethane	ug/L	ND	20	20.2	101	75-128	
Bromoform	ug/L	ND	20	19.5	97	66-130	
Bromomethane	ug/L	ND	20	13.7	68	30-150	
Carbon tetrachloride	ug/L	ND	20	20.8	104	69-148	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

MATRIX SPIKE SAMPLE: 1624036		10256845012	Spike	MS	MS	% Rec	Qualifiers
Parameter	Units	Result	Conc.	Result	% Rec	Limits	
Chlorobenzene	ug/L	ND	20	19.8	99	75-125	
Chloroethane	ug/L	ND	20	16.5	82	71-143	
Chloroform	ug/L	ND	20	18.0	90	75-126	
Chloromethane	ug/L	ND	20	17.6	88	55-150	
cis-1,2-Dichloroethene	ug/L	ND	20	16.6	83	75-130	
cis-1,3-Dichloropropene	ug/L	ND	20	20.7	104	72-129	
Dibromochloromethane	ug/L	ND	20	20.1	100	73-129	
Dibromomethane	ug/L	ND	20	21.4	107	75-125	
Dichlorodifluoromethane	ug/L	ND	20	21.8	109	70-150	
Dichlorofluoromethane	ug/L	ND	20	17.1	86	75-135	
Diethyl ether (Ethyl ether)	ug/L	ND	20	17.9	89	72-126	
Ethylbenzene	ug/L	ND	20	19.7	99	75-128	
Hexachloro-1,3-butadiene	ug/L	ND	20	11.1	55	65-144	M1
Isopropylbenzene (Cumene)	ug/L	ND	20	22.0	110	75-131	
Methyl-tert-butyl ether	ug/L	ND	20	18.0	90	74-128	
Methylene Chloride	ug/L	ND	20	17.3	87	69-125	
n-Butylbenzene	ug/L	ND	20	20.8	104	70-137	
n-Propylbenzene	ug/L	ND	20	20.1	100	72-131	
Naphthalene	ug/L	ND	20	21.8	109	70-132	
p-Isopropyltoluene	ug/L	ND	20	21.9	109	73-133	
sec-Butylbenzene	ug/L	ND	20	21.3	107	74-133	
Styrene	ug/L	ND	20	21.0	105	75-128	
tert-Butylbenzene	ug/L	ND	20	21.6	108	74-130	
Tetrachloroethene	ug/L	ND	20	22.2	111	68-140	
Tetrahydrofuran	ug/L	ND	200	208	104	65-131	
Toluene	ug/L	ND	20	20.3	101	75-129	
trans-1,2-Dichloroethene	ug/L	ND	20	17.6	88	70-136	
trans-1,3-Dichloropropene	ug/L	ND	20	19.8	99	71-125	
Trichloroethene	ug/L	ND	20	20.9	104	72-135	
Trichlorofluoromethane	ug/L	ND	20	21.8	109	75-150	
Vinyl chloride	ug/L	ND	20	18.6	93	73-150	
Xylene (Total)	ug/L	ND	60	64.3	107	75-129	
1,2-Dichloroethane-d4 (S)	%				83	75-125	
4-Bromofluorobenzene (S)	%				96	75-125	
Toluene-d8 (S)	%				103	75-125	

SAMPLE DUPLICATE: 1624037

Parameter	Units	10256845020	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,1-Dichloropropene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

SAMPLE DUPLICATE: 1624037

Parameter	Units	10256845020 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,3-Trichlorobenzene	ug/L	ND	ND		30	
1,2,3-Trichloropropane	ug/L	ND	ND		30	
1,2,4-Trichlorobenzene	ug/L	ND	ND		30	
1,2,4-Trimethylbenzene	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,3,5-Trimethylbenzene	ug/L	ND	ND		30	
1,3-Dichlorobenzene	ug/L	ND	ND		30	
1,3-Dichloropropane	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
2,2-Dichloropropane	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Chlorotoluene	ug/L	ND	ND		30	
4-Chlorotoluene	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	
Allyl chloride	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Bromobenzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	ND	ND		30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	ND	ND		30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dibromomethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Dichlorofluoromethane	ug/L	ND	ND		30	
Diethyl ether (Ethyl ether)	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Hexachloro-1,3-butadiene	ug/L	ND	ND		30	
Isopropylbenzene (Cumene)	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
n-Butylbenzene	ug/L	ND	ND		30	
n-Propylbenzene	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
p-Isopropyltoluene	ug/L	ND	ND		30	
sec-Butylbenzene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

