



VIA ELECTRONIC MAIL

February 4, 2020

Richelle Hanson, Project Manager
Voluntary Cleanup Program
Maryland Department of the Environment
Land and Materials Administration
1800 Washington Blvd., Suite 625
Baltimore, Maryland 21230

**Subject: Quarterly Status Report No. 13 - Offsite Area
Former Kop-Flex Facility Site, Hanover, Maryland**

Dear Richelle:

On behalf of EMERSUB 16 LLC, a subsidiary of Emerson Electric Co., WSP USA Inc. (WSP) is submitting this quarterly status report describing the investigation and remediation activities conducted in the fourth quarter 2019 in the offsite portion of the Former Kop-Flex Facility Site in Hanover, Maryland. The report also describes the activities planned for the First Quarter of 2020. In addition to this electronic version, a hard copy of the status report is being submitted to the Maryland Department of Environment (MDE) under separate cover.

If you have any questions, please do not hesitate to contact us at 703-709-6500.

Kind regards,

A handwritten signature in black ink that reads 'Robert E. Johnson'.

Robert E. Johnson
Senior Technical Manager
Water & Environment

REJ:rla
K:\Emerson\Kop-Flex_Reports_Progress Reports\MDE Reports\2020\January (4th Q 2019)\

Encl.

cc: Mr. John Hopkins, U.S. Environmental Protection Agency (EPA), Region III
Mr. Stephen Clarke, Emerson Electric Co.
Sheila Harvey, Esquire, Pillsbury Winthrop Shaw Pittman

WSP USA
Suite 300
13530 Dulles Technology Drive
Herndon, VA 20171

Tel.: +1 703 709-6500
Fax: +1 703 709-8505
wsp.com

QUARTERLY STATUS REPORT NO. 13 – OFFSITE AREA

FORMER KOP-FLEX FACILITY SITE

October 2019 through December 2019

Site Name: Former Kop-Flex Facility
Site Address: 7565 Harmans Road
Hanover, Maryland 21076

Consultant: WSP USA Inc.
Address: 13530 Dulles Technology Drive, Suite 300
Herndon, Virginia 20171
Phone No.: (703) 709-6500

Project Coordinator: Eric Johnson, WSP USA
Alternate: Lisa Kelly, WSP USA

1.0 Offsite Activities Conducted During October 2019 through December 2019

1.1 Residential Well Sampling for 1227 Old Camp Meade Road

- Pursuant to MDE's request, water samples were collected from the residential well at 1227 Old Camp Meade Road (Figure 1) on the following dates during the reporting period:
 - October 3, 2019
 - November 4, 2019
 - December 2, 2019

Historical analytical results, including those for the fourth quarter 2019 samples, are summarized in Table 1. Copies of the certified laboratory analytical reports for the October 2019 through December 2019 sampling events are included in Enclosure A.

- As with samples collected in the third quarter 2019, site-related constituents of concern (COCs) were detected in both the untreated and treated water samples, with none of these chemicals present at levels above the applicable groundwater quality criteria (Table 1). In the pre-treatment samples, concentrations of 1,1-DCE ranged from 5.2 micrograms per liter (µg/l) to 5.6 µg/l, while 1,4-dioxane was present at levels of 2.1 µg/l and 2.2 µg/l. These concentrations are consistent with past sampling results. Based on the most recent sampling data, concentrations of 1,1-DCE in the untreated water have typically ranged from 4 µg/l to 6 µg/l (Figure 2), and 1,4-dioxane has varied between 1.5 µg/l and 3 µg/l (Figure 3). The post-treatment water samples for the October 2019 through December 2019 events had no concentrations of 1,1-DCE exceeding the laboratory reporting limit of 0.5 µg/l, and 1,4-dioxane concentrations similar to the levels detected in the untreated water (2.0 µg/l to 2.3 µg/l). Trace levels (<0.5 µg/l) of 1,1,1-trichloroethane (TCA) were also detected in both the untreated and treated samples.

EMERSUB 16 and WSP communicated the analytical results for these water samples in writing to the homeowner and MDE.

1.2 Residential Water Service Connection for 1227 Old Camp Meade Road

- EMERSUB 16 and WSP continued with the planning work for connection of the residence at 1227 Old Camp Meade Road to the county water main on Reece Road. The activities completed during the reporting period included the following:
 - Obtaining the connection permit from the Anne Arundel County (AAC) Department of Public Works (DPW) on October 16, 2019;
 - Completing payment of the front foot assessment fee to the AAC DPW on December 9, 2019, which covers the tapping of the water main and extending the line underneath Reece Road to the easement area; and



- Finalizing the contracting process with a licensed Master Plumber to complete the service connection to the dwelling at 1227 Old Camp Meade Rd.

1.3 Quarterly Offsite Groundwater Sampling

- All offsite deep monitoring wells were sampled on November 19 – November 20, 2019, using a disposable passive sampling device (HydraSleeve™) that had been deployed following the previous sampling of each well in late May 2019. After equilibration of the sampler, the Hydrasleeve™ was carefully removed from the well and the groundwater sample immediately collected in the appropriate containers. The sample retrieval depths for each well are consistent with those from the previous monitoring events and are provided below.
- As part of the November 2019 sampling event, WSP also obtained water level measurements from the deep offsite monitoring wells and the shallow well (MW-45) on the Williams-Scotsman property. All depth to water measurements in the deep offsite monitoring wells are provided in the table below. Historical water level measurements are provided in Table 2.

WELL ID	HYDROLOGIC UNIT	DEPTH TO WATER (FT BGS)	WELL DEPTH (FT BGS)	WELL SCREEN INTERVAL (FT BGS)	SAMPLE INTERVAL (FT BGS)
MW-24D	Confined Lower Patapsco	51.12	128	118 – 128	122 – 124.5
MW-25D-130	Confined Lower Patapsco	59.94	130	120 – 130	125 – 127.5
MW-25D-192	Confined Lower Patapsco	59.02	192	182 – 192	185 – 187.5
MW-28D	Confined Lower Patapsco	91.37	210	200 – 210	205 – 207.5
MW-29D	Confined Lower Patapsco	67.10	151	141 – 151	146 – 148.5
MW-30D-273	Confined Lower Patapsco	101.12	273	263 – 273	267 – 269.5
MW-30D-413	Patuxent	143.64	413	403 – 413	407 – 409.5
MW-31D	Confined Lower Patapsco	110.14	280	270 – 280	275 – 277.5
MW-32D	Confined Lower Patapsco	101.56	236	226 – 236	233 – 235.5
MW-33D-235	Confined Lower Patapsco	127.87	235	225 – 235	230 – 232.5
MW-33D-295	Confined Lower Patapsco	127.65	295	285 – 295	290 – 292.5
MW-34D	Confined Lower Patapsco/Arundel Clay	136.62	385	375 – 385	379 – 381.5
MW-35D	Confined Lower Patapsco	129.89	298	288 – 298	293 – 295.5

WELL ID	HYDROLOGIC UNIT	DEPTH TO WATER (FT BGS)	WELL DEPTH (FT BGS)	WELL SCREEN INTERVAL (FT BGS)	SAMPLE INTERVAL (FT BGS)
MW-36D	Patuxent	146.75	360	350 – 360	357 – 359.5
MW-46D	Confined Lower Patapsco	37.90	90	80 – 90	84 – 86.5

FT BGS = feet below ground surface

- A potentiometric surface contour map for the confined portion of the Lower Patapsco aquifer is shown in Figure 4 using the water level data obtained during the sampling event. The general direction of groundwater flow in the confined portion of the Lower Patapsco aquifer is to the south-southeast from the former Kop-Flex facility, as observed in the past.
- The November 2019 analytical results for samples from the offsite monitoring wells are summarized in Table 3. A copy of the certified laboratory analytical report for these samples is provided in Enclosure B. Historical groundwater sampling data for the offsite monitoring wells can be found in Table 4. Concentrations of the primary site-related VOCs in the November 2019 samples are indicated in Figure 5.
- For the confined Lower Patapsco aquifer, the concentrations of the site-related VOCs and 1,4-dioxane in the November 2019 groundwater samples are generally similar to the levels detected during recent monitoring events, with minor exceptions that are discussed below. Overall, the analytical data indicates the presence of site-related constituents just over one mile hydraulically downgradient of the former Kop-Flex property (Figure 5). It should be noted that site-related COCs were also detected in the sample collected from well MW-46D on the Verizon property to the north of the former Kop-Flex facility, with a total VOC concentration (including 1,4-dioxane) of 235.1 µg/l.

In the offsite area to the south, the sample from monitoring well MW-24D on the adjoining Williams-Scotsman property had the highest concentration of site-related COCs (1,094 µg/l). The levels of 1,1-DCE and 1,4-dioxane exhibited a noticeable decrease from the ‘spike’ in concentrations detected during the May 2019 sampling round (see Table 4). Further downgradient, a total concentration of site-related COCs of 95.7 µg/l was detected in the MW-25D-130 sample, which is lower than the concentrations in the sample (106.9 µg/l) and its duplicate (124.8 µg/l) from the deeper well (MW-25D-192) at this location. The concentrations of site-related COCs, particularly 1,1-DCE and 1,4-dioxane, in the MW-25D-130 sample continue to exhibit a steadily decreasing trend during the past two years (2018 and 2019) of sampling (Table 4). Comparison of the 2018 and 2019 results for the MW-25D-192 samples also shows an apparent declining trend in COC concentrations. Most of the sampling data for the confined Lower Patapsco monitoring wells located further downgradient indicate non-detect to very low concentrations of site-related COCs (Figure 5). The only exception is the sample from the well screened from 263-273 ft BGS at the MW-30D location, which is screened along the presumed center-line of the VOC plume in the Lower Patapsco aquifer near the intersection of Old Camp Meade Road and Twin Oaks Road. The groundwater sample from this well (MW-30D-273) had a 1,1-DCE concentration of 43.1 µg/l and 1,4-dioxane of 22.8 µg/l. Both of these levels are similar to previous sampling events and exceed the comparative groundwater quality criteria for the aquifer of 7 µg/l for 1,1-DCE and 4.6 µg/l for 1,4-dioxane. Additionally, the 1,4-dioxane concentration in the MW-33D-295 sample (6.3 µg/l) was above the comparative criterion.

- Monitoring well MW-36 in the eastern portion of the Harmans Woods neighborhood and the deeper (413-foot BGS) well at the MW-30D location are screened in the Patuxent aquifer, which underlies the Lower Patapsco. Consistent with previous sampling events, no site-related VOCs or 1,4-dioxane were detected in the samples from these wells, indicating COCs have not migrated downward through the Arundel Clay confining unit that hydraulically separates the Lower Patapsco and Patuxent aquifers.

2.0 Planned Offsite Activities for Next Reporting Period (January 2020 Through March 2020)

- Collect a round of water level measurements from the deep offsite monitoring wells in February 2020.



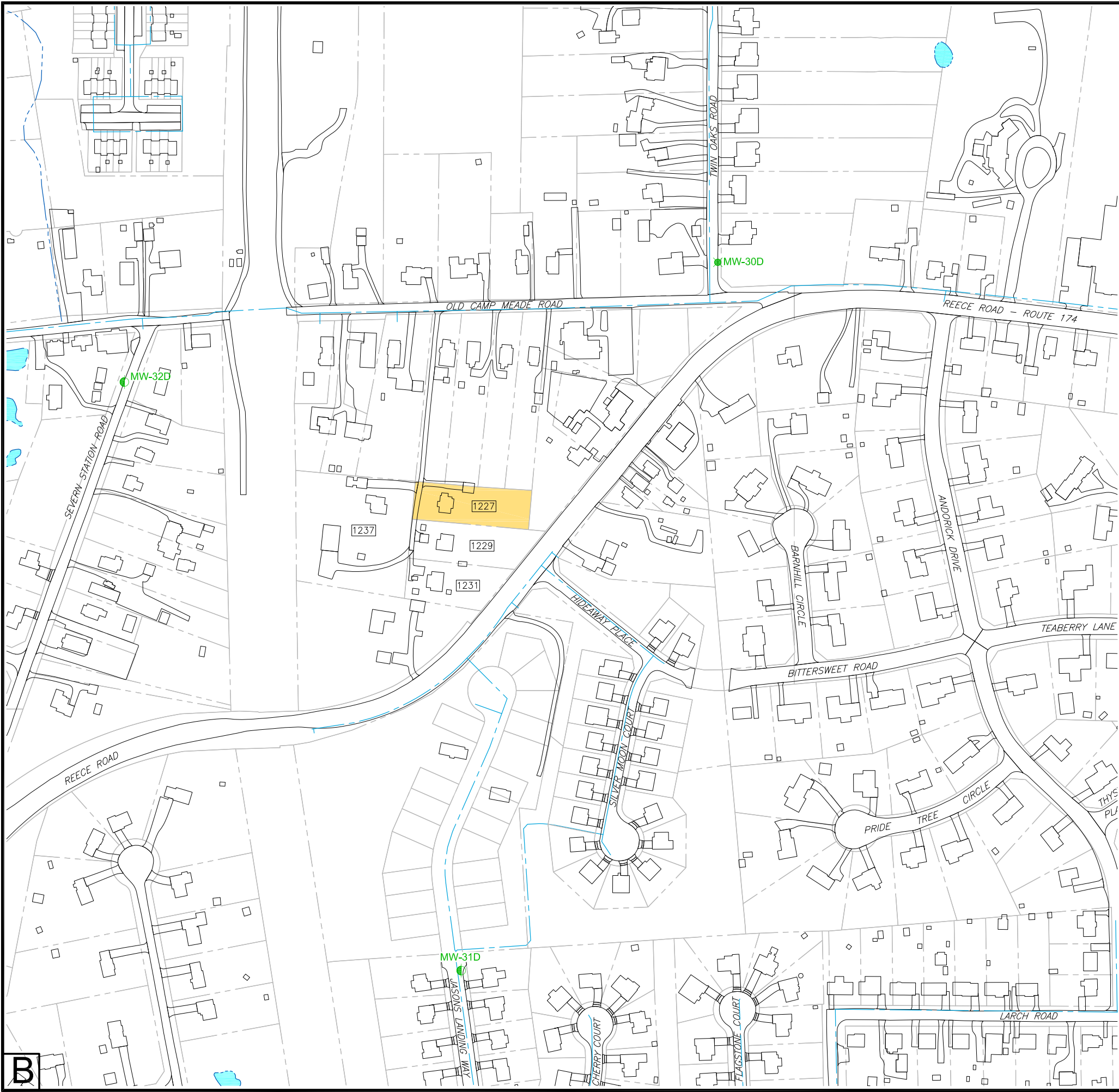
- Continue to conduct monthly monitoring of the untreated and treated water from the residential well at 1227 Old Camp Meade Road until installation of the public water service connection.
- Complete the process of connecting the residence at 1227 Old Camp Meade Road to the county water system by late February 2020. After installing the water service connection, retain a Maryland-licensed driller to decommission the water supply well on the property.

3.0 Key Personnel/Facility Changes

During the reporting period, the name of WSP's alternate Project Coordinator changed from Lisa Bryda to Lisa Kelly. There were no other changes to either key project personnel or conditions relevant to the performance of the ongoing work at the site.

FIGURES

R:\ACAD\CADD_CLIENT\Emerson\MD_Hanover\314V1545.011\CAD\314V1545.011-030.dwg 11/5/2019 9:26 AM USEC01012



NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

- LEGEND
- PROPERTY LINE
 - WATER MAIN
 - STREAM
 - WATER BODY
 - CONFINED LOWER PATAPSCO AQUIFER MONITORING WELL
 - CONFINED LOWER PATAPSCO AQUIFER AND PATUXENT AQUIFER MONITORING WELLS
 - PROPERTY WITH POTABLE WELL FOR SAMPLING
 - STREET ADDRESS NUMBER

REFERENCE:
PARCEL INFORMATION OBTAINED FROM ANNE ARUNDEL COUNTY, DEPARTMENT OF
PUBLIC WORKS <http://gis-world2.aacounty.org/DPWcounter/countermap.html>

FORMER KOP-FLEX FACILITY

HANOVER, MARYLAND

PREPARED FOR

EMERSUB 16 LLC

ST. LOUIS, MISSOURI

Figure 1

PROPERTY WITH RESIDENTIAL WELL
IDENTIFIED FOR REGULAR MONITORING
AND PUBLIC WATER CONNECTION

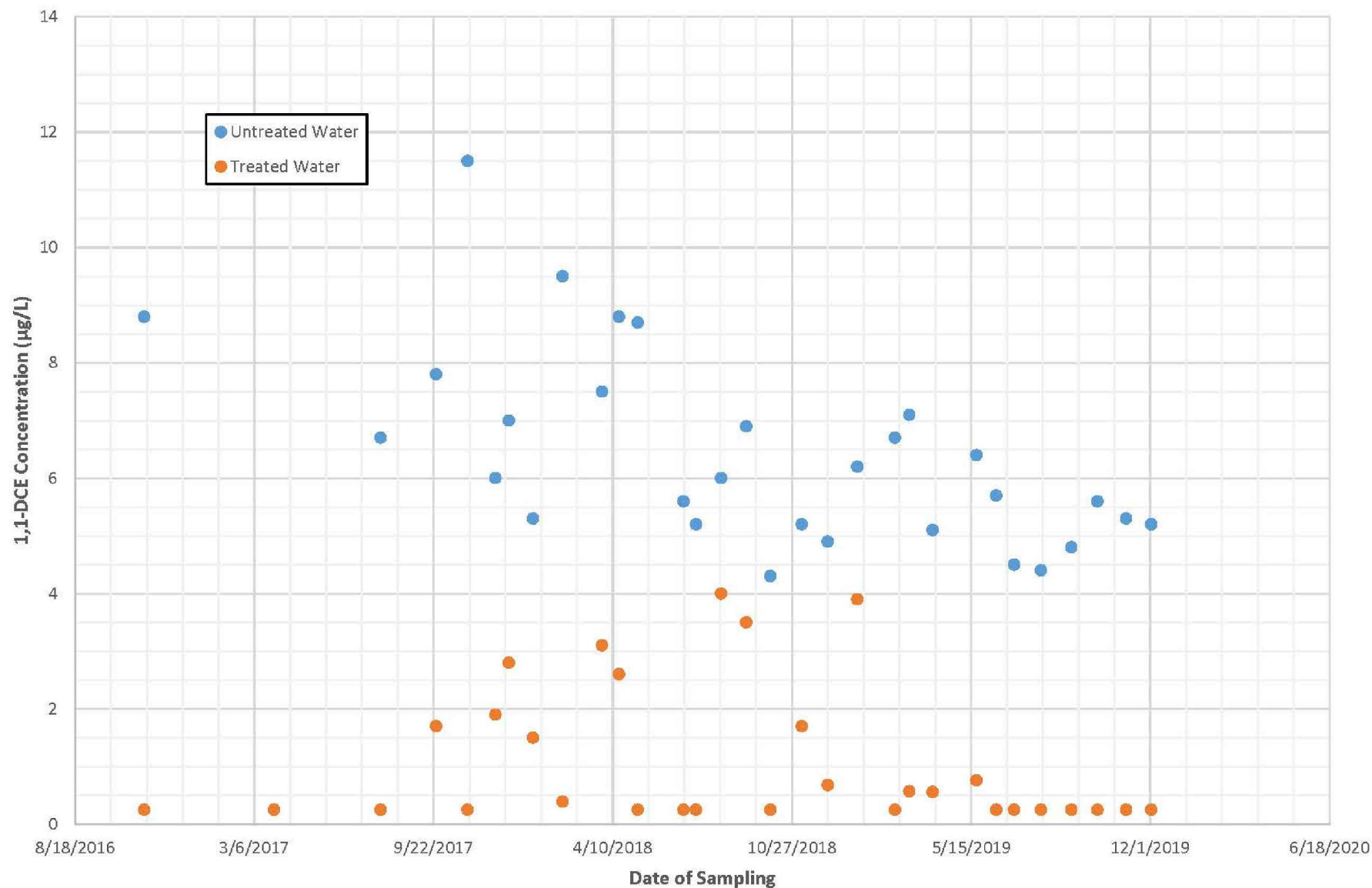
WSP USA Inc.
13550 DULLES TECHNOLOGY DR
SUITE 500
HERNDON, VA 20171
TEL: +1 703.709.6500

Drawn By: EGC

Checked: CC 4/29/2019

Approved: RY 5/2/2019

DWG Name: 314V1545.011-030



NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

A



WSP USA Inc.
13530 DULLES TECHNOLOGY DR
SUITE 300
HERNDON, VA 20171
TEL: +1 703.709.6500

Figure 2

1227 OLD CAMP MEADE ROAD
CONCENTRATION vs TIME PLOT
1,1-DCE

FORMER KOP-FLEX FACILITY
HANOVER, MARYLAND

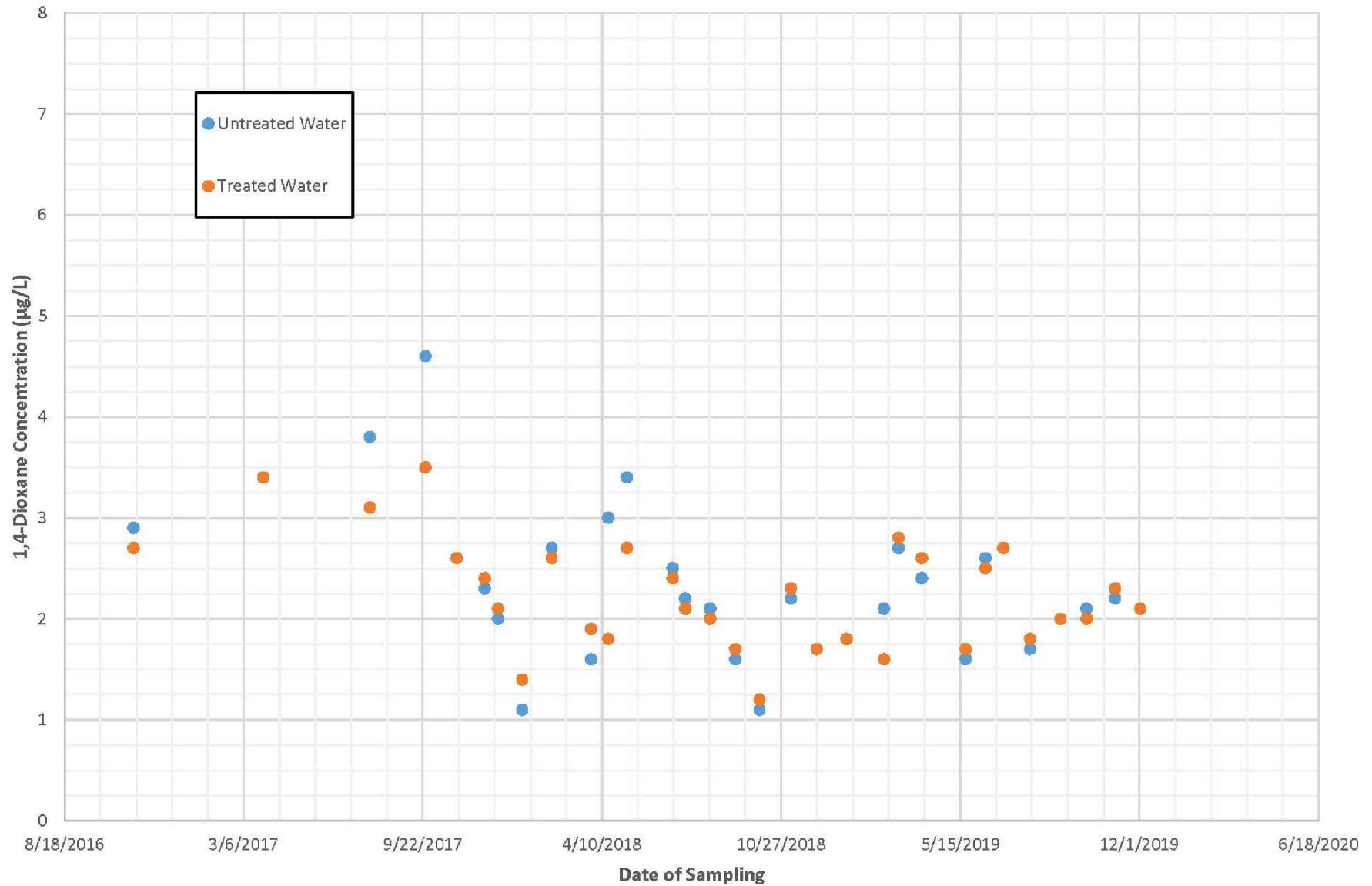
PREPARED FOR
EMERSUB16 LLC
ST. LOUIS, MISSOURI

Drawn By: EGC

Checked: CC 12/16/2019

Approved: RY

DWG Name: 314V1545.011-038



NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

A

Figure 3

1227 OLD CAMP MEADE ROAD
CONCENTRATION vs TIME PLOT
1,4-DIOXANE

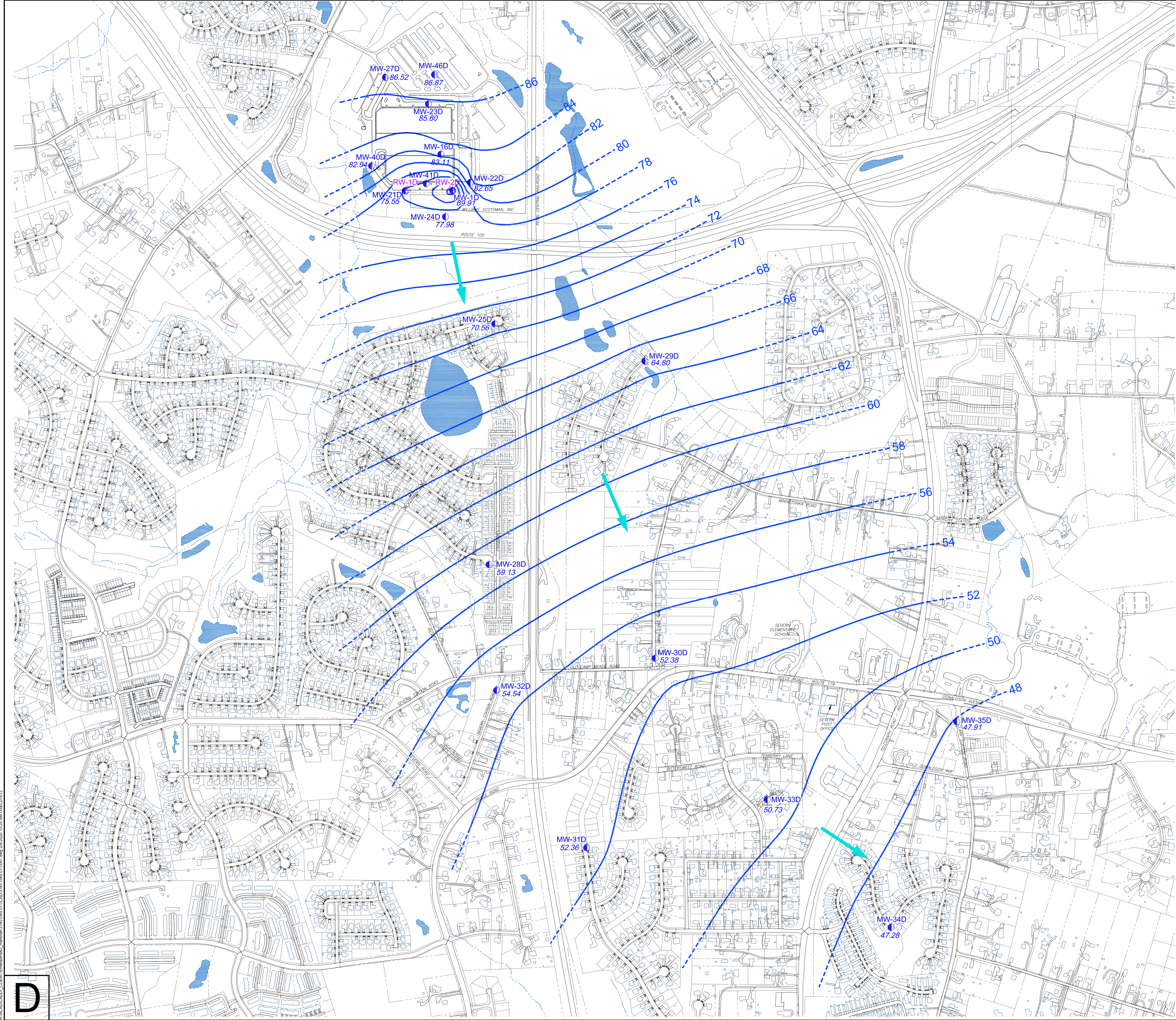
FORMER KOP-FLEX FACILITY
HANOVER, MARYLAND

PREPARED FOR
EMERSUB16 LLC
ST. LOUIS, MISSOURI

Drawn By:	EGC
Checked:	CC 12/16/2019
Approved:	RJ
DWG Name:	314V1545.011-038



WSP USA Inc.
13530 DULLES TECHNOLOGY DR
SUITE 300
HERNDON, VA 20171
TEL: +1 703.709.6500



LEGEND

- PROPERTY LINE
- STREAM
- WATER BODY
- MONITORING WELL
- RECOVERY WELL
- 72.18
- GROUNDWATER SURFACE ELEVATION (FEET MSL)
- GROUNDWATER SURFACE CONTOUR (DASHED WHERE INFERRED)
- INFERRED GROUNDWATER FLOW

0 400 800 1200
SCALE IN FEET

N

REVISIONS

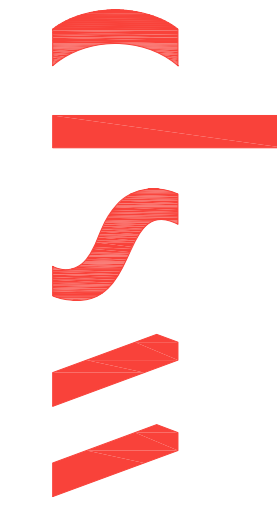
REV	DESCRIPTION
1	Initial
2	Revised
3	Revised
4	Revised

SEAL

DRAWN BY	ECG
CHECKED	1/23/2020
APPROVED	1/23/2020

POTENTIOMETRIC SURFACE CONTOUR MAP
CONFINED PORTION OF THE LOWER PATAPSCO AQUIFER
NOVEMBER 2019
FORMER KOP-FLEX FACILITY SITE
HANOVER, MARYLAND

PREPARED FOR
EMERSUB 16 LLC
ST. LOUIS, MISSOURI



WSP USA Inc.
13530 DULLES TECHNOLOGY DR., SUITE 300
HERNDON, VA 20171
TEL: +1 703.709.6500

FIGURE 4

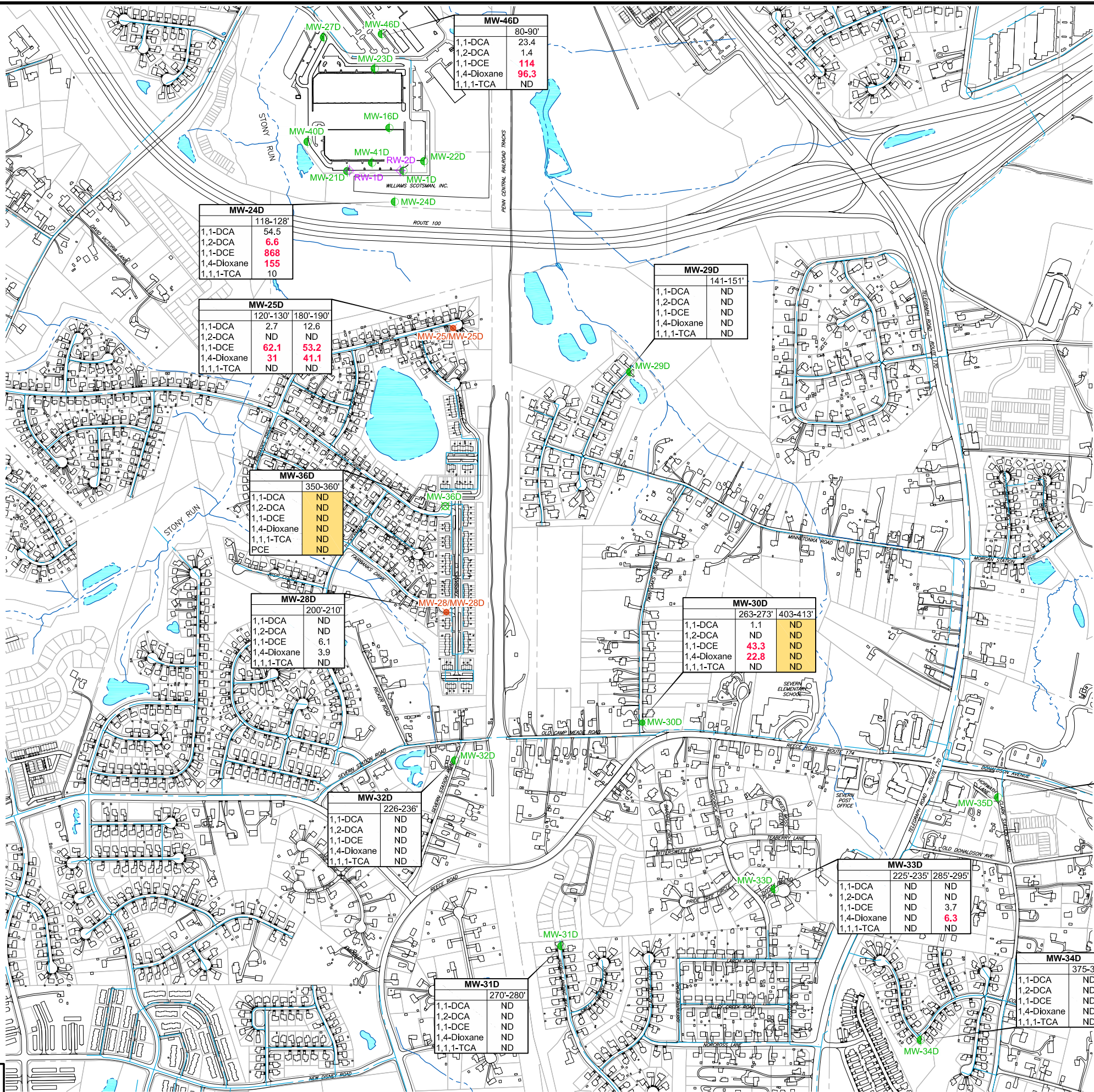
Drawing Number
314V1545.011-047

R:\CAD\CADD\CLIENT\Emersub16\314V1545.011-047.dwg 24/02/2020 10:25 AM JUS201012

D

R:\ACAD\CADD_CLIENT\EmersonMD_Hanover\314V1545.011\CAD\314V1545.011-046.dwg 12/31/2019 8:10 AM USEC01012

B



REFERENCE:
PARCEL INFORMATION OBTAINED FROM ANNE ARUNDEL COUNTY, DEPARTMENT OF
PUBLIC WORKS <http://gis-world2.aacounty.org/DPWcounter/countermap.html>

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

Drawn By: EGC

Checked:

Approved:

DWG Name: 314V1545.011-046

FORMER KOP-FLEX FACILITY

HANOVER, MARYLAND

PREPARED FOR

EMERSUB 16 LLC

ST. LOUIS, MISSOURI

Figure 5

GROUNDWATER MONITORING RESULTS

LOWER PATAPSCO AQUIFER AND PATUXENT AQUIFER

OFFSITE MONITORING WELLS – NOVEMBER 2019

WSP USA Inc.
13530 DULLES TECHNOLOGY DR
SUITE 300
HERNDON, VA 20171
TEL: +1 703.709.6500

TABLES

Table 1
Summary Table of Laboratory Results
Potable Well Samples
1227 Old Camp Meade Road