SAMPLE DUPLICATE: 1624037

Parameter	Units	10256845020 Result	Dup Result	RPD	Max RPD	Qualifiers
Styrene	ug/L	ND	ND		30	
tert-Butylbenzene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Tetrahydrofuran	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	86	85	1		
4-Bromofluorobenzene (S)	%.	98	96	2		
Toluene-d8 (S)	%.	103	104	1		

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QUALIFIERS

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60314270 MPCA Flame Metals

Pace Project No.: 10256931

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10256931001	IDW-S	EPA 3050	MPRP/44373	EPA 6010	ICP/18715
10256931001	IDW-S	EPA 3010	MPRP/44413	EPA 6010	ICP/18723
10256931001	IDW-S	EPA 7470A	MERP/10012	EPA 7470A	MERC/11521
10256931001	IDW-S	EPA 7471	MERP/10009	EPA 7471	MERC/11512
10256931001	IDW-S	ASTM D2974	MPRP/44410		
10256931001	IDW-S	EPA 8260	MSV/26330		
10256931002	IDW-W	EPA 8260	MSV/26315		

REPORT OF LABORATORY ANALYSIS

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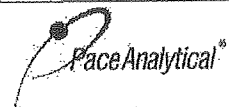
Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: ACION	Report To: Don Phelps	Attention: Don Phelps	Company Name:		
Address: 886 Lakewood Ave Suite 110	Copy To:		Address:		
Minneapolis, MN 55402			Pace Quote Reference:		
Email To: don@ac.com	Purchase Order No.:		Pace Project Manager:	Carol Dwyer	
Phone: 612-776-2080	Project Name: MBCA Stone Metals		Pace Profile #:		
Fax:	Project Number: 60314370				
Requested Due Date/TAT:					

Page: **1** of **1**
 1722263

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location
 STATE: **MN**

[illegible]

	Document Name:	Document Revised: 07Nov2013
	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-MN-L-213-rev.08	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name:

Project #:

WO#: 10256931



Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: _____

Optional: Proj. Due Date: _____ Proj. Name: _____

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No

Seals Intact? ☐ Yes ☒ No

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: _____

Temp Blank? ☒ Yes ☐ No

Thermom. Used: ☐ 80512447 ☐ 72337080

☐ 888A912167504 ☒ 888A9132521491

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.5

Cooler Temp Corrected (°C): 0.5

Biological Tissue Frozen? ☐ Yes ☒ No ☐ N/A

Temp should be above freezing to 6°C

Correction Factor: 1.00

Date and Initials of Person Examining Contents: *Chf 2-6-14*

Comments:

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes ☐ No ☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used?	☐ Yes ☒ No ☐ N/A	
Containers Intact?	☒ Yes ☐ No ☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes ☐ No ☒ N/A	11.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	12. I.D.'s on COC are reversed.
-Includes Date/Time/ID/Analysis Matrix: <i>SL/WT</i>		
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☐ Yes ☐ No ☒ N/A	13. ☐ HNO ₃ ☐ H ₂ SO ₄ ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>12)	☐ Yes ☐ No ☒ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water) DOC	☒ Yes ☐ No	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	☐ Yes ☒ No ☐ N/A	14.
Trip Blank Present?	☐ Yes ☐ No ☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes ☐ No ☒ N/A	
Pace Trip Blank Lot # (If purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

Project Manager Review:

Sally Heinje

Digitally signed by Sally Heinje
 DN: cn=Sally Heinje, o=Pace Analytical, ou,
 email=sally.heinje@paceanalytical.com, c=US
 Date: 2014.02.06 10:17:52 -06'00'

Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Sally Heinje - verification for 10256931

From: Cassandra Sparks
To: Sally Heinje
Date: 2/6/2014 3:25 PM
Subject: verification for 10256931

Client just had ID's and matrix wrong on COC.

sample logged in as 001 is a SL, on jar label from client it shows IDW-S with time of 12:10 for TCLP metals.

sample logged in as 002 is a WT, on vials from client it shows IDW-W with time of 12:20 for VOC's.

Appendix D

Groundwater and Soil Vapor Sample Collection Record Forms



Sample ID: SB-1-W (12-16)

Ground Water Sample Collection Record

Client: Minnesota Pollution Control Agency Date: 2/3/14
Project No: 60314270 Time: Start 1305
Site Location: St. Louis Park, MN Finish 1320
Weather Conds: 10° F Clear Collector(s) Ben Klaus

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 12-16
b. Depth to Water (ft) 12.9

WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used: Make YSI Model 556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1310	1.0	4.45	7.67	828	-229.2	6.70	Tan	turbid

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-1-W (12-16)	40 ml vial	3	HCl	VOCs	1315

Comments _____

Signature 

Date 2/3/2014



Sample ID: SB-1-W (46-50)

Ground Water Sample Collection Record

Client: Minnesota Pollution Control Agency Date: 2/3/14
Project No: 60314270 Time: Start 1235
Site Location: St. Louis Park, MN Finish 1245
Weather Conds: 10° F Clear Collector(s) Ben Klaus

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 46-50
b. Depth to Water (ft) 12.31

WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used: Make YSI Model 556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1240	1.0	7.64	7.34	842	-139.5	0.79	Brown	turbid

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-1-W (46-50)	40 ml vial	3	HCl	VOCs	1242

Comments _____

Signature 

Date 2/3/2014



Sample ID: SB-1-W (54-58)

Ground Water Sample Collection Record

Client:	Minnesota Pollution Control Agency	Date:	2/3/14
Project No:	60314270	Time: Start	1210
Site Location:	St. Louis Park, MN	Finish	1225
Weather Conds:	10° F Overcast	Collector(s)	Ben Klaus

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 54-55

b. Depth to Water (ft) 12.62

WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used: Make YSI Model 556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1215	1.0	8.12	7.60	772	-94.8	3.32	Brown	turbid

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-1-W (54-58)	40 ml vial	3	HCl	VOCs	1218

Comments

Signature 

Date 2/3/2014

Ground Water Sample Collection Record

Client:	Minnesota Pollution Control Agency	Date:	2/3/14
Project No:	60314270	Time: Start	1145
Site Location:	St. Louis Park, MN	Finish	1200
Weather Conds:	10° F Overcast	Collector(s)	Ben Klaus

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 71-75

b. Depth to Water (ft) 13.01
WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used:

Make	Model
YSI	556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1150	0.5	6.12	7.94	426	-367.2	0.49	Brown	very turbid

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-1-W (71-75)	40 ml vial	3	HCl	VOCs	1155

Comments The MDH lab was unable to analyze this sample due to air bubbles in the vials.

Signature 

Date 2/3/2014

Ground Water Sample Collection Record

Client:	Minnesota Pollution Control Agency	Date:	2/5/14
Project No:	60314270	Time: Start	1130
Site Location:	St. Louis Park, MN	Finish	1148
Weather Conds:	-5° F Overcast	Collector(s)	Ben Klaus

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 12-16

b. Depth to Water (ft) 11.5
WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used:

Make	Model
YSI	556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1135	1.0	9.44	7.01	1,121	-128.9	1.42	Brown	turbid

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-2-W (12-16)	40 ml vial	3	HCl	VOCs	1140

Comments Field blank FB-020514 was collected at 1126

Signature 

Date 2/5/2014



Sample ID: SB-2-W (46-50)