			Acetone µg/l 550 (a)	Bromoform µg/l 80 (a)	Carbon Disulfide µg/l 100 (a)	Chloroform µg/l 80 (a)	1,1- Dichloroethane µg/l 90 (a)	1,1- Dichloroethylene µg/l 7	Methyl Tert Butyl Ether µg/l 20 (a)	Toluene µg/l 1,000	1,1,1- Trichloroethane µg/l 200	Tetrachloro ethylene µg/l 5	Trichloro ethylene µg/l 5	1,4-Dioxane µg/l 4.6 (b)
Address	Sample Type	Date												
1227 Old Camp Meade Rd Well Depth: 300 ft.	Pre-Treatment	2/13/2013	5 U	0.5 U	0.18 J	0.5 U	0.5 U	0.55	0.25 J	0.18 J	0.091 J	0.5 U	0.5 U	2.0 U
	Post-Treatment	2/13/2013	5 U	0.5 U	0.5 U	0.2 J	0.5 U	0.5 U	0.5 U	0.5 U	0.081 J	0.5 U	0.5 U	2.0 U
	Pre-Treatment	7/9/2013	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.11 J	0.5 U	0.5 U	2.3
	Pre-Treatment	2/12/2014	5 U	0.5 U	0.5 U	0.5 U	0.15 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.0 U
	Pre-Treatment	5/29/2014	5 U	0.5 U	0.5 U	0.5 U	0.051 J	1.3	0.5 U	0.5 U	0.15 J	0.5 U	0.5 U	2.0 U
	Post-Treatment	5/29/2014	5 U	0.5 U	0.5 U	0.1 J	0.5 U	0.5 U	0.5 U	0.5 U	0.15 J	0.5 U	0.5 U	2.0 U
	Pre-Treatment	9/12/2014	5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.0	0.5 U	0.5 U	0.21 J	0.5 U	0.5 U	2.0 U
	Post-Treatment	9/12/2014	5 U	0.28 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.18 J	0.5 U	0.5 U	2.0 U
	Pre-Treatment	12/8/2014	0.99 J	0.5 U	0.5 U	0.5 U	0.5 U	0.43 J	0.5 U	0.5 U	0.20 J	0.5 U	0.5 U	2.0 U
	Post-Treatment	12/8/2014	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.4	0.5 U	0.5 U	0.24 J	0.5 U	0.5 U	2.0 U
	Pre-Treatment	11/3/2016	5 U	0.5 U	0.5 U	0.5 U	0.19 J	8.8	0.5 U	0.5 U	0.48 J	0.5 U	0.5 U	2.9
	Post-Treatment	11/3/2016	5 U	0.5 U	0.5 U	0.095 J	0.16 J	0.5 U	0.5 U	0.5 U	0.42 J	0.5 U	0.5 U	2.7
	Post-Treatment	3/28/2017	5 U	0.5 U	0.5 U	0.5 U	0.17 J	0.5 U	0.5 U	0.5 U	0.41 J	0.5 U	0.5 U	3.4
	Pre-Treatment	7/25/2017	5 U	0.5 U	0.5 U	0.5 U	0.15 J	6.7	0.5 U	0.5 U	0.33 J	0.5 U	0.5 U	3.8
	Post-Treatment	7/25/2017	5 U	0.55	0.5 U	0.5 U	0.19 J	0.5 U	0.5 U	0.5 U	0.42 J	0.5 U	0.5 U	3.1
	Pre-Treatment	9/25/2017	5 U	0.5 U	0.5 U	0.5 U	0.18 J	7.8	0.5 U	0.5 U	0.41 J	0.5 U	0.5 U	4.6
	Post-Treatment	9/25/2017	5 U	0.5 U	0.5 U	0.5 U	0.15 J	1.7	0.5 U	0.5 U	0.37 J	0.5 U	0.5 U	3.5
	Pre-Treatment	10/30/2017	5 U	0.5 U	0.5 U	0.5 U	0.24 J	11.5	0.5 U	0.5 U	0.5	0.5 U	0.5 U	2.6
	Post-Treatment	10/30/2017	5 U	0.5 U	0.5 U	0.5 U	0.23 J	0.5 U	0.5 U	0.5 U	0.53	0.5 U	0.5 U	2.6
	Pre-Treatment	11/30/2017	5 U	0.5 U	0.5 U	0.5 U	0.16 J	6.0	0.5 U	0.5 U	0.3 J	0.5 U	0.5 U	2.3
	Post-Treatment	11/30/2017	5 U	0.5 U	0.5 U	0.5 U	0.17 J	1.9	0.5 U	0.5 U	0.34 J	0.5 U	0.5 U	2.4
	Pre-Treatment	12/15/2017	5 U	0.5 U	0.5 U	0.5 U	0.5 U	7.0	0.5 U	0.5 U	0.36 J	0.5 U	0.5 U	2.0
	Post-Treatment	12/15/2017	5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.8	0.5 U	0.5 U	0.39 J	0.5 U	0.5 U	2.1
	Pre-Treatment	1/11/2018	5 U	0.5 U	0.5 U	0.5 U	0.15 J	5.3	0.5 U	0.5 U	0.27 J	0.5 U	0.5 U	1.1
	Post-Treatment	1/11/2018	5 U	0.5 U	0.5 U	0.5 U	0.14 J	1.5	0.5 U	0.5 U	0.32 J	0.5 U	0.5 U	1.4
	Pre-Treatment	2/13/2018	5 U	0.5 U	0.5 U	0.5 U	0.16 J	9.5	0.5 U	0.5 U	0.44 J	0.5 U	0.5 U	2.7
	Post-Treatment	2/13/2018	5 U	0.5 U	0.5 U	0.5 U	0.16 J	0.39 J	0.5 U	0.5 U	0.38 J	0.5 U	0.5 U	2.6
	Pre-Treatment	3/29/2018	5 U	0.5 U	0.5 U	0.5 U	0.14 J	7.5	0.5 U	0.5 U	0.35 J	0.5 U	0.5 U	1.6
	Post-Treatment	3/29/2018	5 U	0.5 U	0.5 U	0.5 U	0.14 J	3.1	0.5 U	0.5 U	0.34 J	0.5 U	0.5 U	1.9
	Pre-Treatment	4/17/2018	5 U	0.5 U	0.5 U	0.5 U	0.18 J	8.8	0.5 U	0.5 U	0.45 J	0.5 U	0.5 U	3.0
	Post-Treatment	4/17/2018	5 U	0.5 U	0.5 U	0.5 U	0.15 J	2.6	0.5 U	0.5 U	0.37 J	0.5 U	0.5 U	1.8
	Pre-Treatment	5/8/2018	5 U	0.5 U	0.5 U	0.5 U	0.18 J	8.7	0.5 U	0.5 U	0.48 J	0.5 U	0.5 U	3.4
	Post-Treatment	5/8/2018	5 U	0.5 U	0.5 U	0.5 U	0.17 J	0.5 U	0.5 U	0.5 U	0.42 J	0.5 U	0.5 U	2.7
	Pre-Treatment	6/28/2018	1.5 J	0.5 U	0.5 U	0.5 U	0.5 U	5.6	0.5 U	0.5 U	0.28 J	0.5 U	0.5 U	2.5
	Post-Treatment	6/28/2018	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.28 J	0.5 U	0.5 U	2.4
	Pre-Treatment	7/12/2018	5 U	0.5 U	0.5 U	0.5 U	0.5 U	5.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.2
	Post-Treatment	7/12/2018	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.1
	Pre-Treatment	8/9/2018	5 U	0.5 U	0.5 U	0.5 U	0.5 U	6.0	0.5 U	0.5 U	0.26 J	0.5 U	0.5 U	2.1
	Post-Treatment	8/9/2018	5 U	0.5 U	0.5 U	0.5 U	0.5 U	4.0	0.5 U	0.5 U	0.27 J	0.5 U	0.5 U	2.0
	Pre-Treatment	9/6/2018	5 U	0.5 U	0.5 U	0.5 U	0.5 U	6.9	0.5 U	0.5 U	0.28 J	0.5 U	0.5 U	1.6
	Post-Treatment	9/6/2018	2.8 J	0.5 U	0.5 U	0.5 U	0.5 U	3.5	0.5 U	0.5 U	0.33 J	0.5 U	0.5 U	1.7

Table 1
Summary Table of Laboratory Results
Potable Well Samples
1227 Old Camp Meade Road

		Parameter Units MCL	Acetone µg/l 550 (a)	Bromoform µg/l 80 (a)	Carbon Disulfide µg/l 100 (a)	Chloroform µg/l 80 (a)	1,1- Dichloroethane µg/l 90 (a)	1,1- Dichloroethylene µg/l 7	Methyl Tert Butyl Ether µg/l 20 (a)	Toluene µg/l 1,000	1,1,1- Trichloroethane µg/l 200	Tetrachloroe thylene µg/l 5	Trichloroe thylene µg/l 5	1,4-Dioxane µg/l 4.6 (b)
Sample Type	Date													
Pre-Treatment	10/3/2018		5 U	0.5 U	0.5 U	0.5 U	0.5 U	4.3	0.5 U	0.5 U	0.50 U	0.5 U	0.5 U	1.1
Post-Treatment	10/3/2018		5 U	0.51	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.5 U	0.5 U	1.2
Pre-Treatment	11/7/2018		5 U	0.5 U	0.5 U	0.5 U	0.5 U	5.2	0.5 U	0.5 U	0.24 J	0.5 U	0.5 U	2.2
Post-Treatment	11/7/2018		5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.7	0.5 U	0.5 U	0.25 J	0.5 U	0.5 U	2.3
Pre-Treatment	12/6/2018		5 U	0.5 U	0.5 U	0.5 U	0.5 U	4.9	0.5 U	0.5 U	0.22 J	0.5 U	0.5 U	1.7
Post-Treatment	12/6/2018		5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.68	0.5 U	0.5 U	0.27 J	0.5 U	0.5 U	1.7
Pre-Treatment	1/8/2019		--	0.5 U	0.5 U	0.5 U	0.5 U	6.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.8
Post-Treatment	1/8/2019		--	0.5 U	0.5 U	0.5 U	0.5 U	3.9	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.8
Pre-Treatment	2/19/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	6.7	0.5 U	0.5 U	0.28 J	0.5 U	0.5 U	2.1
Post-Treatment	2/19/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.32 J	0.5 U	0.5 U	1.6
Pre-Treatment	3/7/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	7.1	0.5 U	0.5 U	0.28 J	0.5 U	0.5 U	2.7
Post-Treatment	3/7/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.57	0.5 U	0.5 U	0.30 J	0.5 U	0.5 U	2.8
Pre-Treatment	4/2/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	5.1	0.5 U	0.5 U	0.23 J	0.5 U	0.5 U	2.4
Post-Treatment	4/2/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.56	0.5 U	0.5 U	0.25 J	0.5 U	0.5 U	2.6
Pre-Treatment	5/21/2019		3.1 J	0.5 U	0.5 U	0.5 U	0.5 U	6.4	0.5 U	0.5 U	0.26 J	0.5 U	0.5 U	1.6
Post-Treatment	5/21/2019		2.5 J	0.5 U	0.5 U	0.5 U	0.5 U	0.76	0.5 U	0.5 U	0.14 J	0.5 U	0.5 U	1.7
Pre-Treatment	6/12/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	5.7	0.5 U	0.5 U	0.23 J	0.5 U	0.5 U	2.6
Post-Treatment	6/12/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.25 J	0.5 U	0.5 U	2.5
Pre-Treatment	7/2/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	4.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.7
Post-Treatment	7/2/2019		5 U	0.38 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.24 J	0.5 U	0.5 U	2.7
Pre-Treatment	8/1/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	4.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.7
Post-Treatment	8/1/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.22 J	0.5 U	0.5 U	1.8
Pre-Treatment	9/4/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	4.8	0.5 U	0.5 U	0.25 J	0.5 U	0.5 U	2.0
Post-Treatment	9/4/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.27 J	0.5 U	0.5 U	2.0
Pre-Treatment	10/3/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	5.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.1
Post-Treatment	10/3/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.24 J	0.5 U	0.5 U	2.0
Pre-Treatment	11/4/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	5.3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.2
Post-Treatment	11/4/2019		5 U	0.38 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.24 J	0.5 U	0.5 U	2.3
Pre-Treatment	12/2/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	5.2	0.5 U	0.5 U	0.22 J	0.5 U	0.5 U	2.1
Post-Treatment	12/2/2019		5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.23 J	0.5 U	0.5 U	2.1

(a) Maryland Department of Environment Action Level
(b) Maryland Risk Based Action Level

Notes:
MCL = US Environmental Protection Agency Maximum Contaminant Level
U = Undetected, value reported is the laboratory reporting limit
J = Indicates an estimated value between method detection limit and reporting limit
-- = Not analyzed

Table 2

Historical Groundwater Level Data (2017 to Present)
Offsite Area
Former Kop-Flex Facility Site
Hanover, Maryland

Well ID	Zone	TOC elevation (feet MSL)	5/1/2017		8/31/2017		11/14/2017		2/13/2018		5/31/2018	
			Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
MW-25 (b)	Shallow	130.6	14.02	116.58	14.09	116.51	14.6	116.00	14.56	116.04	13.10	117.50
MW-28 (b)	Shallow	150.5	27.4	123.10	27.2	123.30	27.22	123.28	27.48	123.02	27.42	123.08
MW-45	Shallow	126.7	13.67	113.05	NM	--	NM	--	NM	--	12.98	113.74
MW-24D	Confined LPA	129.1	48.35	80.75	48.35	80.75	51.99	77.11	NM	--	50.94	78.16
MW-25D-130	Confined LPA	130.5	53.80	76.70	61.38	69.12	58.46	72.04	58.31	72.19	58.23	72.27
MW-25D-192	Confined LPA	130.5	53.11	77.39	60.36	70.14	58.71	71.79	57.49	73.01	57.40	73.10
MW-28D	Confined LPA	150.5	82.72	67.78	94.55	55.95	89.03	61.47	67.37	83.13	88.75	61.75
MW-29D	Confined LPA	131.9	NM	--	NM	--	NM	--	NM	--	64.94	66.98
MW-30D-273	Confined LPA	153.5	NM	--	NM	--	NM	--	NM	--	98.66	54.88
MW-31D	Confined LPA	162.5	100.24	62.26	115.67	46.83	107.21	55.29	106.29	56.21	106.80	55.70
MW-32D	Confined LPA	156.1	NM	--	NM	--	NM	--	NM	--	97.90	58.24
MW-33D-235	Confined LPA	178.6	117.26	61.34	133.39	45.21	124.55	54.05	123.79	54.81	124.00	54.60
MW-33D-295	Confined LPA	178.3	117.03	61.27	133.14	45.16	124.36	53.94	123.60	54.70	123.83	54.47
MW-34D	Confined LPA	183.9	NM	--	NM	--	NM	--	NM	--	132.70	51.21
MW-35D	Confined LPA	177.8	117.28	60.52	133.55	44.25	125.59	52.21	124.02	53.78	124.27	53.53
MW-46D	Confined LPA	124.8	NM	--	NM	--	NM	--	NM	--	37.37	87.43
MW-30D-413	Patuxent	153.1	NM	--	NM	--	NM	--	NM	--	138.10	15.03
MW-36D	Patuxent	158.7	NM	--	NM	--	NM	--	NM	--	141.75	16.96

Notes:

- NM = no measurement taken at the well
- TOC = top of casing
- LPA = Lower Patapsco Aquifer
- MSL = mean sea level

a/ Measurement is not included due to an error during recordation in the field.

b/ Wells decommissioned on August 6, 2019.

Table 2

Historical Groundwater Level Data (2017 to Present)
Offsite Area
Former Kop-Flex Facility Site
Hanover, Maryland

Well ID	Zone	TOC elevation (feet MSL)	8/23/2018		11/8/2018		2/19/2019		5/22/2019		8/6/2019		11/20/2019	
			Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
MW-25 (b)	Shallow	130.6	NM	--	11.84	118.76	11.75	118.85	NM	--	(b)	--	(b)	--
MW-28 (b)	Shallow	150.5	NM	--	24.33	126.17	23.30	127.20	NM	--	(b)	--	(b)	--
MW-45	Shallow	126.7	NM	--	12.00	114.72	11.98	114.74	11.75	114.97	NM		14.55	112.17
MW-24D	Confined LPA	129.1	NM	--	50.72	78.38	48.92	80.18	49.67	79.43	52.37	76.73	51.12	77.98
MW-25D-130	Confined LPA	130.5	59.53	70.97	58.75	71.75	54.96	75.54	56.23	74.27	60.79	69.71	59.94	70.56
MW-25D-192	Confined LPA	130.5	58.69	71.81	57.63	72.87	54.20	76.30	55.45	75.05	60.37	70.13	59.02	71.48
MW-28D	Confined LPA	150.5	90.98	59.52	88.30	62.20	84.78	65.72	86.96	63.54	94.24	56.26	91.37	59.13
MW-29D	Confined LPA	131.9	66.56	65.36	65.03	66.89	60.64	71.28	62.36	69.56	67.20	64.72	67.10	64.82
MW-30D-273	Confined LPA	153.5	100.70	52.84	98.14	55.40	93.10	60.44	95.74	57.80	104.75	48.79	101.12	52.42
MW-31D	Confined LPA	162.5	109.95	52.55	106.27	56.23	102.47	60.03	104.91	57.59	113.35	49.15	110.14	52.36
MW-32D	Confined LPA	156.1	100.65	55.49	98.97	57.17	93.79	62.35	97.02	59.12	99.43	56.71	101.56	54.58
MW-33D-235	Confined LPA	178.6	127.52	51.08	125.14	53.46	119.35	59.25	121.72	56.88	132.76	45.84	127.87	50.73
MW-33D-295	Confined LPA	178.3	127.34	50.96	125.69	52.61	119.10	59.20	-- (a)	--	131.14	47.16	127.65	50.65
MW-34D	Confined LPA	183.9	136.42	47.49	131.76	52.15	127.40	56.51	129.93	53.98	141.48	42.43	136.62	47.29
MW-35D	Confined LPA	177.8	128.19	49.61	123.64	54.16	119.28	58.52	121.65	56.15	127.51	50.29	129.89	47.91
MW-46D	Confined LPA	124.8	NM	--	32.68	92.12	NM	--	35.47	89.33	38.40	86.40	37.90	86.90
MW-30D-413	Patuxent	153.1	143.75	9.38	140.62	12.51	130.73	22.40	137.25	15.88	145.27	7.86	143.64	9.49
MW-36D	Patuxent	158.7	146.32	12.39	143.85	14.86	134.83	23.88	141.3	17.41	147.65	11.06	146.75	11.96

Notes:

- NM = no measurement taken at the well
- TOC = top of casing
- LPA = Lower Patapsco Aquifer
- MSL = mean sea level

a/ Measurement is not included due to an error during recordation in the field.

b/ Wells decommissioned on August 6, 2019.

Table 3

Offsite Monitoring Well Sample Results
Former Kop-Flex Facility Site
Hanover, Maryland
November 2019

Parameters (a)	Groundwater Quality Standards (µg/L) (b)	Well ID: Sampling Date:	CONFINED LOWER PATAPSCO AQUIFER									
			MW-24D 19-Nov-19	MW-25D-130 19-Nov-19	MW-25D-192 19-Nov-19	DUP 111919(d) 19-Nov-19	MW-28D 20-Nov-19	MW-29D 20-Nov-19	MW-30D-273 20-Nov-19	MW-31D 20-Nov-19	MW-32D 20-Nov-19	MW-33D-235 20-Nov-19
1,1-Dichloroethane	90		54.5	2.7	12.6	13.8	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5		6.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	7		868	62	53.2	59.4	6.1	1.0 U	43.1	1.0 U	1.0 U	1.0 U
1,4-Dioxane	4.6 (c)		155	31.0	41.1	44.0	3.9	2.0 U	22.8	2.0 U	2.0 U	2.0 U
1,1,1-Trichloroethane	200		10.0	1.0 U	1.0 U	7.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total CVOCs & 1,4-Dioxane			-	1,094.1	95.7	106.9	124.8	10.0	---	67.0	---	---

a/ U = not detected above the method detection limit; CVOC = chlorinated volatile organic compound.

Bolded values indicate an exceedence of the Groundwater Quality Standards

All sample concentrations in micrograms per liter (µg/l)

b/ Source:

[http://www.mde.maryland.gov/assets/document/Final%20Update%20No%202.1%20dated%205-20-08\(1\).pdf](http://www.mde.maryland.gov/assets/document/Final%20Update%20No%202.1%20dated%205-20-08(1).pdf)

c/ Value represents the MDE risk-based action level.

d/ Field duplicate of sample from well MW-25-192.

Table 3								
Offsite Monitoring Well Sample Results Former Kop-Flex Facility Site Hanover, Maryland November 2019								
Parameters (a)	Groundwater Quality Standards (µg/L) (b)	Well ID: Sampling Date:	CONFINED LOWER PATAPSCO AQUIFER				PATUXENT AQUIFER	
			MW-33D-295 20-Nov-19	MW-34D 20-Nov-19	MW-35D 20-Nov-19	MW-46D 19-Nov-19	MW-30D-413 20-Nov-19	MW-36D 20-Nov-19
1,1-Dichloroethane	90		1.0 U	1.0 U	1.0 U	23.4	1.0 U	1.0 U
1,2-Dichloroethane	5		1.0 U	1.0 U	1.0 U	1.4	1.0 U	1.0 U
1,1-Dichloroethene	7		3.7	1.0 U	1.0 U	114	1.0 U	1.0 U
1,4-Dioxane	4.6 (c)		6.3	2.0 U	2.0 U	96.3	2.0 U	2.0 U
1,1,1-Trichloroethane	200		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total CVOCs & 1,4-Dioxane			10.0	---	---	235.1	---	---

a/ U = not detected above the method detection limit; CVOC = chlorinated volatile organic compound.

Bolded values indicate an exceedence of the Groundwater Quality Standards

All sample concentrations in micrograms per liter (µg/l)

b/ Source:
[http://www.mde.maryland.gov/assets/document/Final%20Update%20No%202.1%20dated%205-20-08\(1\).pdf](http://www.mde.maryland.gov/assets/document/Final%20Update%20No%202.1%20dated%205-20-08(1).pdf)

c/ Value represents the MDE risk-based action level.

d/ Field duplicate of sample from well MW-25-192.