Ground Water Sample Collection Record

Client:	Minnesota Pollution Control Agency	Date:	2/5/14
Project No:	60314270	Time: Start	1038
Site Location:	St. Louis Park, MN	Finish	1125
Weather Conds:	-5° F Overcast	Collector(s)	Ben Klaus

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 46-50

b. Depth to Water (ft) 16

WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used: Make YSI Model 556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1115	1.0	11.62	7.29	1230	-60.8	3.12	Tan	

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-2-W (46-50)	40 ml vial	3	HCl	VOCs	1120
Dup SB-2-W (46-50)	40 ml vial	3	HCl	VOCs	1122

Comments

Signature 

Date 2/5/2014



Sample ID: SB-3-W (13-18)

Ground Water Sample Collection Record

Client:	Minnesota Pollution Control Agency	Date:	2/5/14
Project No:	60314270	Time: Start	1020
Site Location:	St. Louis Park, MN	Finish	1035
Weather Conds:	-5° F Overcast	Collector(s)	Ben Klaus

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 13-17

b. Depth to Water (ft) 13.5

WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used: Make YSI Model 556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1025	1.0	8.23	7.11	929	-224.8	0.63	Brown	Turbid

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-3-W (13-18)	40 ml vial	3	HCl	VOCs	1030

Comments Sample was lables as collected from 13-18' but it was actually collected from 13-17'

Signature 

Date 2/5/2014



Sample ID: SB-3-W (46-50)

Ground Water Sample Collection Record

Client:	Minnesota Pollution Control Agency	Date:	2/5/14
Project No:	60314270	Time: Start	1010
Site Location:	St. Louis Park, MN	Finish	1015
Weather Conds:	-5° F Overcast	Collector(s)	Ben Klaus

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 46-50

b. Depth to Water (ft) 13.2

WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used: Make YSI Model 556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1008	0.5	9.52	7.81	484	-325.0	0.15	Brown	Very turbid

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-3-W (46-50)	40 ml vial	3	HCl	VOCs	1012

Comments The MDH lab was unable to analyze this sample due to air bubbles in the vials.

Signature 

Date 2/5/2014



Sample ID: SB-3-W (68-72)

Ground Water Sample Collection Record

Client: Minnesota Pollution Control Agency Date: 2/5/14
Project No: 60314270 Time: Start 0850
Site Location: St. Louis Park, MN Finish 0956
Weather Conds: -5° F Overcast Collector(s) Ben Klaus

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 68-72
b. Depth to Water (ft) 25 (water rising)

WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used: Make YSI Model 556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
0945	0.5	6.11	8.01	711	-234.5	0.25	Brown	Very turbid

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-3-W (68-72)	40 ml vial	3	HCl	VOCs	950

Comments The MDH lab was unable to analyze this sample due to air bubbles in the vials.

Signature 

Date 2/5/2014

Ground Water Sample Collection Record

Client:	Minnesota Pollution Control Agency	Date: <u>2/4/14</u>
Project No:	60314270	Time: Start <u>1425</u>
Site Location:	St. Louis Park, MN	Finish <u>1440</u>
Weather Conds:	0° F Overcast Collector(s) <u>Ben Klaus</u>	

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 11-15

b. Depth to Water (ft) 11.5
WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used:

Make	Model
YSI	556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1430	0.5	5.84	7.59	956	85.8	5.66	Brown	

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-4-W (11-15)	40 ml vial	3	HCl	VOCs	1432

Comments

Signature 

Date 2/4/2014



Sample ID: SB-4-W (46-50)

Ground Water Sample Collection Record

Client: Minnesota Pollution Control Agency Date: 2/4/14
Project No: 60314270 Time: Start 1210
Site Location: St. Louis Park, MN Finish 1322
Weather Conds: 0° F Clear Collector(s) Ben Klaus

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 46-50
b. Depth to Water (ft) 39 (not static)

WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used: Make YSI Model 556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1310	0.5	2.46	7.67	---	-154.8	1.63	Brown	

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-4-W (46-50)	40 ml vial	3	HCl	VOCs	1315

Comments _____

Signature 

Date 2/4/2014

Ground Water Sample Collection Record

Client:	Minnesota Pollution Control Agency	Date: <u>2/3/14</u>
Project No:	60314270	Time: Start <u>1700</u>
Site Location:	St. Louis Park, MN	Finish <u>1710</u>
Weather Conds:	5° F Overcast Collector(s) <u>Ben Klaus</u>	

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 12-16

b. Depth to Water (ft) 11.5
WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used:

Make	Model
YSI	556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1705	0.5	6.94	7.41	937	-52.0	5.07	Brown	Sandy

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-5-W (12-16)	40 ml vial	3	HCl	VOCs	1710

Comments Sand in first vial, cleared up significantly afterwards

Signature 

Date 2/3/2014



Sample ID: SB-5-W (46-50)

Ground Water Sample Collection Record

Client:	Minnesota Pollution Control Agency	Date:	2/3/14
Project No:	60314270	Time: Start	1535
Site Location:	St. Louis Park, MN	Finish	1650
Weather Conds:	5° F Overcast	Collector(s)	Ben Klaus

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 46-50

b. Depth to Water (ft) 21.2

WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used: Make YSI Model 556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1645	0.5	6.11	7.94	784	-388.0	0.64	Brown	Sandy

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-5-W (50-54)	40 ml vial	3	HCl	VOCs	1650

Comments

Signature 

Date 12/12/2013

Ground Water Sample Collection Record

Client:	Minnesota Pollution Control Agency	Date: <u>2/3/14</u>
Project No:	60314270	Time: Start <u>1515</u>
Site Location:	St. Louis Park, MN	Finish <u>1535</u>
Weather Conds:	10° F Overcast	Collector(s) <u>Ben Klaus</u>

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 15-19

b. Depth to Water (ft) 13.5
WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used:

Make	Model
YSI	556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1522	1.0	7.75	7.59	857	-106.8	4.43	Tan	Turbid, some sediment

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-6-W (15-19)	40 ml vial	3	HCl	VOCs	1525
Dup SB-6-W (15-19)	40 ml vial	3	HCl	VOCs	1530

Comments Field blank FB-020314 was collected at 1536

Signature 

Date 2/3/2014



Sample ID: SB-6-W (46-50)

Ground Water Sample Collection Record

Client:	Minnesota Pollution Control Agency	Date:	2/3/14
Project No:	60314270	Time: Start	1325
Site Location:	St. Louis Park, MN	Finish	1507
Weather Conds:	10° F Overcast	Collector(s)	Ben Klaus

WATER LEVEL DATA: (measured from ground surface)

a. Screen Interval (ft) 46-50

b. Depth to Water (ft) 13.8

WELL PURGING DATA

a. Purge Method Check valve sampler and new poly tubing

c. Field Testing Equipment Used: Make YSI Model 556

Time	Volume Removed (gal)	T° (C)	pH	Spec. Cond (µs/cm)	ORP (mV)	DO (mg/L)	Color	Other
1457	0.5	9.28	7.62	881	-177.1	3.82	Brown	Some sediment

SAMPLE COLLECTION: Method: Check valve sampler and new poly tubing

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
SB-6-W (46-50)	40 ml vial	3	HCl	VOCs	1505