Table 4

Historical Offsite Groundwater Sampling Results (2015 to Present)
Former Kop-Flex Facility Site
Hanover, Maryland

Well ID		1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene
Groundwater Quality Standard (µg/L)		90	5	7	70	4.6	5	200	5	5
Sample Date										
Unconfined Lower Patapsco Wells (b)										
MW-25 (c)	3/19/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	6/24/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/23/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	1/6/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	3/23/2016	1.0 U	1.0 U	1.5	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	7/20/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/8/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	12/8/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	2/21/2017	1.0 U	1.0 U	1.0 U	1.0 U	3.0	2.0 U	1.0 U	1.0 U	1.0 U
	5/2/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	8/31/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	11/14/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	11.7	1.0 U	1.0 U	1.0 U
	2/13/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
MW-28 (c)	3/17/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	6/23/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/22/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	1/5/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	3/22/2016	1.0 U	1.0 U	6.2	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	7/19/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/7/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	12/8/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	2/21/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/2/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	8/31/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	11/14/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/14/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Confined Lower Patapsco Wells										
MW-24D	3/22/2016	88.0	15.7	1,780	12.5 U	561	39.4	38.6	12.5 U	12.5 U
	12/8/2016	36.1	5.2	701	5.0 U	192	10.0 U	9.0	5.0 U	5.0 U
	5/2/2017	40.4	5.6	830	5.0 U	216	10.0 U	10.2	5.0 U	5.0 U
	11/14/2017	28.1	3.4	803	2.3	212	11.7	10.5	0.5 J	5.9
	5/30/2018	26.6	4.0 U	529	4.0 U	187	8.0 U	5.5	4.0 U	4.0 U
	11/7/2018	29.8	5.0 U	560	5.0 U	2.0 U	10.0 U	5.0 U	5.0 U	5.0 U
	5/22/2019	66.2	10.0 U	1,190	10.0 U	359	50.0 U	18	10.0 U	10.0 U
	11/19/2019	54.5	6.6	868	5.0 U	155	25.0 U	10	5.0 U	6.0 U
MW-25D-130	3/19/2015	38.6	10.8	854	10.0 U	446	200 U	8,930	100 U	100 U
	6/24/2015	37.1	8.9	1,030	4.6	303	2.0 U	46.3	1.2	6.8
	9/23/2015	29.7	10.0 U	697	10.0 U	295	20.0 U	32.3	10.0 U	14.2
	1/7/2016	33.4	9.7	800	5.0 U	398	10.0 U	5.0 U	5.0 U	6.1
	3/23/2016	24.5	8.0	676	5.0 U	302	10.0 U	26.2	5.0 U	5.0
	7/19/2016	39.3	10.2	1,090	4.9 J	367	14.3 J	37.0	10.0 U	6.5 J
	9/9/2016	27.9	6.4	661	5.0 U	241	12.0	25.0	5.0 U	5.0 U
	12/8/2016	6.7	1.5	171	1.0 U	13.6	2.0 U	6.9	1.0 U	1.0 U
	2/21/2017	7.2	1.7	194	1.0 U	69.1	2.0 U	7.0	1.0 U	1.2
	5/2/2017	6.5	2.0 U	174	2.0 U	61.0	4.0 U	5.0	2.0 U	2.0 U
	8/31/2017	7.4	1.7	193	2.0 U	57.9	4.0 U	6.9	2.0 U	2.0 U
	11/14/2017	5.1	1.3	151	0.57 J	58.5	5.0 U	6.4	1.0 U	1.1
	2/13/2018	6.3	2.0 U	154	2.0 U	67.1	5.0 U	6.4	1.0 U	1.0 U
	5/30/2018	5.0	1.4	144	2.0 U	53.9	5.0 U	5.3	1.0 U	1.0 U
	11/8/2018	4.4	1.1	109	2.0 U	40.2	5.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	3.7	1.0 U	96.2	1.0 U	38.4	5.0 U	4.2	1.0 U	1.0 U
	11/19/2019	2.7	1.0 U	62.1	1.0 U	31.0	5.0 U	1.0 U	1.0 U	1.0 U

Table 4

Historical Offsite Groundwater Sampling Results (2015 to Present)
Former Kop-Flex Facility Site
Hanover, Maryland

Well ID		1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene
Groundwater Quality Standard (µg/L)		90	5	7	70	4.6	5	200	5	5
MW-25D-192	3/19/2015	11.7	1.0 U	53.0	1.0 U	49.4	2.0 U	13.7	1.0 U	1.0 U
	6/25/2015	11.9	1.0 U	59.4	1.0 U	39.8	2.0 U	14.2	1.0 U	1.0 U
	9/22/2015	13.9	1.0 U	51.4	1.0 U	45.0	2.0 U	12.9	1.0 U	1.3
	1/7/2016	11.7	1.0 U	47.2	1.0 U	41.7	2.0 U	12.5	1.0 U	1.0 U
	3/23/2016	10.3	1.0 U	43.3	1.0 U	42.2	2.0 U	11.3	1.0 U	1.0 U
	7/20/2016	11.7	0.73 J	54.9	1.0 U	54.4	2.0 U	11.1	1.0 U	1.0 U
	9/8/2016	12.9	1.0 U	56.8	1.0 U	39.3	2.0 U	12.6	1.0 U	1.0 U
	12/8/2016	16.1	1.0 U	64.6	1.0 U	51.3	2.0 U	13.3	1.0 U	1.0 U
	2/21/2017	14.0	1.0 U	63.3	1.0 U	52.1	2.0 U	11.6	1.0 U	1.0 U
	5/2/2017	16.9	1.0 U	81.0	1.0 U	53.1	2.0 U	13.5	1.0 U	1.0 U
	8/31/2017	15.7	1.0 U	62.5	1.0 U	44.3	2.0 U	13.1	1.0 U	1.0 U
	11/14/2017	13.6	0.67 J	67.2	1.0 U	56.7	5.0 U	13.6	1.0 U	1.0 U
	2/13/2018	13.7	1.0 U	69.2	1.0 U	42.7	5.0 U	11.0	1.0 U	1.0 U
	5/30/2018	10.8	1.0 U	58.3	1.0 U	50.8	5.0 U	7.2	1.0 U	1.0 U
	11/8/2018	13.7	1.0 U	61.0	1.0 U	49.3	5.0 U	9.8	1.0 U	1.0 U
	5/22/2019	11.8	1.0 U	51.7	1.0 U	36.7	5.0 U	8.5	1.0 U	1.0 U
	11/19/2019	12.6	1.0 U	53.2	1.0 U	41.1	5.0 U	1.0 U	1.0 U	1.0 U
MW-28D	3/17/2015	1.0 U	1.0 U	10.6	1.0 U	5.0	2.0 U	1.0 U	1.0 U	1.0 U
	6/23/2015	1.0 U	1.0 U	12.8	1.0 U	4.5	2.0 U	1.0 U	1.0 U	1.0 U
	9/22/2015	1.0 U	1.0 U	14.3	1.0 U	4.4	2.0 U	1.0 U	1.0 U	1.0 U
	1/5/2016	1.0 U	1.0 U	11.5	1.0 U	5.5	2.0 U	1.0 U	1.0 U	1.0 U
	3/23/2016	1.0 U	1.0 U	9.1	1.0 U	4.0	2.0 U	1.0 U	1.0 U	1.0 U
	7/19/2016	1.0 U	0.25 J	10.1	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/7/2016	1.0 U	1.0 U	12.0	1.0 U	5.0	2.0 U	1.0 U	1.0 U	1.0 U
	12/8/2016	1.0 U	1.0 U	6.3	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	2/21/2017	1.0 U	1.0 U	4.6	1.0 U	3.0	2.0 U	1.0 U	1.0 U	1.0 U
	5/2/2017	1.0 U	1.0 U	5.8	1.0 U	2.7	2.0 U	1.0 U	1.0 U	1.0 U
	8/31/2017	1.0 U	1.0 U	5.0	1.0 U	2.7	2.0 U	1.0 U	1.0 U	1.0 U
	11/14/2017	1.0 U	1.0 U	5.5	1.0 U	3.5	5.0 U	1.0 U	1.0 U	1.0 U
	2/14/2018	1.0 U	1.0 U	4.3	1.0 U	2.8	5.0 U	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	1.0 U	6.1	1.0 U	2.4	5.0 U	1.0 U	1.0 U	1.0 U
	11/8/2018	1.0 U	1.0 U	6.9	1.0 U	2.3	5.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	1.0 U	5.2	1.0 U	3.5	5.0 U	1.0 U	1.0 U	1.0 U
	11/20/2019	1.0 U	1.0 U	6.1	1.0 U	3.9	5.0 U	1.0 U	1.0 U	1.0 U
MW-29D	5/21/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	8/23/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/8/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/19/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/20/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
MW-30D-273	5/31/2018	1.0 U	1.0 U	27.4	1.0 U	16.4	5.0 U	1.0 U	1.0 U	1.0 U
	8/23/2018	1.0	1.0 U	40.7	1.0 U	24.5	5.0 U	1.7	1.0 U	1.0 U
	11/8/2018	1.2	1.0 U	44.0	1.0 U	22.2	5.0 U	2.1	1.0 U	1.0 U
	2/19/2019	1.1	1.0 U	47.2	1.0 U	23.1	5.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.1	1.0 U	44.2	1.0 U	22.7	5.0 U	2.0	1.0 U	1.0 U
	11/20/2019	1.1	1.0 U	43.3	1.0 U	22.8	5.0 U	1.0 U	1.0 U	1.0 U

Table 4

Historical Offsite Groundwater Sampling Results (2015 to Present)
Former Kop-Flex Facility Site
Hanover, Maryland

Well ID		1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene
Groundwater Quality Standard (µg/L)		90	5	7	70	4.6	5	200	5	5
MW-31D	3/17/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	6/24/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/22/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	1/6/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	3/21/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	7/19/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/6/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	12/8/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	2/21/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/2/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	8/31/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	11/14/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/14/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/31/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/8/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/20/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
MW-32D	5/31/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	8/23/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/8/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/19/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/20/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
MW-33D-235	3/18/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	6/23/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/21/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	1/4/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	3/21/2016	1.0 U	1.0 U	1.0 U	1.0 U	3.0	2.0 U	1.0 U	1.0 U	1.0 U
	7/18/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/7/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	12/8/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	2/21/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/2/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	8/31/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	11/14/2017	1.0 U	1.0 U	1.0 U	1.0 U	4.3	12.0	1.0 U	1.0 U	1.0 U
	2/13/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/31/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	11/8/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/20/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
MW-33D-295	3/18/2015	1.0 U	1.0 U	4.6	1.0 U	8.0	2.0 U	1.0 U	1.0 U	1.0 U
	6/23/2015	1.0 U	1.0 U	3.3	1.0 U	6.8	2.0 U	1.0 U	1.0 U	1.0 U
	9/21/2015	1.0 U	1.0 U	4.8	1.0 U	6.8	2.0 U	1.0 U	1.0 U	1.0 U
	1/4/2016	1.0 U	1.0 U	3.7	1.0 U	7.6	2.0 U	1.0 U	1.0 U	1.0 U
	3/21/2016	1.0 U	1.0 U	3.9	1.0 U	7.8	2.0 U	1.0 U	1.0 U	1.0 U
	7/18/2016	1.0 U	0.36 J	3.2	1.0 U	5.1	2.0 U	1.0 U	1.0 U	1.0 U
	9/7/2016	1.0 U	1.0 U	3.8	1.0 U	7.4	2.0 U	1.0 U	1.0 U	1.0 U
	12/8/2016	1.0 U	1.0 U	5.4	1.0 U	7.4	2.0 U	1.0 U	1.0 U	1.0 U
	2/21/2017	1.0 U	1.0 U	4.0	1.0 U	6.8	2.0 U	1.0 U	1.0 U	1.0 U
	5/2/2017	1.0 U	1.0 U	5.3	1.0 U	7.4	2.0 U	1.0 U	1.0 U	1.0 U
	8/31/2017	1.0 U	1.0 U	5.6	1.0 U	6.3	2.0 U	1.0 U	1.0 U	1.0 U
	11/14/2017	1.0 U	1.0 U	3.4	1.0 U	9.7	11.5	0.49 J	1.0 U	1.0 U
	2/13/2018	1.0 U	1.0 U	4.6	1.0 U	6.9	2.0 U	0.49 J	1.0 U	1.0 U
	5/31/2018	1.0 U	1.0 U	4.6	1.0 U	6.9	2.0 U	0.49 J	1.0 U	1.0 U
	11/8/2018	1.0 U	1.0 U	4.2	1.0 U	6.1	2.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	1.0 U	4.5	1.0 U	6.1	5.0 U	1.0 U	1.0 U	1.0 U
	11/20/2019	1.0 U	1.0 U	3.7	1.0 U	6.3	5.0 U	1.0 U	1.0 U	1.0 U

Table 4										
Historical Offsite Groundwater Sampling Results (2015 to Present)										
Former Kop-Flex Facility Site										
Hanover, Maryland										
Well ID		1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene
Groundwater Quality Standard (µg/L)		90	5	7	70	4.6	5	200	5	5
MW-34D	5/31/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	8/23/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	11/8/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	2/19/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/20/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
MW-35D	3/18/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	6/22/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/21/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	1/6/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	4/15/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	7/18/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/6/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	12/8/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	2/21/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/2/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	8/31/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	11/14/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	2/14/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/31/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	11/8/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	1.0 U	1 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/20/2019	1.0 U	1.0 U	1 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
MW-46D	5/30/2018	13.7	1.0 U	29.4	1.0 U	73.5	2.0 U	1.2	1.0 U	1.0 U
	11/7/2018	22.1	1.2	99.6	1.0 U	96.7	2.0 U	7.7	1.0 U	1.0 U
	5/21/2019	26.1	1.0	125	1.0 U	88.0	5.0 U	10.2	1.0 U	1.0 U
	11/19/2019	23.4	1.4	114	1.0	96.3	5.0 U	1.0 U	1.0 U	1.0 U
Confined Patuxent Wells										
MW-30D-413	5/31/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	8/23/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	11/8/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	2/19/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/20/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
MW-36D	5/30/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	8/23/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	11/8/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	2/19/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/20/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U

a/ U = not detected above the method detection limit; J = estimated concentration between the reporting limit and method detection limit.

Bolded values indicate an exceedence of the Groundwater Quality Standards

Dashed line marks change from quarterly to semi-annual sampling frequency at the well.

All sample concentrations in micrograms per liter (µg/l)

NS = well not sampled

b/ Wells screened in this portion of the Lower Patapsco aquifer were removed from the monitoring program after the May 2018 sampling event.

c/ Well decommissioned in August 2019

ENCLOSURE A – LABORATORY ANALYTICAL REPORTS FOR RESIDENTIAL
WELL SAMPLES (1227 OLD CAMP MEADE ROAD)

OCTOBER 2019

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

WSP Environment & Energy

Kop-Flex, Hanover, VA

31401545.011-02

SGS Job Number: JC96203

Sampling Date: 10/03/19

Report to:

WSP
11190 Sunrise Valley Drive Suite 300
Reston, VA 20190
eric.johnson@wspgroup.com; maria.kaplan@wsp.com;
Chris.Cresci@wspgroup.com
ATTN: Eric Johnson

Total number of pages in report: 37



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to be "LDH".

Laura Degenhardt
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary 3

Section 2: Summary of Hits 4

Section 3: Sample Results 5

3.1: JC96203-1: RW-1227OCM-100319 6

3.2: JC96203-2: RW-1227OCM-100319-F 9

3.3: JC96203-3: TB-100319 12

Section 4: Misc. Forms 15

4.1: Chain of Custody 16

Section 5: MS Volatiles - QC Data Summaries 18

5.1: Method Blank Summary 19

5.2: Blank Spike Summary 23

5.3: Matrix Spike Summary 26

5.4: Matrix Spike/Matrix Spike Duplicate Summary 29

5.5: Duplicate Summary 30

5.6: Instrument Performance Checks (BFB) 32

5.7: Surrogate Recovery Summaries 36



Sample Summary

WSP Environment & Energy

Job No: JC96203

Kop-Flex, Hanover, VA
Project No: 31401545.011-02

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
---------------	----------------	---------	----------	-------------	------	------------------

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

JC96203-1	10/03/19	10:25	SB	10/04/19	DW	Drinking Water	RW-1227OCM-100319
JC96203-2	10/03/19	10:20	SB	10/04/19	DW	Drinking Water	RW-1227OCM-100319-F
JC96203-3	10/03/19	10:25	SB	10/04/19	DW	Drinking Water TB	TB-100319

Summary of Hits

Job Number: JC96203
Account: WSP Environment & Energy
Project: Kop-Flex, Hanover, VA
Collected: 10/03/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JC96203-1 RW-1227OCM-100319

1,1-Dichloroethylene	5.6	0.50	0.19	ug/l	EPA 524.2 REV 4.1
1,4-Dioxane	2.1	0.40	0.095	ug/l	SW846 8260C BY SIM

JC96203-2 RW-1227OCM-100319-F

1,1,1-Trichloroethane	0.24 J	0.50	0.22	ug/l	EPA 524.2 REV 4.1
1,4-Dioxane	2.0	0.40	0.095	ug/l	SW846 8260C BY SIM

JC96203-3 TB-100319

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RW-1227OCM-100319	Date Sampled:	10/03/19
Lab Sample ID:	JC96203-1	Date Received:	10/04/19
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1B121120.D	1	10/07/19 17:06	BK	n/a	n/a	V1B5856
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
67-64-1	Acetone	ND		5.0	2.5	ug/l	
78-93-3	2-Butanone	ND		5.0	0.43	ug/l	
71-43-2	Benzene	ND	5.0	0.50	0.16	ug/l	
108-86-1	Bromobenzene	ND		0.50	0.12	ug/l	
74-97-5	Bromochloromethane	ND		0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND		0.50	0.13	ug/l	
75-25-2	Bromoform	ND		0.50	0.27	ug/l	
74-83-9	Bromomethane	ND		0.50	0.18	ug/l	
104-51-8	n-Butylbenzene	ND		0.50	0.068	ug/l	
135-98-8	sec-Butylbenzene	ND		0.50	0.43	ug/l	
98-06-6	tert-Butylbenzene	ND		0.50	0.057	ug/l	
75-15-0	Carbon disulfide	ND		0.50	0.18	ug/l	
108-90-7	Chlorobenzene	ND	100	0.50	0.093	ug/l	
75-00-3	Chloroethane	ND		0.50	0.080	ug/l	
67-66-3	Chloroform	ND		0.50	0.17	ug/l	
74-87-3	Chloromethane	ND		0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND		0.50	0.098	ug/l	
106-43-4	p-Chlorotoluene	ND		0.50	0.075	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	0.50	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND		0.50	0.22	ug/l	
75-35-4	1,1-Dichloroethylene	5.6	7.0	0.50	0.19	ug/l	
563-58-6	1,1-Dichloropropene	ND		0.50	0.14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.20	1.0	0.14	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.050	0.50	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	0.50	0.18	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	0.50	0.19	ug/l	
142-28-9	1,3-Dichloropropane	ND		0.50	0.17	ug/l	
594-20-7	2,2-Dichloropropane	ND		0.50	0.31	ug/l	
124-48-1	Dibromochloromethane	ND		0.50	0.14	ug/l	
74-95-3	Dibromomethane	ND		0.50	0.23	ug/l	
75-71-8	Dichlorodifluoromethane	ND		0.50	0.40	ug/l	
541-73-1	m-Dichlorobenzene	ND		0.50	0.14	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

MCL = Maximum Contamination Level (40 CFR 141)

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-1227OCM-100319	Date Sampled:	10/03/19
Lab Sample ID:	JC96203-1	Date Received:	10/04/19
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	600	0.50	0.14	ug/l	
106-46-7	p-Dichlorobenzene	ND	75	0.50	0.10	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	100	0.50	0.21	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	70	0.50	0.14	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.16	ug/l	
100-41-4	Ethylbenzene	ND	700	0.50	0.076	ug/l	
87-68-3	Hexachlorobutadiene	ND		0.50	0.13	ug/l	
591-78-6	2-Hexanone	ND		2.0	0.24	ug/l	
98-82-8	Isopropylbenzene	ND		0.50	0.054	ug/l	
99-87-6	p-Isopropyltoluene	ND		0.50	0.43	ug/l	
75-09-2	Methylene chloride	ND	5.0	0.50	0.37	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND		0.50	0.11	ug/l	
108-10-1	4-Methyl-2-pentanone	ND		2.0	0.22	ug/l	
91-20-3	Naphthalene	ND		0.50	0.28	ug/l	
103-65-1	n-Propylbenzene	ND		0.50	0.066	ug/l	
100-42-5	Styrene	ND	100	0.50	0.069	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	200	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	0.50	0.19	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND		0.50	0.091	ug/l	
96-18-4	1,2,3-Trichloropropane	ND		0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	70	0.50	0.055	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND		0.50	0.40	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND		0.50	0.057	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	0.50	0.23	ug/l	
108-88-3	Toluene	ND	1000	0.50	0.11	ug/l	
79-01-6	Trichloroethylene	ND	5.0	0.50	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND		1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.50	0.15	ug/l	
	m,p-Xylene	ND		0.50	0.14	ug/l	
95-47-6	o-Xylene	ND		0.50	0.076	ug/l	
1330-20-7	Xylenes (total)	ND	10000	0.50	0.076	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	90%		70-130%
460-00-4	4-Bromofluorobenzene	93%		70-130%