Comments

Signature 

Date 2/3/2014

Soil Vapor Sample Collection Record Form

	Date: 2/5/14										
	Client: Minnesota Pollution Control Agency										
	Project # : 60314270										
	Site Location: St. Louis Park, MN										
	Field Personnel: Ben Klaus										
	Field Screening Equipment: MiniRAE 3000 PID with 11.7 eV lamp										
Sample ID	Canister Number	Flow Controller Number	Sample Depth / Screen Interval (ft.)	Purge Data		Sample Collection					
				Purge Volume	Purge Method	Sampling Start Time	Starting Canister Vacuum (in. Hg)	Ending Canister Vacuum (in. Hg)	Ending PID Reading (ppmv)	Sample Collection Date	Sampling Finish Time/ Collection Time
Comments/Sample Location:											
SB-1-VP	2445	---	7-8	400 mL	graduated syringe	0820	NA	NA	<1.0	2/5/14	0820
Comments/Sample Location:											
SB-3-VP	2498	---	7-8	400 mL	graduated syringe	0845	NA	NA	<1.0	2/5/14	0845
Comments/Sample Location:											
VP-1	1621	---	7-8	400 mL	graduated syringe	1240	30	3.0	<1.0	2/5/14	1240
Comments/Sample Location:											
VP-2	1517	---	7-8	400 mL	graduated syringe	1316	30	6.0	1.2	2/5/14	1316
Comments/Sample Location:											
VP-3	1480	---	7-8	400 mL	graduated syringe	1332	30	5.0	see note	2/5/14	1332
Comments/Sample Location: No vapor flowing to PID. Some sediment is likely clogging soil vapor tubing.											
VP-4	1753	---	6-7	400 mL	graduated syringe	1445	30	1.0	7.0	2/5/14	1445
Comments/Sample Location:											
DUP-VP-4	1652	---	6-7	400 mL	graduated syringe	1445	30	0.0	7.0	2/5/14	1445
Comments/Sample Location:											
VP-5	1609	---	7-8	400 mL	graduated syringe	1510	30	4.0	12	2/5/14	1510

Notes: _____

NA = not applicable. Summa cans were not equipped with pressure gauges.

Appendix E

Waste Manifests and Other Documentation

Site Address : 7317 West Lake Street
Saint Louis Park, MN 55426

SC PPW 12/11/2013
WORK ORDER NO. MN9316466

DOCUMENT NO. **758568**

STRAIGHT BILL OF LADING

TRANSPORTER 1 Clean Harbors Environmental Services Inc VEHICLE ID # 5394
EPA ID # MAD039322250 TRANS. 1 PHONE (781) 792-5000
TRANSPORTER 2 Pioneer Tank Lines VEHICLE ID # _____
EPA ID # MND044176113 TRANS. 2 PHONE (612) 436-8296

DESIGNATED FACILITY Clean Harbors Deer Trail LLC			SHIPPER Minnesota Pollution Control Agency		
FACILITY EPA ID # COD991300484			SHIPPER EPA ID # NONEREOUIRED		
ADDRESS 108555 East Highway 36			ADDRESS 800 LaSalle Avenue Suite 110		
CITY Deer Trail		STATE CO	ZIP 80105	CITY Minneapolis	
STATE MN		ZIP 55402			
CONTAINERS NO. & SIZE	TYPE	HM	DESCRIPTION OF MATERIALS	TOTAL QUANTITY	UNIT WT/VOL
01x55	DM		NON DOT REGULATED	0300	P
			B.		
			C.		
			D.		
			E.		
			F.		
			G.		
			H.		
SPECIAL HANDLING INSTRUCTIONS EMERGENCY PHONE #: (800) 493-3718 GENERATOR: Minnesota Pollution Control Agency					
A.CH783724 1255					

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER	PRINT Nile Feltows	SIGN Nile Feltows	DATE 2/28/14
TRANSPORTER 1	PRINT Paul Hamilton	SIGN Paul Hamilton	DATE 2/17/14
TRANSPORTER 2	PRINT	SIGN	DATE
RECEIVED BY	PRINT	SIGN	DATE



Land Disposal Restriction
Notification Form

Page : 1 of 1

Printed Date :Feb 27, 2014

MANIFEST INFORMATION

Generator : Minnesota Pollution Control Agency

Address: 7317 West Lake Street
Saint Louis Park, MN 55426

Manifest Tracking Info.