ND = Not detected MDL = Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 141)
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-1227OCM-100319	Date Sampled:	10/03/19
Lab Sample ID:	JC96203-1	Date Received:	10/04/19
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	SW846 8260C BY SIM		
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3A163100.D	1	10/14/19 11:34	RS	n/a	n/a	V3A7066
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	2.1		0.40	0.095	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17647-74-4	1,4-Dioxane-d8	94%		25-195%

ND = Not detected MDL = Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 141)
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-1227OCM-100319-F	Date Sampled:	10/03/19
Lab Sample ID:	JC96203-2	Date Received:	10/04/19
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1B121121.D	1	10/07/19 17:38	BK	n/a	n/a	V1B5856
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
67-64-1	Acetone	ND		5.0	2.5	ug/l	
78-93-3	2-Butanone	ND		5.0	0.43	ug/l	
71-43-2	Benzene	ND	5.0	0.50	0.16	ug/l	
108-86-1	Bromobenzene	ND		0.50	0.12	ug/l	
74-97-5	Bromochloromethane	ND		0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND		0.50	0.13	ug/l	
75-25-2	Bromoform	ND		0.50	0.27	ug/l	
74-83-9	Bromomethane	ND		0.50	0.18	ug/l	
104-51-8	n-Butylbenzene	ND		0.50	0.068	ug/l	
135-98-8	sec-Butylbenzene	ND		0.50	0.43	ug/l	
98-06-6	tert-Butylbenzene	ND		0.50	0.057	ug/l	
75-15-0	Carbon disulfide	ND		0.50	0.18	ug/l	
108-90-7	Chlorobenzene	ND	100	0.50	0.093	ug/l	
75-00-3	Chloroethane	ND		0.50	0.080	ug/l	
67-66-3	Chloroform	ND		0.50	0.17	ug/l	
74-87-3	Chloromethane	ND		0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND		0.50	0.098	ug/l	
106-43-4	p-Chlorotoluene	ND		0.50	0.075	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	0.50	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND		0.50	0.22	ug/l	
75-35-4	1,1-Dichloroethylene	ND	7.0	0.50	0.19	ug/l	
563-58-6	1,1-Dichloropropene	ND		0.50	0.14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.20	1.0	0.14	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.050	0.50	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	0.50	0.18	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	0.50	0.19	ug/l	
142-28-9	1,3-Dichloropropane	ND		0.50	0.17	ug/l	
594-20-7	2,2-Dichloropropane	ND		0.50	0.31	ug/l	
124-48-1	Dibromochloromethane	ND		0.50	0.14	ug/l	
74-95-3	Dibromomethane	ND		0.50	0.23	ug/l	
75-71-8	Dichlorodifluoromethane	ND		0.50	0.40	ug/l	
541-73-1	m-Dichlorobenzene	ND		0.50	0.14	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

MCL = Maximum Contamination Level (40 CFR 141)

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-1227OCM-100319-F	Date Sampled:	10/03/19
Lab Sample ID:	JC96203-2	Date Received:	10/04/19
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	600	0.50	0.14	ug/l	
106-46-7	p-Dichlorobenzene	ND	75	0.50	0.10	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	100	0.50	0.21	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	70	0.50	0.14	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.16	ug/l	
100-41-4	Ethylbenzene	ND	700	0.50	0.076	ug/l	
87-68-3	Hexachlorobutadiene	ND		0.50	0.13	ug/l	
591-78-6	2-Hexanone	ND		2.0	0.24	ug/l	
98-82-8	Isopropylbenzene	ND		0.50	0.054	ug/l	
99-87-6	p-Isopropyltoluene	ND		0.50	0.43	ug/l	
75-09-2	Methylene chloride	ND	5.0	0.50	0.37	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND		0.50	0.11	ug/l	
108-10-1	4-Methyl-2-pentanone	ND		2.0	0.22	ug/l	
91-20-3	Naphthalene	ND		0.50	0.28	ug/l	
103-65-1	n-Propylbenzene	ND		0.50	0.066	ug/l	
100-42-5	Styrene	ND	100	0.50	0.069	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	0.24	200	0.50	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	0.50	0.19	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND		0.50	0.091	ug/l	
96-18-4	1,2,3-Trichloropropane	ND		0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	70	0.50	0.055	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND		0.50	0.40	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND		0.50	0.057	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	0.50	0.23	ug/l	
108-88-3	Toluene	ND	1000	0.50	0.11	ug/l	
79-01-6	Trichloroethylene	ND	5.0	0.50	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND		1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.50	0.15	ug/l	
	m,p-Xylene	ND		0.50	0.14	ug/l	
95-47-6	o-Xylene	ND		0.50	0.076	ug/l	
1330-20-7	Xylenes (total)	ND	10000	0.50	0.076	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	92%		70-130%
460-00-4	4-Bromofluorobenzene	92%		70-130%

ND = Not detected MDL = Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 141)
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-1227OCM-100319-F	Date Sampled:	10/03/19
Lab Sample ID:	JC96203-2	Date Received:	10/04/19
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	SW846 8260C BY SIM		
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3A163101.D	1	10/14/19 12:02	RS	n/a	n/a	V3A7066
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	2.0		0.40	0.095	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17647-74-4	1,4-Dioxane-d8	94%		25-195%

ND = Not detected MDL = Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 141)
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-100319	Date Sampled:	10/03/19
Lab Sample ID:	JC96203-3	Date Received:	10/04/19
Matrix:	DW - Drinking Water TB	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

Run	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1B121124.D	1	10/07/19 19:12	BK	n/a	n/a	V1B5856
Run #2							

Run	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
67-64-1	Acetone	ND		5.0	2.5	ug/l	
78-93-3	2-Butanone	ND		5.0	0.43	ug/l	
71-43-2	Benzene	ND	5.0	0.50	0.16	ug/l	
108-86-1	Bromobenzene	ND		0.50	0.12	ug/l	
74-97-5	Bromochloromethane	ND		0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND		0.50	0.13	ug/l	
75-25-2	Bromoform	ND		0.50	0.27	ug/l	
74-83-9	Bromomethane	ND		0.50	0.18	ug/l	
104-51-8	n-Butylbenzene	ND		0.50	0.068	ug/l	
135-98-8	sec-Butylbenzene	ND		0.50	0.43	ug/l	
98-06-6	tert-Butylbenzene	ND		0.50	0.057	ug/l	
75-15-0	Carbon disulfide	ND		0.50	0.18	ug/l	
108-90-7	Chlorobenzene	ND	100	0.50	0.093	ug/l	
75-00-3	Chloroethane	ND		0.50	0.080	ug/l	
67-66-3	Chloroform	ND		0.50	0.17	ug/l	
74-87-3	Chloromethane	ND		0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND		0.50	0.098	ug/l	
106-43-4	p-Chlorotoluene	ND		0.50	0.075	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	0.50	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND		0.50	0.22	ug/l	
75-35-4	1,1-Dichloroethylene	ND	7.0	0.50	0.19	ug/l	
563-58-6	1,1-Dichloropropene	ND		0.50	0.14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.20	1.0	0.14	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.050	0.50	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	0.50	0.18	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	0.50	0.19	ug/l	
142-28-9	1,3-Dichloropropane	ND		0.50	0.17	ug/l	
594-20-7	2,2-Dichloropropane	ND		0.50	0.31	ug/l	
124-48-1	Dibromochloromethane	ND		0.50	0.14	ug/l	
74-95-3	Dibromomethane	ND		0.50	0.23	ug/l	
75-71-8	Dichlorodifluoromethane	ND		0.50	0.40	ug/l	
541-73-1	m-Dichlorobenzene	ND		0.50	0.14	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

MCL = Maximum Contamination Level (40 CFR 141)

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-100319	Date Sampled:	10/03/19
Lab Sample ID:	JC96203-3	Date Received:	10/04/19
Matrix:	DW - Drinking Water TB	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	600	0.50	0.14	ug/l	
106-46-7	p-Dichlorobenzene	ND	75	0.50	0.10	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	100	0.50	0.21	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	70	0.50	0.14	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.16	ug/l	
100-41-4	Ethylbenzene	ND	700	0.50	0.076	ug/l	
87-68-3	Hexachlorobutadiene	ND		0.50	0.13	ug/l	
591-78-6	2-Hexanone	ND		2.0	0.24	ug/l	
98-82-8	Isopropylbenzene	ND		0.50	0.054	ug/l	
99-87-6	p-Isopropyltoluene	ND		0.50	0.43	ug/l	
75-09-2	Methylene chloride	ND	5.0	0.50	0.37	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND		0.50	0.11	ug/l	
108-10-1	4-Methyl-2-pentanone	ND		2.0	0.22	ug/l	
91-20-3	Naphthalene	ND		0.50	0.28	ug/l	
103-65-1	n-Propylbenzene	ND		0.50	0.066	ug/l	
100-42-5	Styrene	ND	100	0.50	0.069	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	200	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	0.50	0.19	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND		0.50	0.091	ug/l	
96-18-4	1,2,3-Trichloropropane	ND		0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	70	0.50	0.055	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND		0.50	0.40	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND		0.50	0.057	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	0.50	0.23	ug/l	
108-88-3	Toluene	ND	1000	0.50	0.11	ug/l	
79-01-6	Trichloroethylene	ND	5.0	0.50	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND		1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.50	0.15	ug/l	
	m,p-Xylene	ND		0.50	0.14	ug/l	
95-47-6	o-Xylene	ND		0.50	0.076	ug/l	
1330-20-7	Xylenes (total)	ND	10000	0.50	0.076	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	92%		70-130%
460-00-4	4-Bromofluorobenzene	90%		70-130%

ND = Not detected MDL = Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 141)
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-100319	
Lab Sample ID:	JC96203-3	Date Sampled: 10/03/19
Matrix:	DW - Drinking Water TB	Date Received: 10/04/19
Method:	SW846 8260C BY SIM	Percent Solids: n/a
Project:	Kop-Flex, Hanover, VA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3A163099.D	1	10/14/19 11:04	RS	n/a	n/a	V3A7066
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND		0.40	0.095	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17647-74-4	1,4-Dioxane-d8	102%		25-195%

ND = Not detected MDL = Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 141)
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

4.1

SGS Sample Receipt Summary

Job Number: JC96203

Client: WSP

Project: KOP-FLEX, HANOVER, VA

Date / Time Received: 10/4/2019 9:20:00 AM

Delivery Method:

Airbill #s:

Cooler Temps (Raw Measured) °C: Cooler 1: (3.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.5);

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | ☒ | ☐ | 3. COC Present: | ☒ | ☐ |
| 2. Custody Seals Intact: | ☒ | ☐ | 4. Smpl Dates/Time OK | ☒ | ☐ |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | ☒ | ☐ |
| 2. Cooler temp verification: | IR Gun | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|--------------------------|
| 1. Trip Blank present / cooler: | ☒ | ☐ | ☐ |
| 2. Trip Blank listed on COC: | ☒ | ☐ | ☐ |
| 3. Samples preserved properly: | ☒ | ☐ | |
| 4. VOCs headspace free: | ☒ | ☐ | ☐ |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | ☒ | ☐ |
| 2. Container labeling complete: | ☒ | ☐ |
| 3. Sample container label / COC agree: | ☒ | ☐ |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | ☒ | ☐ |
| 2. All containers accounted for: | ☒ | ☐ |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N

N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | ☒ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☒ | |
| 3. Sufficient volume recvd for analysis: | ☒ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☒ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☒ |

Test Strip Lot #s:

pH 1-12: 229517

pH 12+: 208717

Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JC96203: Chain of Custody

Page 2 of 2

MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 3

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5856-MB	1B121119.D	1	10/07/19	BK	n/a	n/a	V1B5856

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC96203-1, JC96203-2, JC96203-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	2.5	ug/l	
78-93-3	2-Butanone	ND	5.0	0.43	ug/l	
71-43-2	Benzene	ND	0.50	0.16	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.12	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.27	ug/l	
74-83-9	Bromomethane	ND	0.50	0.18	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.068	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.43	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.057	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.18	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.093	ug/l	
75-00-3	Chloroethane	ND	0.50	0.080	ug/l	
67-66-3	Chloroform	ND	0.50	0.17	ug/l	
74-87-3	Chloromethane	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.098	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.075	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.22	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.19	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.14	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.18	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.19	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.17	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.14	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.23	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.40	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.14	ug/l	
95-50-1	o-Dichlorobenzene	ND	0.50	0.14	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.10	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.21	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.14	ug/l	

Method Blank Summary

Page 2 of 3

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5856-MB	1B121119.D	1	10/07/19	BK	n/a	n/a	V1B5856

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC96203-1, JC96203-2, JC96203-3

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.076	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.13	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.24	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.054	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.43	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.11	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.22	ug/l	
91-20-3	Naphthalene	ND	0.50	0.28	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.066	ug/l	
100-42-5	Styrene	ND	0.50	0.069	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.19	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.091	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.055	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.40	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.057	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.23	ug/l	
108-88-3	Toluene	ND	0.50	0.11	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.15	ug/l	
	m,p-Xylene	ND	0.50	0.14	ug/l	
95-47-6	o-Xylene	ND	0.50	0.076	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.076	ug/l	

CAS No.	Surrogate Recoveries	Limits
2199-69-1	1,2-Dichlorobenzene-d4	89%
460-00-4	4-Bromofluorobenzene	93%

Method Blank Summary

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5856-MB	1B121119.D	1	10/07/19	BK	n/a	n/a	V1B5856

The QC reported here applies to the following samples:

Method:

JC96203-1, JC96203-2, JC96203-3

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3A7066-MB	3A163097.D	1	10/14/19	RS	n/a	n/a	V3A7066

The QC reported here applies to the following samples: Method: SW846 8260C BY SIM
JC96203-1, JC96203-2, JC96203-3

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.40	0.095	ug/l	

CAS No.	Surrogate Recoveries	Limits
17647-74-4	1,4-Dioxane-d8	99% 25-195%

Blank Spike Summary

Page 1 of 2

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5856-BS	1B121118.D	1	10/07/19	BK	n/a	n/a	V1B5856

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC96203-1, JC96203-2, JC96203-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	20	14.4	72	70-130
78-93-3	2-Butanone	20	14.7	74	70-130
71-43-2	Benzene	5	4.2	84	70-130
108-86-1	Bromobenzene	5	4.2	84	70-130
74-97-5	Bromochloromethane	5	4.1	82	70-130
75-27-4	Bromodichloromethane	5	4.3	86	70-130
75-25-2	Bromoform	5	4.2	84	70-130
74-83-9	Bromomethane	5	5.1	102	70-130
104-51-8	n-Butylbenzene	5	4.4	88	70-130
135-98-8	sec-Butylbenzene	5	4.5	90	70-130
98-06-6	tert-Butylbenzene	5	4.3	86	70-130
75-15-0	Carbon disulfide	5	4.2	84	70-130
108-90-7	Chlorobenzene	5	4.3	86	70-130
75-00-3	Chloroethane	5	5.2	104	70-130
67-66-3	Chloroform	5	4.1	82	70-130
74-87-3	Chloromethane	5	5.0	100	70-130
95-49-8	o-Chlorotoluene	5	4.3	86	70-130
106-43-4	p-Chlorotoluene	5	4.4	88	70-130
56-23-5	Carbon tetrachloride	5	4.3	86	70-130
75-34-3	1,1-Dichloroethane	5	4.3	86	70-130
75-35-4	1,1-Dichloroethylene	5	4.2	84	70-130
563-58-6	1,1-Dichloropropene	5	4.3	86	70-130
96-12-8	1,2-Dibromo-3-chloropropane	5	4.0	80	70-130
106-93-4	1,2-Dibromoethane	5	4.5	90	70-130
107-06-2	1,2-Dichloroethane	5	4.2	84	70-130
78-87-5	1,2-Dichloropropane	5	4.4	88	70-130
142-28-9	1,3-Dichloropropane	5	4.5	90	70-130
594-20-7	2,2-Dichloropropane	5	4.4	88	70-130
124-48-1	Dibromochloromethane	5	4.3	86	70-130
74-95-3	Dibromomethane	5	4.2	84	70-130
75-71-8	Dichlorodifluoromethane	5	5.6	112	70-130
541-73-1	m-Dichlorobenzene	5	4.2	84	70-130
95-50-1	o-Dichlorobenzene	5	4.2	84	70-130
106-46-7	p-Dichlorobenzene	5	4.2	84	70-130
156-60-5	trans-1,2-Dichloroethylene	5	3.9	78	70-130
156-59-2	cis-1,2-Dichloroethylene	5	4.2	84	70-130

* = Outside of Control Limits.

Blank Spike Summary

Page 2 of 2

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5856-BS	1B121118.D	1	10/07/19	BK	n/a	n/a	V1B5856

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC96203-1, JC96203-2, JC96203-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	5	4.5	90	70-130
10061-02-6	trans-1,3-Dichloropropene	5	4.5	90	70-130
100-41-4	Ethylbenzene	5	4.4	88	70-130
87-68-3	Hexachlorobutadiene	5	4.3	86	70-130
591-78-6	2-Hexanone	20	16.5	83	70-130
98-82-8	Isopropylbenzene	5	4.3	86	70-130
99-87-6	p-Isopropyltoluene	5	4.3	86	70-130
75-09-2	Methylene chloride	5	4.2	84	70-130
1634-04-4	Methyl Tert Butyl Ether	5	4.3	86	70-130
108-10-1	4-Methyl-2-pentanone	20	16.6	83	70-130
91-20-3	Naphthalene	5	4.4	88	70-130
103-65-1	n-Propylbenzene	5	4.4	88	70-130
100-42-5	Styrene	5	4.3	86	70-130
630-20-6	1,1,1,2-Tetrachloroethane	5	4.3	86	70-130
71-55-6	1,1,1-Trichloroethane	5	4.1	82	70-130
79-34-5	1,1,2,2-Tetrachloroethane	5	4.2	84	70-130
79-00-5	1,1,2-Trichloroethane	5	4.4	88	70-130
87-61-6	1,2,3-Trichlorobenzene	5	4.4	88	70-130
96-18-4	1,2,3-Trichloropropane	5	4.0	80	70-130
120-82-1	1,2,4-Trichlorobenzene	5	4.3	86	70-130
95-63-6	1,2,4-Trimethylbenzene	5	4.4	88	70-130
108-67-8	1,3,5-Trimethylbenzene	5	4.4	88	70-130
127-18-4	Tetrachloroethylene	5	4.2	84	70-130
108-88-3	Toluene	5	4.4	88	70-130
79-01-6	Trichloroethylene	5	4.2	84	70-130
75-69-4	Trichlorofluoromethane	5	5.3	106	70-130
75-01-4	Vinyl chloride	5	5.6	112	70-130
	m,p-Xylene	10	8.7	87	70-130
95-47-6	o-Xylene	5	4.4	88	70-130
1330-20-7	Xylenes (total)	15	13.1	87	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2199-69-1	1,2-Dichlorobenzene-d4	97%	70-130%
460-00-4	4-Bromofluorobenzene	99%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3A7066-BS	3A163095.D	1	10/14/19	RS	n/a	n/a	V3A7066

The QC reported here applies to the following samples: Method: SW846 8260C BY SIM

JC96203-1, JC96203-2, JC96203-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
123-91-1	1,4-Dioxane	20	17.7	89	48-137

CAS No.	Surrogate Recoveries	BSP	Limits
17647-74-4	1,4-Dioxane-d8	96%	25-195%

* = Outside of Control Limits.

Matrix Spike Summary

Page 1 of 3

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC96203-1MS	1B121122.D	1	10/07/19	BK	n/a	n/a	V1B5856
JC96203-1	1B121120.D	1	10/07/19	BK	n/a	n/a	V1B5856

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC96203-1, JC96203-2, JC96203-3

CAS No.	Compound	JC96203-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
67-64-1	Acetone	ND		20	22.4	112	41-142
78-93-3	2-Butanone	ND		20	25.6	128	55-129
71-43-2	Benzene	ND		5	5.3	106	53-138
108-86-1	Bromobenzene	ND		5	5.7	114	54-138
74-97-5	Bromochloromethane	ND		5	5.2	104	55-140
75-27-4	Bromodichloromethane	ND		5	5.5	110	57-147
75-25-2	Bromoform	ND		5	6.6	132	47-137
74-83-9	Bromomethane	ND		5	5.1	102	40-162
104-51-8	n-Butylbenzene	ND		5	5.9	118	45-144
135-98-8	sec-Butylbenzene	ND		5	5.8	116	46-145
98-06-6	tert-Butylbenzene	ND		5	5.6	112	48-141
75-15-0	Carbon disulfide	ND		5	5.4	108	35-127
108-90-7	Chlorobenzene	ND		5	5.5	110	54-135
75-00-3	Chloroethane	ND		5	5.1	102	38-153
67-66-3	Chloroform	ND		5	5.0	100	57-151
74-87-3	Chloromethane	ND		5	5.2	104	39-165
95-49-8	o-Chlorotoluene	ND		5	5.8	116	55-142
106-43-4	p-Chlorotoluene	ND		5	5.9	118	55-139
56-23-5	Carbon tetrachloride	ND		5	5.7	114	49-170
75-34-3	1,1-Dichloroethane	ND		5	5.4	108	55-149
75-35-4	1,1-Dichloroethylene	5.6		5	10.5	98	42-142
563-58-6	1,1-Dichloropropene	ND		5	5.6	112	46-151
96-12-8	1,2-Dibromo-3-chloropropane	ND		5	7.5	150* a	48-141
106-93-4	1,2-Dibromoethane	ND		5	5.9	118	57-135
107-06-2	1,2-Dichloroethane	ND		5	5.4	108	59-166
78-87-5	1,2-Dichloropropane	ND		5	5.5	110	53-142
142-28-9	1,3-Dichloropropane	ND		5	6.0	120	58-143
594-20-7	2,2-Dichloropropane	ND		5	5.6	112	38-165
124-48-1	Dibromochloromethane	ND		5	6.0	120	55-138
74-95-3	Dibromomethane	ND		5	5.4	108	61-144
75-71-8	Dichlorodifluoromethane	ND		5	6.0	120	23-172
541-73-1	m-Dichlorobenzene	ND		5	5.8	116	53-138
95-50-1	o-Dichlorobenzene	ND		5	6.1	122	54-140
106-46-7	p-Dichlorobenzene	ND		5	6.0	120	53-137
156-60-5	trans-1,2-Dichloroethylene	ND		5	5.1	102	47-148
156-59-2	cis-1,2-Dichloroethylene	ND		5	5.2	104	51-146

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC96203-1MS	1B121122.D	1	10/07/19	BK	n/a	n/a	V1B5856
JC96203-1	1B121120.D	1	10/07/19	BK	n/a	n/a	V1B5856

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC96203-1, JC96203-2, JC96203-3

CAS No.	Compound	JC96203-1 ug/l	Spike Q	MS ug/l	MS %	Limits
10061-01-5	cis-1,3-Dichloropropene	ND	5	5.6	112	51-136
10061-02-6	trans-1,3-Dichloropropene	ND	5	5.9	118	54-142
100-41-4	Ethylbenzene	ND	5	5.6	112	51-138
87-68-3	Hexachlorobutadiene	ND	5	5.8	116	40-154
591-78-6	2-Hexanone	ND	20	32.3	162* a	53-128
98-82-8	Isopropylbenzene	ND	5	5.6	112	49-139
99-87-6	p-Isopropyltoluene	ND	5	5.7	114	45-141
75-09-2	Methylene chloride	ND	5	5.2	104	54-137
1634-04-4	Methyl Tert Butyl Ether	ND	5	5.4	108	53-143
108-10-1	4-Methyl-2-pentanone	ND	20	30.2	151* a	58-127
91-20-3	Naphthalene	ND	5	7.7	154* a	44-140
103-65-1	n-Propylbenzene	ND	5	5.7	114	50-142
100-42-5	Styrene	ND	5	5.8	116	23-130
630-20-6	1,1,1,2-Tetrachloroethane	ND	5	5.6	112	57-144
71-55-6	1,1,1-Trichloroethane	ND	5	5.5	110	52-164
79-34-5	1,1,2,2-Tetrachloroethane	ND	5	7.3	146* a	58-138
79-00-5	1,1,2-Trichloroethane	ND	5	5.9	118	59-139
87-61-6	1,2,3-Trichlorobenzene	ND	5	6.7	134	47-141
96-18-4	1,2,3-Trichloropropane	ND	5	6.8	136	56-148
120-82-1	1,2,4-Trichlorobenzene	ND	5	6.3	126	46-137
95-63-6	1,2,4-Trimethylbenzene	ND	5	5.8	116	41-138
108-67-8	1,3,5-Trimethylbenzene	ND	5	5.7	114	45-138
127-18-4	Tetrachloroethylene	ND	5	5.3	106	45-145
108-88-3	Toluene	ND	5	5.4	108	52-134
79-01-6	Trichloroethylene	ND	5	5.3	106	54-143
75-69-4	Trichlorofluoromethane	ND	5	5.5	110	36-167
75-01-4	Vinyl chloride	ND	5	5.9	118	35-162
	m,p-Xylene	ND	10	11.1	111	49-135
95-47-6	o-Xylene	ND	5	5.7	114	49-134
1330-20-7	Xylenes (total)	ND	15	16.8	112	50-134

CAS No.	Surrogate Recoveries	MS	JC96203-1	Limits
2199-69-1	1,2-Dichlorobenzene-d4	96%	90%	70-130%
460-00-4	4-Bromofluorobenzene	99%	93%	70-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC96203-1MS	1B121122.D	1	10/07/19	BK	n/a	n/a	V1B5856
JC96203-1	1B121120.D	1	10/07/19	BK	n/a	n/a	V1B5856

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC96203-1, JC96203-2, JC96203-3

(a) Outside in house control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC96527-13MS	3A163104.D	1	10/14/19	RS	n/a	n/a	V3A7066
JC96527-13MSD	3A163105.D	1	10/14/19	RS	n/a	n/a	V3A7066
JC96527-13	3A163102.D	1	10/14/19	RS	n/a	n/a	V3A7066

The QC reported here applies to the following samples: Method: SW846 8260C BY SIM

JC96203-1, JC96203-2, JC96203-3

CAS No.	Compound	JC96527-13 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
123-91-1	1,4-Dioxane	16.9	20	30.9	70	20	30.6	69	1	28-162/64

CAS No.	Surrogate Recoveries	MS	MSD	JC96527-13	Limits
17647-74-4	1,4-Dioxane-d8	86%	82%	94%	25-195%

* = Outside of Control Limits.

Duplicate Summary

Page 1 of 2

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC96203-2DUP	1B121123.D	1	10/07/19	BK	n/a	n/a	V1B5856
JC96203-2	1B121121.D	1	10/07/19	BK	n/a	n/a	V1B5856

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC96203-1, JC96203-2, JC96203-3

CAS No.	Compound	JC96203-2 ug/l	DUP Q ug/l	Q	RPD	Limits
67-64-1	Acetone	ND	ND		nc	10
78-93-3	2-Butanone	ND	ND		nc	12
71-43-2	Benzene	ND	ND		nc	10
108-86-1	Bromobenzene	ND	ND		nc	10
74-97-5	Bromochloromethane	ND	ND		nc	10
75-27-4	Bromodichloromethane	ND	ND		nc	10
75-25-2	Bromoform	ND	ND		nc	10
74-83-9	Bromomethane	ND	ND		nc	10
104-51-8	n-Butylbenzene	ND	ND		nc	10
135-98-8	sec-Butylbenzene	ND	ND		nc	10
98-06-6	tert-Butylbenzene	ND	ND		nc	10
75-15-0	Carbon disulfide	ND	ND		nc	19
108-90-7	Chlorobenzene	ND	ND		nc	10
75-00-3	Chloroethane	ND	ND		nc	10
67-66-3	Chloroform	ND	ND		nc	12
74-87-3	Chloromethane	ND	ND		nc	10
95-49-8	o-Chlorotoluene	ND	ND		nc	10
106-43-4	p-Chlorotoluene	ND	ND		nc	10
56-23-5	Carbon tetrachloride	ND	ND		nc	10
75-34-3	1,1-Dichloroethane	ND	ND		nc	10
75-35-4	1,1-Dichloroethylene	ND	ND		nc	10
563-58-6	1,1-Dichloropropene	ND	ND		nc	10
96-12-8	1,2-Dibromo-3-chloropropane	ND	ND		nc	10
106-93-4	1,2-Dibromoethane	ND	ND		nc	10
107-06-2	1,2-Dichloroethane	ND	ND		nc	10
78-87-5	1,2-Dichloropropane	ND	ND		nc	10
142-28-9	1,3-Dichloropropane	ND	ND		nc	10
594-20-7	2,2-Dichloropropane	ND	ND		nc	10
124-48-1	Dibromochloromethane	ND	ND		nc	10
74-95-3	Dibromomethane	ND	ND		nc	10
75-71-8	Dichlorodifluoromethane	ND	ND		nc	10
541-73-1	m-Dichlorobenzene	ND	ND		nc	10
95-50-1	o-Dichlorobenzene	ND	ND		nc	10
106-46-7	p-Dichlorobenzene	ND	ND		nc	10
156-60-5	trans-1,2-Dichloroethylene	ND	ND		nc	10
156-59-2	cis-1,2-Dichloroethylene	ND	ND		nc	10

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC96203-2DUP	1B121123.D	1	10/07/19	BK	n/a	n/a	V1B5856
JC96203-2	1B121121.D	1	10/07/19	BK	n/a	n/a	V1B5856

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC96203-1, JC96203-2, JC96203-3

CAS No.	Compound	JC96203-2 ug/l	DUP Q	ug/l	Q	RPD	Limits
10061-01-5	cis-1,3-Dichloropropene	ND		ND		nc	10
10061-02-6	trans-1,3-Dichloropropene	ND		ND		nc	10
100-41-4	Ethylbenzene	ND		ND		nc	10
87-68-3	Hexachlorobutadiene	ND		ND		nc	10
591-78-6	2-Hexanone	ND		ND		nc	10
98-82-8	Isopropylbenzene	ND		ND		nc	10
99-87-6	p-Isopropyltoluene	ND		ND		nc	10
75-09-2	Methylene chloride	ND		ND		nc	10
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	10
108-10-1	4-Methyl-2-pentanone	ND		ND		nc	10
91-20-3	Naphthalene	ND		ND		nc	10
103-65-1	n-Propylbenzene	ND		ND		nc	10
100-42-5	Styrene	ND		ND		nc	10
630-20-6	1,1,1,2-Tetrachloroethane	ND		ND		nc	10
71-55-6	1,1,1-Trichloroethane	0.24	J	0.22	J	9	10
79-34-5	1,1,2,2-Tetrachloroethane	ND		ND		nc	10
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	10
87-61-6	1,2,3-Trichlorobenzene	ND		ND		nc	10
96-18-4	1,2,3-Trichloropropane	ND		ND		nc	10
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	10
95-63-6	1,2,4-Trimethylbenzene	ND		ND		nc	10
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	10
127-18-4	Tetrachloroethylene	ND		ND		nc	10
108-88-3	Toluene	ND		ND		nc	10
79-01-6	Trichloroethylene	ND		ND		nc	10
75-69-4	Trichlorofluoromethane	ND		ND		nc	10
75-01-4	Vinyl chloride	ND		ND		nc	10
	m,p-Xylene	ND		ND		nc	10
95-47-6	o-Xylene	ND		ND		nc	10
1330-20-7	Xylenes (total)	ND		ND		nc	10

CAS No.	Surrogate Recoveries	DUP	JC96203-2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	91%	92%	70-130%
460-00-4	4-Bromofluorobenzene	91%	92%	70-130%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V1B5847-BFB **Injection Date:** 09/17/19
Lab File ID: 1B120911.D **Injection Time:** 15:27
Instrument ID: GCMS1B

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	3108	17.8	Pass
75	30.0 - 80.0% of mass 95	8310	47.5	Pass
95	Base peak, 100% relative abundance	17507	100.0	Pass
96	5.0 - 9.0% of mass 95	1271	7.26	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	14131	80.7	Pass
175	5.0 - 9.0% of mass 174	1133	6.47 (8.02) ^a	Pass
176	95.0 - 101.0% of mass 174	13498	77.1 (95.5) ^a	Pass
177	5.0 - 9.0% of mass 176	963	5.50 (7.13) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1B5847-IC5847	1B120912.D	09/17/19	16:34	01:07	Initial cal 0.2
V1B5847-IC5847	1B120913.D	09/17/19	17:05	01:38	Initial cal 0.5
V1B5847-IC5847	1B120914.D	09/17/19	17:36	02:09	Initial cal 1
V1B5847-IC5847	1B120915.D	09/17/19	18:08	02:41	Initial cal 2
V1B5847-IC5847	1B120916.D	09/17/19	18:39	03:12	Initial cal 5
V1B5847-ICC5847	1B120917.D	09/17/19	19:10	03:43	Initial cal 10
V1B5847-IC5847	1B120918.D	09/17/19	19:41	04:14	Initial cal 20
V1B5847-IC5847	1B120919.D	09/17/19	20:12	04:45	Initial cal 40
V1B5847-IC5847	1B120920.D	09/17/19	20:43	05:16	Initial cal 80
V1B5847-ICV5847	1B120923.D	09/17/19	22:17	06:50	Initial cal verification 10

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V1B5856-BFB
Lab File ID: 1B121115.D
Instrument ID: GCMS1B
Injection Date: 10/07/19
Injection Time: 14:25

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	3092	17.8	Pass
75	30.0 - 80.0% of mass 95	8384	48.2	Pass
95	Base peak, 100% relative abundance	17381	100.0	Pass
96	5.0 - 9.0% of mass 95	1256	7.23	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	13075	75.2	Pass
175	5.0 - 9.0% of mass 174	1014	5.83 (7.76) ^a	Pass
176	95.0 - 101.0% of mass 174	12629	72.7 (96.6) ^a	Pass
177	5.0 - 9.0% of mass 176	919	5.29 (7.28) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1B5856-CC5847	1B121117.D	10/07/19	15:31	01:06	Continuing cal 5
V1B5856-BS	1B121118.D	10/07/19	16:03	01:38	Blank Spike
V1B5856-MB	1B121119.D	10/07/19	16:34	02:09	Method Blank
JC96203-1	1B121120.D	10/07/19	17:06	02:41	RW-1227OCM-100319
JC96203-2	1B121121.D	10/07/19	17:38	03:13	RW-1227OCM-100319-F
JC96203-1MS	1B121122.D	10/07/19	18:09	03:44	Matrix Spike
JC96203-2DUP	1B121123.D	10/07/19	18:40	04:15	Duplicate
JC96203-3	1B121124.D	10/07/19	19:12	04:47	TB-100319
ZZZZZZ	1B121125.D	10/07/19	19:43	05:18	(unrelated sample)
ZZZZZZ	1B121126.D	10/07/19	20:15	05:50	(unrelated sample)
ZZZZZZ	1B121127.D	10/07/19	20:46	06:21	(unrelated sample)
ZZZZZZ	1B121128.D	10/07/19	21:17	06:52	(unrelated sample)
ZZZZZZ	1B121129.D	10/07/19	21:49	07:24	(unrelated sample)
ZZZZZZ	1B121130.D	10/07/19	22:20	07:55	(unrelated sample)
ZZZZZZ	1B121131.D	10/07/19	22:52	08:27	(unrelated sample)
ZZZZZZ	1B121132.D	10/07/19	23:23	08:58	(unrelated sample)
ZZZZZZ	1B121133.D	10/07/19	23:54	09:29	(unrelated sample)
ZZZZZZ	1B121134.D	10/08/19	00:26	10:01	(unrelated sample)
ZZZZZZ	1B121135.D	10/08/19	00:57	10:32	(unrelated sample)

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V3A6923-BFB **Injection Date:** 07/18/18
Lab File ID: 3A160428.D **Injection Time:** 16:55
Instrument ID: GCMS3A

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	25408	20.8	Pass
75	30.0 - 60.0% of mass 95	62880	51.6	Pass
95	Base peak, 100% relative abundance	121864	100.0	Pass
96	5.0 - 9.0% of mass 95	8101	6.65	Pass
173	Less than 2.0% of mass 174	826	0.68 (0.81) ^a	Pass
174	50.0 - 120.0% of mass 95	102317	84.0	Pass
175	5.0 - 9.0% of mass 174	8168	6.70 (7.98) ^a	Pass
176	95.0 - 101.0% of mass 174	100370	82.4 (98.1) ^a	Pass
177	5.0 - 9.0% of mass 176	6691	5.49 (6.67) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3A6923-IC6923	3A160429.D	07/18/18	17:26	00:31	Initial cal 0.25
V3A6923-IC6923	3A160430.D	07/18/18	17:52	00:57	Initial cal 0.4
V3A6923-IC6923	3A160431.D	07/18/18	18:18	01:23	Initial cal 1
V3A6923-IC6923	3A160432.D	07/18/18	18:43	01:48	Initial cal 2
V3A6923-IC6923	3A160433.D	07/18/18	19:09	02:14	Initial cal 5
V3A6923-ICC6923	3A160434.D	07/18/18	19:35	02:40	Initial cal 20
V3A6923-IC6923	3A160435.D	07/18/18	20:00	03:05	Initial cal 50
V3A6923-IC6923	3A160436.D	07/18/18	20:26	03:31	Initial cal 100
V3A6923-IC6923	3A160437.D	07/18/18	20:52	03:57	Initial cal 200
V3A6923-ICV6923	3A160443.D	07/18/18	23:25	06:30	Initial cal verification 20

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V3A7066-BFB
Lab File ID: 3A163093.D
Instrument ID: GCMS3A
Injection Date: 10/14/19
Injection Time: 07:28

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	19125	20.2	Pass
75	30.0 - 60.0% of mass 95	47581	50.3	Pass
95	Base peak, 100% relative abundance	94610	100.0	Pass
96	5.0 - 9.0% of mass 95	6262	6.62	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	67528	71.4	Pass
175	5.0 - 9.0% of mass 174	5133	5.43 (7.60) ^a	Pass
176	95.0 - 101.0% of mass 174	65853	69.6 (97.5) ^a	Pass
177	5.0 - 9.0% of mass 176	4347	4.59 (6.60) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3A7066-CC6923	3A163094.D	10/14/19	07:56	00:28	Continuing cal 5
V3A7066-BS	3A163095.D	10/14/19	08:41	01:13	Blank Spike
V3A7066-MB	3A163097.D	10/14/19	10:03	02:35	Method Blank
ZZZZZZ	3A163098.D	10/14/19	10:36	03:08	(unrelated sample)
JC96203-3	3A163099.D	10/14/19	11:04	03:36	TB-100319
JC96203-1	3A163100.D	10/14/19	11:34	04:06	RW-1227OCM-100319
JC96203-2	3A163101.D	10/14/19	12:02	04:34	RW-1227OCM-100319-F
JC96527-13	3A163102.D	10/14/19	12:31	05:03	(used for QC only; not part of job JC96203)
ZZZZZZ	3A163103.D	10/14/19	13:01	05:33	(unrelated sample)
JC96527-13MS	3A163104.D	10/14/19	13:30	06:02	Matrix Spike
JC96527-13MSD	3A163105.D	10/14/19	13:59	06:31	Matrix Spike Duplicate
ZZZZZZ	3A163107.D	10/14/19	14:57	07:29	(unrelated sample)
ZZZZZZ	3A163108.D	10/14/19	15:26	07:58	(unrelated sample)
ZZZZZZ	3A163109.D	10/14/19	15:55	08:27	(unrelated sample)
ZZZZZZ	3A163110.D	10/14/19	16:24	08:56	(unrelated sample)
ZZZZZZ	3A163111.D	10/14/19	16:53	09:25	(unrelated sample)
ZZZZZZ	3A163112.D	10/14/19	17:23	09:55	(unrelated sample)
ZZZZZZ	3A163113.D	10/14/19	17:52	10:24	(unrelated sample)
ZZZZZZ	3A163114.D	10/14/19	18:20	10:52	(unrelated sample)
ZZZZZZ	3A163115.D	10/14/19	18:49	11:21	(unrelated sample)
ZZZZZZ	3A163116.D	10/14/19	19:18	11:50	(unrelated sample)

Surrogate Recovery Summary

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Method: EPA 524.2 REV 4.1	Matrix: AQ
---------------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
JC96203-1	1B121120.D	90	93
JC96203-2	1B121121.D	92	92
JC96203-3	1B121124.D	92	90
JC96203-1MS	1B121122.D	96	99
JC96203-2DUP	1B121123.D	91	91
V1B5856-BS	1B121118.D	97	99
V1B5856-MB	1B121119.D	89	93

Surrogate Compounds	Recovery Limits
---------------------	-----------------

S1 = 1,2-Dichlorobenzene-d4	70-130%
S2 = 4-Bromofluorobenzene	70-130%

Surrogate Recovery Summary

Job Number: JC96203
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Method: SW846 8260C BY SIM	Matrix: AQ
----------------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1
JC96203-1	3A163100.D	94
JC96203-2	3A163101.D	94
JC96203-3	3A163099.D	102
JC96527-13MS	3A163104.D	86
JC96527-13MSD	3A163105.D	82
V3A7066-BS	3A163095.D	96
V3A7066-MB	3A163097.D	99

Surrogate Compounds	Recovery Limits
S1 = 1,4-Dioxane-d8	25-195%

5.7.2
5

NOVEMBER 2019

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

WSP Environment & Energy

Kop-Flex, Hanover, VA

31401545.011-02

SGS Job Number: JC97950

Sampling Date: 11/04/19

Report to:

WSP
11190 Sunrise Valley Drive Suite 300
Reston, VA 20190
eric.johnson@wspgroup.com; Chris.Cresci@wspgroup.com
ATTN: Eric Johnson

Total number of pages in report: 43



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read 'Laura Degenhardt'.