007483027FLE

EPA ID #: NONEREQUIRED

Sales Order No: DQ9316466

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH765787	WASTEWATER	2 (This is subject to LDR.)

EPA Waste Code

D040

EPA Waste SubCategory

NONE

Certification

Applies to
Manifest Line
Items

Pursuant to 40 CFR 268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR Part 268.

1.

Waste analysis data, where available, is attached.

Signature :

Print Name

Title :

Date :

Nile Fedows

2/28/14

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NONE REQUIRED	2. Page 1 of 1	3. Emergency Response Phone (800) 483-3718	4. Manifest Tracking Number 007483027 FLE			
5. Generator's Name and Mailing Address Minnesota Pollution Control Agency 800 LaSalle Avenue Suite 110 Minneapolis, MN 55402			Generator's Site Address (if different than mailing address) 7317 West Lake Street Saint Louis Park, MN 55426					
6. Transporter 1 Company Name Clean Harbors Environmental Services Inc			U.S. EPA ID Number MAD039322250					
7. Transporter 2 Company Name Pioneer Tank Lines			U.S. EPA ID Number MND044176113					
8. Designated Facility Name and Site Address Clean Harbors Env Services Inc 2247 South Highway 71 Kimball, NE 69145			U.S. EPA ID Number NED981723513					
Facility's Phone: (308) 235-4012								
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))		10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
x	1. UN3082, WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S., (TRICHLOROETHENE), 9, PG III		001 DM		250	P	D040	
	2.							
	3.							
	4.							
14. Special Handling Instructions and Additional Information 1. CH765787 ERG#1.7.1 1X55 TRUCK 5394								
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator's/Offor's Printed/Typed Name N. Le fellows			Signature <i>N. Le fellows</i>			Month 2	Day 28	Year 14
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____								
17. Transporter Acknowledgment of Receipt of Materials								
Transporter 1 Printed/Typed Name PAUL HAMILTON			Signature <i>Paul Hamilton</i>			Month 3	Day 12	Year 14
Transporter 2 Printed/Typed Name Weldon Richter			Signature <i>Weldon Richter</i>			Month 3	Day 12	Year 14
18. Discrepancy								
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection								
Manifest Reference Number: _____								
18b. Alternate Facility (or Generator) U.S. EPA ID Number _____								
Facility's Phone: _____								
18c. Signature of Alternate Facility (or Generator) _____ Month _____ Day _____ Year _____								
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								
1. H040		2.		3.		4.		
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a								
Printed/Typed Name Stephanie Shoup			Signature <i>Stephanie Shoup</i>			Month 3	Day 18	Year 14



2247 South Highway 71
Kimball, NE 69145

TEL 308-235-4012
FAX 308-235-4307
www.cleanharbors.com

DATE: 3/18/2014

MANIFEST: 007483027FLE

Dear Valued Customer:

In accordance with 40 CFR 264.12(b), Clean Harbors Environmental Services, Inc., Kimball Facility, has appropriate state and federal permits to accept, store, and/or treat the waste you shipped to our facility. This letter should be kept on file with your copy of the signed manifest.

Clean Harbors Environmental Services, Inc. makes every effort to ensure that signed copies of manifests are returned to the waste generator as quickly as possible following receipt of your waste at our facility. This allows us to provide you with rapid verification that your waste shipment arrived safely at our waste management facility.

Once your waste has been received, Clean Harbors' personnel will verify that the quantity that has been received matches the quantity that was shipped. We also inspect the material and conduct testing to ensure that it meets the facility's waste acceptance criteria as described in our Waste Analysis Plan, as well as processing requirements. Every effort is made to complete the waste verification as quickly as possible; however, it is possible that the signed copy of the manifest may be returned to you before the waste verification process is completed. If a significant discrepancy, as defined by US EPA regulations (40 CFR 264.72), is discovered during the waste verification process, we will contact you in order to reconcile the discrepancy. Additionally, we will work with you to make any corrections to the waste manifest that are necessary.

Sincerely,

Receiving Department