Laura Degenhardt
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary 3

Section 2: Summary of Hits 4

Section 3: Sample Results 5

3.1: JC97950-1: RW-12270CM-110419 6

3.2: JC97950-2: RW-12270CM-110419-F 10

3.3: JC97950-3: TB-110419 14

Section 4: Misc. Forms 18

4.1: Chain of Custody 19

Section 5: MS Volatiles - QC Data Summaries 21

5.1: Method Blank Summary 22

5.2: Blank Spike Summary 26

5.3: Matrix Spike Summary 29

5.4: Duplicate Summary 33

5.5: Instrument Performance Checks (BFB) 37

5.6: Surrogate Recovery Summaries 42



Sample Summary

WSP Environment & Energy

Job No: JC97950

Kop-Flex, Hanover, VA
Project No: 31401545.011-02

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
---------------	----------------	---------	----------	-------------	------	------------------

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

JC97950-1	11/04/19	10:25	SB	11/05/19	AQ	Water	RW-12270CM-110419
JC97950-2	11/04/19	10:20	SB	11/05/19	AQ	Water	RW-12270CM-110419-F
JC97950-3	11/04/19	10:25	SB	11/05/19	AQ	Trip Blank Water	TB-110419

Summary of Hits

Page 1 of 1

Job Number: JC97950
Account: WSP Environment & Energy
Project: Kop-Flex, Hanover, VA
Collected: 11/04/19

Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
---------------	------------------	--------------------	----	-----	-------	--------

JC97950-1 RW-12270CM-110419

1,1-Dichloroethylene ^a	5.3	0.50	0.19	ug/l	EPA 524.2 REV 4.1
1,4-Dioxane	2.2	0.40	0.095	ug/l	SW846 8260C BY SIM

JC97950-2 RW-12270CM-110419-F

Bromoform ^a	0.38 J	0.50	0.27	ug/l	EPA 524.2 REV 4.1
1,1,1-Trichloroethane ^a	0.24 J	0.50	0.22	ug/l	EPA 524.2 REV 4.1
1,4-Dioxane	2.3	0.40	0.095	ug/l	SW846 8260C BY SIM

JC97950-3 TB-110419

No hits reported in this sample.

(a) EPA 524.2 is not a certified method for non-potable water samples.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RW-12270CM-110419	Date Sampled:	11/04/19
Lab Sample ID:	JC97950-1	Date Received:	11/05/19
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

Run	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	1B121646.D	1	11/11/19 17:52	RS	n/a	n/a	V1B5884
Run #2							

Run	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	2.5	ug/l	
78-93-3	2-Butanone	ND	5.0	0.43	ug/l	
71-43-2	Benzene	ND	0.50	0.16	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.12	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.27	ug/l	
74-83-9	Bromomethane	ND	0.50	0.18	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.068	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.43	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.057	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.18	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.093	ug/l	
75-00-3	Chloroethane	ND	0.50	0.080	ug/l	
67-66-3	Chloroform	ND	0.50	0.17	ug/l	
74-87-3	Chloromethane	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.098	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.075	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.22	ug/l	
75-35-4	1,1-Dichloroethylene	5.3	0.50	0.19	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.14	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.18	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.19	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.17	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.14	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.23	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.40	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.14	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-12270CM-110419	Date Sampled:	11/04/19
Lab Sample ID:	JC97950-1	Date Received:	11/05/19
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.14	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.10	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.21	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.14	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.16	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.076	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.13	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.24	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.054	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.43	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.11	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.22	ug/l	
91-20-3	Naphthalene	ND	0.50	0.28	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.066	ug/l	
100-42-5	Styrene	ND	0.50	0.069	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.19	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.091	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.055	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.40	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.057	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.23	ug/l	
108-88-3	Toluene	ND	0.50	0.11	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.15	ug/l	
	m,p-Xylene	ND	0.50	0.14	ug/l	
95-47-6	o-Xylene	ND	0.50	0.076	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.076	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	88%		70-130%
460-00-4	4-Bromofluorobenzene	89%		70-130%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-12270CM-110419	Date Sampled:	11/04/19
Lab Sample ID:	JC97950-1	Date Received:	11/05/19
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
---------	----------	--------	----	-----	-------	---

(a) EPA 524.2 is not a certified method for non-potable water samples.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID:	RW-12270CM-110419	
Lab Sample ID:	JC97950-1	Date Sampled: 11/04/19
Matrix:	AQ - Water	Date Received: 11/05/19
Method:	SW846 8260C BY SIM	Percent Solids: n/a
Project:	Kop-Flex, Hanover, VA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3A163323.D	1	11/11/19 18:46	RS	n/a	n/a	V3A7075
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	2.2	0.40	0.095	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
17647-74-4	1,4-Dioxane-d8	105%		25-195%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-12270CM-110419-F	Date Sampled:	11/04/19
Lab Sample ID:	JC97950-2	Date Received:	11/05/19
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

Run	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	1B121647.D	1	11/11/19 18:23	RS	n/a	n/a	V1B5884
Run #2							

Run	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	2.5	ug/l	
78-93-3	2-Butanone	ND	5.0	0.43	ug/l	
71-43-2	Benzene	ND	0.50	0.16	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.12	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	0.38	0.50	0.27	ug/l	J
74-83-9	Bromomethane	ND	0.50	0.18	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.068	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.43	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.057	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.18	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.093	ug/l	
75-00-3	Chloroethane	ND	0.50	0.080	ug/l	
67-66-3	Chloroform	ND	0.50	0.17	ug/l	
74-87-3	Chloromethane	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.098	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.075	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.22	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.19	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.14	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.18	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.19	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.17	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.14	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.23	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.40	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.14	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-12270CM-110419-F	Date Sampled:	11/04/19
Lab Sample ID:	JC97950-2	Date Received:	11/05/19
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.14	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.10	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.21	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.14	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.16	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.076	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.13	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.24	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.054	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.43	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.11	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.22	ug/l	
91-20-3	Naphthalene	ND	0.50	0.28	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.066	ug/l	
100-42-5	Styrene	ND	0.50	0.069	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	0.24	0.50	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.19	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.091	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.055	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.40	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.057	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.23	ug/l	
108-88-3	Toluene	ND	0.50	0.11	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.15	ug/l	
	m,p-Xylene	ND	0.50	0.14	ug/l	
95-47-6	o-Xylene	ND	0.50	0.076	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.076	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	88%		70-130%
460-00-4	4-Bromofluorobenzene	89%		70-130%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-12270CM-110419-F	Date Sampled:	11/04/19
Lab Sample ID:	JC97950-2	Date Received:	11/05/19
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
---------	----------	--------	----	-----	-------	---

(a) EPA 524.2 is not a certified method for non-potable water samples.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-12270CM-110419-F	Date Sampled:	11/04/19
Lab Sample ID:	JC97950-2	Date Received:	11/05/19
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260C BY SIM		
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3A163324.D	1	11/11/19 19:14	RS	n/a	n/a	V3A7075
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	2.3	0.40	0.095	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
17647-74-4	1,4-Dioxane-d8	105%		25-195%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110419	Date Sampled:	11/04/19
Lab Sample ID:	JC97950-3	Date Received:	11/05/19
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	1B121645.D	1	11/11/19 17:21	RS	n/a	n/a	V1B5884
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	2.5	ug/l	
78-93-3	2-Butanone	ND	5.0	0.43	ug/l	
71-43-2	Benzene	ND	0.50	0.16	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.12	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.27	ug/l	
74-83-9	Bromomethane	ND	0.50	0.18	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.068	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.43	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.057	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.18	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.093	ug/l	
75-00-3	Chloroethane	ND	0.50	0.080	ug/l	
67-66-3	Chloroform	ND	0.50	0.17	ug/l	
74-87-3	Chloromethane	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.098	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.075	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.22	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.19	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.14	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.18	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.19	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.17	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.14	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.23	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.40	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.14	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110419	Date Sampled:	11/04/19
Lab Sample ID:	JC97950-3	Date Received:	11/05/19
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.14	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.10	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.21	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.14	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.16	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.076	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.13	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.24	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.054	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.43	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.11	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.22	ug/l	
91-20-3	Naphthalene	ND	0.50	0.28	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.066	ug/l	
100-42-5	Styrene	ND	0.50	0.069	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.19	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.091	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.055	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.40	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.057	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.23	ug/l	
108-88-3	Toluene	ND	0.50	0.11	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.15	ug/l	
	m,p-Xylene	ND	0.50	0.14	ug/l	
95-47-6	o-Xylene	ND	0.50	0.076	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.076	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	90%		70-130%
460-00-4	4-Bromofluorobenzene	90%		70-130%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110419	Date Sampled:	11/04/19
Lab Sample ID:	JC97950-3	Date Received:	11/05/19
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
---------	----------	--------	----	-----	-------	---

(a) EPA 524.2 is not a certified method for non-potable water samples.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110419	
Lab Sample ID:	JC97950-3	Date Sampled: 11/04/19
Matrix:	AQ - Trip Blank Water	Date Received: 11/05/19
Method:	SW846 8260C BY SIM	Percent Solids: n/a
Project:	Kop-Flex, Hanover, VA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3A163325.D	1	11/11/19 19:43	RS	n/a	n/a	V3A7075
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.40	0.095	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17647-74-4	1,4-Dioxane-d8	105%		25-195%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC97950

Client: WSP

Project: KOP-FLEX, HANOVER, VA

Date / Time Received: 11/5/2019 10:30:00 AM

Delivery Method:

Airbill #s:

Cooler Temps (Raw Measured) °C: Cooler 1: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (3.0);

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | ☒ | ☐ | 3. COC Present: | ☒ | ☐ |
| 2. Custody Seals Intact: | ☒ | ☐ | 4. Smpl Dates/Time OK | ☒ | ☐ |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | ☒ | ☐ |
| 2. Cooler temp verification: | IR Gun | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|--------------------------|
| 1. Trip Blank present / cooler: | ☒ | ☐ | ☐ |
| 2. Trip Blank listed on COC: | ☒ | ☐ | ☐ |
| 3. Samples preserved properly: | ☒ | ☐ | |
| 4. VOCs headspace free: | ☒ | ☐ | ☐ |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | ☒ | ☐ |
| 2. Container labeling complete: | ☒ | ☐ |
| 3. Sample container label / COC agree: | ☒ | ☐ |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | ☒ | ☐ |
| 2. All containers accounted for: | ☒ | ☐ |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N

N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | ☒ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☒ | |
| 3. Sufficient volume recvd for analysis: | ☒ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☒ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☒ |

Test Strip Lot #s:

pH 1-12: 229517

pH 12+: 208717

Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JC97950: Chain of Custody

Page 2 of 2

MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 3

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5884-MB	1B121631.D	1	11/11/19	RS	n/a	n/a	V1B5884

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC97950-1, JC97950-2, JC97950-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	2.5	ug/l	
78-93-3	2-Butanone	ND	5.0	0.43	ug/l	
71-43-2	Benzene	ND	0.50	0.16	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.12	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.27	ug/l	
74-83-9	Bromomethane	ND	0.50	0.18	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.068	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.43	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.057	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.18	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.093	ug/l	
75-00-3	Chloroethane	ND	0.50	0.080	ug/l	
67-66-3	Chloroform	ND	0.50	0.17	ug/l	
74-87-3	Chloromethane	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.098	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.075	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.22	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.19	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.14	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.18	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.19	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.17	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.14	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.23	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.40	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.14	ug/l	
95-50-1	o-Dichlorobenzene	ND	0.50	0.14	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.10	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.21	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.14	ug/l	

Method Blank Summary

Page 2 of 3

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5884-MB	1B121631.D	1	11/11/19	RS	n/a	n/a	V1B5884

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC97950-1, JC97950-2, JC97950-3

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.076	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.13	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.24	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.054	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.43	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.11	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.22	ug/l	
91-20-3	Naphthalene	ND	0.50	0.28	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.066	ug/l	
100-42-5	Styrene	ND	0.50	0.069	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.19	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.091	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.055	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.40	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.057	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.23	ug/l	
108-88-3	Toluene	ND	0.50	0.11	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.15	ug/l	
	m,p-Xylene	ND	0.50	0.14	ug/l	
95-47-6	o-Xylene	ND	0.50	0.076	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.076	ug/l	

CAS No.	Surrogate Recoveries	Limits
2199-69-1	1,2-Dichlorobenzene-d4	91% 70-130%
460-00-4	4-Bromofluorobenzene	95% 70-130%

Method Blank Summary

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5884-MB	1B121631.D	1	11/11/19	RS	n/a	n/a	V1B5884

The QC reported here applies to the following samples:

Method:

JC97950-1, JC97950-2, JC97950-3

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3A7075-MB	3A163305.D	1	11/11/19	RS	n/a	n/a	V3A7075

The QC reported here applies to the following samples:

Method: SW846 8260C BY SIM

JC97950-1, JC97950-2, JC97950-3

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.40	0.095	ug/l	

CAS No.	Surrogate Recoveries	Limits
17647-74-4	1,4-Dioxane-d8	98% 25-195%

Blank Spike Summary

Page 1 of 2

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5884-BS	1B121630.D	1	11/11/19	RS	n/a	n/a	V1B5884

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC97950-1, JC97950-2, JC97950-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	20	17.3	87	70-130
78-93-3	2-Butanone	20	19.8	99	70-130
71-43-2	Benzene	5	4.7	94	70-130
108-86-1	Bromobenzene	5	4.7	94	70-130
74-97-5	Bromochloromethane	5	4.6	92	70-130
75-27-4	Bromodichloromethane	5	4.7	94	70-130
75-25-2	Bromoform	5	5.6	112	70-130
74-83-9	Bromomethane	5	3.8	76	70-130
104-51-8	n-Butylbenzene	5	4.8	96	70-130
135-98-8	sec-Butylbenzene	5	4.7	94	70-130
98-06-6	tert-Butylbenzene	5	4.6	92	70-130
75-15-0	Carbon disulfide	5	4.5	90	70-130
108-90-7	Chlorobenzene	5	4.7	94	70-130
75-00-3	Chloroethane	5	4.4	88	70-130
67-66-3	Chloroform	5	4.3	86	70-130
74-87-3	Chloromethane	5	3.9	78	70-130
95-49-8	o-Chlorotoluene	5	4.8	96	70-130
106-43-4	p-Chlorotoluene	5	4.8	96	70-130
56-23-5	Carbon tetrachloride	5	4.4	88	70-130
75-34-3	1,1-Dichloroethane	5	4.4	88	70-130
75-35-4	1,1-Dichloroethylene	5	4.3	86	70-130
563-58-6	1,1-Dichloropropene	5	4.5	90	70-130
96-12-8	1,2-Dibromo-3-chloropropane	5	4.8	96	70-130
106-93-4	1,2-Dibromoethane	5	4.8	96	70-130
107-06-2	1,2-Dichloroethane	5	4.3	86	70-130
78-87-5	1,2-Dichloropropane	5	4.6	92	70-130
142-28-9	1,3-Dichloropropane	5	4.8	96	70-130
594-20-7	2,2-Dichloropropane	5	4.1	82	70-130
124-48-1	Dibromochloromethane	5	4.9	98	70-130
74-95-3	Dibromomethane	5	4.5	90	70-130
75-71-8	Dichlorodifluoromethane	5	4.0	80	70-130
541-73-1	m-Dichlorobenzene	5	4.7	94	70-130
95-50-1	o-Dichlorobenzene	5	4.7	94	70-130
106-46-7	p-Dichlorobenzene	5	4.7	94	70-130
156-60-5	trans-1,2-Dichloroethylene	5	4.3	86	70-130
156-59-2	cis-1,2-Dichloroethylene	5	4.4	88	70-130

* = Outside of Control Limits.

Blank Spike Summary

Page 2 of 2

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5884-BS	1B121630.D	1	11/11/19	RS	n/a	n/a	V1B5884

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC97950-1, JC97950-2, JC97950-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	5	5.1	102	70-130
10061-02-6	trans-1,3-Dichloropropene	5	5.1	102	70-130
100-41-4	Ethylbenzene	5	4.7	94	70-130
87-68-3	Hexachlorobutadiene	5	4.7	94	70-130
591-78-6	2-Hexanone	20	21.1	106	70-130
98-82-8	Isopropylbenzene	5	4.6	92	70-130
99-87-6	p-Isopropyltoluene	5	4.7	94	70-130
75-09-2	Methylene chloride	5	4.5	90	70-130
1634-04-4	Methyl Tert Butyl Ether	5	4.4	88	70-130
108-10-1	4-Methyl-2-pentanone	20	20.0	100	70-130
91-20-3	Naphthalene	5	4.9	98	70-130
103-65-1	n-Propylbenzene	5	4.7	94	70-130
100-42-5	Styrene	5	4.6	92	70-130
630-20-6	1,1,1,2-Tetrachloroethane	5	4.6	92	70-130
71-55-6	1,1,1-Trichloroethane	5	4.3	86	70-130
79-34-5	1,1,2,2-Tetrachloroethane	5	4.9	98	70-130
79-00-5	1,1,2-Trichloroethane	5	5.0	100	70-130
87-61-6	1,2,3-Trichlorobenzene	5	4.7	94	70-130
96-18-4	1,2,3-Trichloropropane	5	5.0	100	70-130
120-82-1	1,2,4-Trichlorobenzene	5	4.7	94	70-130
95-63-6	1,2,4-Trimethylbenzene	5	4.7	94	70-130
108-67-8	1,3,5-Trimethylbenzene	5	4.7	94	70-130
127-18-4	Tetrachloroethylene	5	4.5	90	70-130
108-88-3	Toluene	5	4.7	94	70-130
79-01-6	Trichloroethylene	5	4.4	88	70-130
75-69-4	Trichlorofluoromethane	5	4.3	86	70-130
75-01-4	Vinyl chloride	5	4.0	80	70-130
	m,p-Xylene	10	9.5	95	70-130
95-47-6	o-Xylene	5	4.7	94	70-130
1330-20-7	Xylenes (total)	15	14.2	95	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2199-69-1	1,2-Dichlorobenzene-d4	101%	70-130%
460-00-4	4-Bromofluorobenzene	104%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3A7075-BS	3A163304.D	1	11/11/19	RS	n/a	n/a	V3A7075

The QC reported here applies to the following samples: Method: SW846 8260C BY SIM

JC97950-1, JC97950-2, JC97950-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
123-91-1	1,4-Dioxane	20	15.1	76	48-137

CAS No.	Surrogate Recoveries	BSP	Limits
17647-74-4	1,4-Dioxane-d8	90%	25-195%

* = Outside of Control Limits.

Matrix Spike Summary

Page 1 of 3

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC97789-1MS	1B121637.D	1	11/11/19	RS	n/a	n/a	V1B5884
JC97789-1 ^a	1B121633.D	1	11/11/19	RS	n/a	n/a	V1B5884

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC97950-1, JC97950-2, JC97950-3

CAS No.	Compound	JC97789-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
67-64-1	Acetone	ND		20	17.6	88	41-142
78-93-3	2-Butanone	ND		20	19.4	97	55-129
71-43-2	Benzene	ND		5	4.6	92	53-138
108-86-1	Bromobenzene	ND		5	4.4	88	54-138
74-97-5	Bromochloromethane	ND		5	4.3	86	55-140
75-27-4	Bromodichloromethane	ND		5	4.6	92	57-147
75-25-2	Bromoform	ND		5	5.2	104	47-137
74-83-9	Bromomethane	ND		5	4.1	82	40-162
104-51-8	n-Butylbenzene	ND		5	4.8	96	45-144
135-98-8	sec-Butylbenzene	ND		5	4.7	94	46-145
98-06-6	tert-Butylbenzene	ND		5	4.5	90	48-141
75-15-0	Carbon disulfide	ND		5	4.8	96	35-127
108-90-7	Chlorobenzene	ND		5	4.5	90	54-135
75-00-3	Chloroethane	ND		5	4.9	98	38-153
67-66-3	Chloroform	ND		5	4.3	86	57-151
74-87-3	Chloromethane	ND		5	4.3	86	39-165
95-49-8	o-Chlorotoluene	ND		5	4.5	90	55-142
106-43-4	p-Chlorotoluene	ND		5	4.5	90	55-139
56-23-5	Carbon tetrachloride	ND		5	4.7	94	49-170
75-34-3	1,1-Dichloroethane	ND		5	4.5	90	55-149
75-35-4	1,1-Dichloroethylene	ND		5	4.5	90	42-142
563-58-6	1,1-Dichloropropene	ND		5	4.7	94	46-151
96-12-8	1,2-Dibromo-3-chloropropane	ND		5	4.4	88	48-141
106-93-4	1,2-Dibromoethane	ND		5	4.5	90	57-135
107-06-2	1,2-Dichloroethane	ND		5	4.1	82	59-166
78-87-5	1,2-Dichloropropane	ND		5	4.6	92	53-142
142-28-9	1,3-Dichloropropane	ND		5	4.6	92	58-143
594-20-7	2,2-Dichloropropane	ND		5	4.1	82	38-165
124-48-1	Dibromochloromethane	ND		5	4.7	94	55-138
74-95-3	Dibromomethane	ND		5	4.3	86	61-144
75-71-8	Dichlorodifluoromethane	ND		5	4.7	94	23-172
541-73-1	m-Dichlorobenzene	ND		5	4.5	90	53-138
95-50-1	o-Dichlorobenzene	ND		5	4.4	88	54-140
106-46-7	p-Dichlorobenzene	ND		5	4.5	90	53-137
156-60-5	trans-1,2-Dichloroethylene	ND		5	4.3	86	47-148
156-59-2	cis-1,2-Dichloroethylene	ND		5	4.2	84	51-146

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC97789-1MS	1B121637.D	1	11/11/19	RS	n/a	n/a	V1B5884
JC97789-1 ^a	1B121633.D	1	11/11/19	RS	n/a	n/a	V1B5884

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC97950-1, JC97950-2, JC97950-3

CAS No.	Compound	JC97789-1 ug/l	Spike Q	MS ug/l	MS %	Limits
10061-01-5	cis-1,3-Dichloropropene	ND	5	4.7	94	51-136
10061-02-6	trans-1,3-Dichloropropene	ND	5	4.7	94	54-142
100-41-4	Ethylbenzene	ND	5	4.5	90	51-138
87-68-3	Hexachlorobutadiene	ND	5	5.0	100	40-154
591-78-6	2-Hexanone	ND	20	19.2	96	53-128
98-82-8	Isopropylbenzene	ND	5	4.5	90	49-139
99-87-6	p-Isopropyltoluene	ND	5	4.7	94	45-141
75-09-2	Methylene chloride	ND	5	4.4	88	54-137
1634-04-4	Methyl Tert Butyl Ether	ND	5	4.1	82	53-143
108-10-1	4-Methyl-2-pentanone	ND	20	18.6	93	58-127
91-20-3	Naphthalene	ND	5	4.5	90	44-140
103-65-1	n-Propylbenzene	ND	5	4.7	94	50-142
100-42-5	Styrene	ND	5	4.4	88	23-130
630-20-6	1,1,1,2-Tetrachloroethane	ND	5	4.5	90	57-144
71-55-6	1,1,1-Trichloroethane	ND	5	4.4	88	52-164
79-34-5	1,1,2,2-Tetrachloroethane	ND	5	4.6	92	58-138
79-00-5	1,1,2-Trichloroethane	ND	5	4.5	90	59-139
87-61-6	1,2,3-Trichlorobenzene	ND	5	4.5	90	47-141
96-18-4	1,2,3-Trichloropropane	ND	5	4.5	90	56-148
120-82-1	1,2,4-Trichlorobenzene	ND	5	4.5	90	46-137
95-63-6	1,2,4-Trimethylbenzene	ND	5	4.5	90	41-138
108-67-8	1,3,5-Trimethylbenzene	ND	5	4.5	90	45-138
127-18-4	Tetrachloroethylene	ND	5	4.6	92	45-145
108-88-3	Toluene	ND	5	4.6	92	52-134
79-01-6	Trichloroethylene	ND	5	4.4	88	54-143
75-69-4	Trichlorofluoromethane	ND	5	4.9	98	36-167
75-01-4	Vinyl chloride	ND	5	4.4	88	35-162
	m,p-Xylene	ND	10	9.2	92	49-135
95-47-6	o-Xylene	ND	5	4.5	90	49-134
1330-20-7	Xylenes (total)	ND	15	13.7	91	50-134

CAS No.	Surrogate Recoveries	MS	JC97789-1	Limits
2199-69-1	1,2-Dichlorobenzene-d4	101%	86%	70-130%
460-00-4	4-Bromofluorobenzene	99%	91%	70-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC97789-1MS	1B121637.D	1	11/11/19	RS	n/a	n/a	V1B5884
JC97789-1 ^a	1B121633.D	1	11/11/19	RS	n/a	n/a	V1B5884

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC97950-1, JC97950-2, JC97950-3

(a) EPA 524.2 is not a certified method for non-potable water samples.

* = Outside of Control Limits.

Matrix Spike Summary

Page 1 of 1

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC98119-9MS ^a	3A163311.D	1	11/11/19	RS	n/a	n/a	V3A7075
JC98119-9 ^a	3A163306.D	1	11/11/19	RS	n/a	n/a	V3A7075

The QC reported here applies to the following samples:

Method: SW846 8260C BY SIM

JC97950-1, JC97950-2, JC97950-3

CAS No.	Compound	JC98119-9 ug/l	Spike Q	MS ug/l	MS %	Limits
123-91-1	1,4-Dioxane	ND	20	14.1	71	28-162

CAS No.	Surrogate Recoveries	MS	JC98119-9	Limits
17647-74-4	1,4-Dioxane-d8	77%	108%	25-195%

(a) (pH = 6) Sample is not acid preserved per method/client criteria. Sample analyzed within 7 days holding time.

* = Outside of Control Limits.

Duplicate Summary

Page 1 of 3

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC97789-2DUP	1B121638.D	1	11/11/19	RS	n/a	n/a	V1B5884
JC97789-2 ^a	1B121634.D	1	11/11/19	RS	n/a	n/a	V1B5884

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC97950-1, JC97950-2, JC97950-3

CAS No.	Compound	JC97789-2 ug/l	DUP Q ug/l	Q	RPD	Limits
67-64-1	Acetone	ND	ND		nc	10
78-93-3	2-Butanone	ND	ND		nc	12
71-43-2	Benzene	ND	ND		nc	10
108-86-1	Bromobenzene	ND	ND		nc	10
74-97-5	Bromochloromethane	ND	ND		nc	10
75-27-4	Bromodichloromethane	ND	ND		nc	10
75-25-2	Bromoform	ND	ND		nc	10
74-83-9	Bromomethane	ND	ND		nc	10
104-51-8	n-Butylbenzene	ND	ND		nc	10
135-98-8	sec-Butylbenzene	ND	ND		nc	10
98-06-6	tert-Butylbenzene	ND	ND		nc	10
75-15-0	Carbon disulfide	ND	ND		nc	19
108-90-7	Chlorobenzene	ND	ND		nc	10
75-00-3	Chloroethane	ND	ND		nc	10
67-66-3	Chloroform	ND	ND		nc	12
74-87-3	Chloromethane	ND	ND		nc	10
95-49-8	o-Chlorotoluene	ND	ND		nc	10
106-43-4	p-Chlorotoluene	ND	ND		nc	10
56-23-5	Carbon tetrachloride	ND	ND		nc	10
75-34-3	1,1-Dichloroethane	ND	ND		nc	10
75-35-4	1,1-Dichloroethylene	ND	ND		nc	10
563-58-6	1,1-Dichloropropene	ND	ND		nc	10
96-12-8	1,2-Dibromo-3-chloropropane	ND	ND		nc	10
106-93-4	1,2-Dibromoethane	ND	ND		nc	10
107-06-2	1,2-Dichloroethane	ND	ND		nc	10
78-87-5	1,2-Dichloropropane	ND	ND		nc	10
142-28-9	1,3-Dichloropropane	ND	ND		nc	10
594-20-7	2,2-Dichloropropane	ND	ND		nc	10
124-48-1	Dibromochloromethane	ND	ND		nc	10
74-95-3	Dibromomethane	ND	ND		nc	10
75-71-8	Dichlorodifluoromethane	ND	ND		nc	10
541-73-1	m-Dichlorobenzene	ND	ND		nc	10
95-50-1	o-Dichlorobenzene	ND	ND		nc	10
106-46-7	p-Dichlorobenzene	ND	ND		nc	10
156-60-5	trans-1,2-Dichloroethylene	ND	ND		nc	10
156-59-2	cis-1,2-Dichloroethylene	ND	ND		nc	10

* = Outside of Control Limits.

Duplicate Summary

Page 2 of 3

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC97789-2DUP	1B121638.D	1	11/11/19	RS	n/a	n/a	V1B5884
JC97789-2 ^a	1B121634.D	1	11/11/19	RS	n/a	n/a	V1B5884

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC97950-1, JC97950-2, JC97950-3

CAS No.	Compound	JC97789-2 ug/l	DUP Q ug/l	Q	RPD	Limits
10061-01-5	cis-1,3-Dichloropropene	ND	ND		nc	10
10061-02-6	trans-1,3-Dichloropropene	ND	ND		nc	10
100-41-4	Ethylbenzene	ND	ND		nc	10
87-68-3	Hexachlorobutadiene	ND	ND		nc	10
591-78-6	2-Hexanone	ND	ND		nc	10
98-82-8	Isopropylbenzene	ND	ND		nc	10
99-87-6	p-Isopropyltoluene	ND	ND		nc	10
75-09-2	Methylene chloride	ND	ND		nc	10
1634-04-4	Methyl Tert Butyl Ether	ND	ND		nc	10
108-10-1	4-Methyl-2-pentanone	ND	ND		nc	10
91-20-3	Naphthalene	ND	ND		nc	10
103-65-1	n-Propylbenzene	ND	ND		nc	10
100-42-5	Styrene	ND	ND		nc	10
630-20-6	1,1,1,2-Tetrachloroethane	ND	ND		nc	10
71-55-6	1,1,1-Trichloroethane	ND	ND		nc	10
79-34-5	1,1,2,2-Tetrachloroethane	ND	ND		nc	10
79-00-5	1,1,2-Trichloroethane	ND	ND		nc	10
87-61-6	1,2,3-Trichlorobenzene	ND	ND		nc	10
96-18-4	1,2,3-Trichloropropane	ND	ND		nc	10
120-82-1	1,2,4-Trichlorobenzene	ND	ND		nc	10
95-63-6	1,2,4-Trimethylbenzene	ND	ND		nc	10
108-67-8	1,3,5-Trimethylbenzene	ND	ND		nc	10
127-18-4	Tetrachloroethylene	ND	ND		nc	10
108-88-3	Toluene	ND	ND		nc	10
79-01-6	Trichloroethylene	ND	ND		nc	10
75-69-4	Trichlorofluoromethane	ND	ND		nc	10
75-01-4	Vinyl chloride	ND	ND		nc	10
	m,p-Xylene	ND	ND		nc	10
95-47-6	o-Xylene	ND	ND		nc	10
1330-20-7	Xylenes (total)	ND	ND		nc	10

CAS No.	Surrogate Recoveries	DUP	JC97789-2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	85%	91%	70-130%
460-00-4	4-Bromofluorobenzene	89%	93%	70-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC97789-2DUP	1B121638.D	1	11/11/19	RS	n/a	n/a	V1B5884
JC97789-2 ^a	1B121634.D	1	11/11/19	RS	n/a	n/a	V1B5884

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC97950-1, JC97950-2, JC97950-3

(a) EPA 524.2 is not a certified method for non-potable water samples.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC98119-10DUP ^a	3A163312.D	1	11/11/19	RS	n/a	n/a	V3A7075
JC98119-10 ^a	3A163307.D	1	11/11/19	RS	n/a	n/a	V3A7075

The QC reported here applies to the following samples: Method: SW846 8260C BY SIM

JC97950-1, JC97950-2, JC97950-3

CAS No.	Compound	JC98119-10 ug/l	DUP Q ug/l	Q RPD	Limits
123-91-1	1,4-Dioxane	ND	ND	nc	48

CAS No.	Surrogate Recoveries	DUP	JC98119-10	Limits
17647-74-4	1,4-Dioxane-d8	96%	96%	25-195%

(a) (pH = 6) Sample is not acid preserved per method/client criteria. Sample analyzed within 7 days holding time.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V1B5880-BFB	Injection Date: 11/06/19
Lab File ID: 1B121542.D	Injection Time: 14:52
Instrument ID: GCMS1B	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	5401	19.9	Pass
75	30.0 - 80.0% of mass 95	14365	52.9	Pass
95	Base peak, 100% relative abundance	27149	100.0	Pass
96	5.0 - 9.0% of mass 95	2067	7.61	Pass
173	Less than 2.0% of mass 174	135	0.50 (0.47) ^a	Pass
174	50.0 - 120.0% of mass 95	28749	105.9	Pass
175	5.0 - 9.0% of mass 174	2040	7.51 (7.10) ^a	Pass
176	95.0 - 101.0% of mass 174	27728	102.1 (96.4) ^a	Pass
177	5.0 - 9.0% of mass 176	1894	6.98 (6.83) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1B5880-IC5880	1B121543.D	11/06/19	15:29	00:37	Initial cal 0.2
V1B5880-IC5880	1B121544.D	11/06/19	16:00	01:08	Initial cal 0.5
V1B5880-IC5880	1B121545.D	11/06/19	16:31	01:39	Initial cal 1
V1B5880-IC5880	1B121546.D	11/06/19	17:03	02:11	Initial cal 2
V1B5880-IC5880	1B121547.D	11/06/19	17:34	02:42	Initial cal 5
V1B5880-ICC5880	1B121548.D	11/06/19	18:05	03:13	Initial cal 10
V1B5880-IC5880	1B121549.D	11/06/19	18:37	03:45	Initial cal 20
V1B5880-IC5880	1B121550.D	11/06/19	19:07	04:15	Initial cal 40
V1B5880-IC5880	1B121551.D	11/06/19	19:39	04:47	Initial cal 80
V1B5880-ICV5880	1B121554.D	11/06/19	21:11	06:19	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample:	V1B5880-BFB2	Injection Date:	11/07/19
Lab File ID:	1B121557.D	Injection Time:	08:35
Instrument ID:	GCMS1B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	5791	20.2	Pass
75	30.0 - 80.0% of mass 95	15173	53.0	Pass
95	Base peak, 100% relative abundance	28613	100.0	Pass
96	5.0 - 9.0% of mass 95	2136	7.47	Pass
173	Less than 2.0% of mass 174	73	0.26 (0.24) ^a	Pass
174	50.0 - 120.0% of mass 95	30320	106.0	Pass
175	5.0 - 9.0% of mass 174	2021	7.06 (6.67) ^a	Pass
176	95.0 - 101.0% of mass 174	28883	100.9 (95.3) ^a	Pass
177	5.0 - 9.0% of mass 176	1859	6.50 (6.44) ^b	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1B5880-ICV5880	1B121558.D	11/07/19	09:26	00:51	Initial cal verification 10

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V1B5884-BFB
Lab File ID: 1B121628.D
Instrument ID: GCMS1B
Injection Date: 11/11/19
Injection Time: 08:03

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	6222	19.1	Pass
75	30.0 - 80.0% of mass 95	16421	50.4	Pass
95	Base peak, 100% relative abundance	32605	100.0	Pass
96	5.0 - 9.0% of mass 95	2405	7.38	Pass
173	Less than 2.0% of mass 174	166	0.51 (0.51) ^a	Pass
174	50.0 - 120.0% of mass 95	32355	99.2	Pass
175	5.0 - 9.0% of mass 174	2376	7.29 (7.34) ^a	Pass
176	95.0 - 101.0% of mass 174	31539	96.7 (97.5) ^a	Pass
177	5.0 - 9.0% of mass 176	2124	6.51 (6.73) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1B5884-CC5880	1B121629.D	11/11/19	08:35	00:32	Continuing cal 5
V1B5884-BS	1B121630.D	11/11/19	09:24	01:21	Blank Spike
V1B5884-MB	1B121631.D	11/11/19	10:04	02:01	Method Blank
ZZZZZZ	1B121632.D	11/11/19	10:36	02:33	(unrelated sample)
JC97789-1	1B121633.D	11/11/19	11:07	03:04	(used for QC only; not part of job JC97950)
JC97789-2	1B121634.D	11/11/19	11:38	03:35	(used for QC only; not part of job JC97950)
ZZZZZZ	1B121635.D	11/11/19	12:09	04:06	(unrelated sample)
ZZZZZZ	1B121636.D	11/11/19	12:40	04:37	(unrelated sample)
JC97789-1MS	1B121637.D	11/11/19	13:11	05:08	Matrix Spike
JC97789-2DUP	1B121638.D	11/11/19	13:43	05:40	Duplicate
ZZZZZZ	1B121639.D	11/11/19	14:14	06:11	(unrelated sample)
ZZZZZZ	1B121640.D	11/11/19	14:45	06:42	(unrelated sample)
ZZZZZZ	1B121641.D	11/11/19	15:16	07:13	(unrelated sample)
ZZZZZZ	1B121642.D	11/11/19	15:47	07:44	(unrelated sample)
ZZZZZZ	1B121643.D	11/11/19	16:18	08:15	(unrelated sample)
ZZZZZZ	1B121644.D	11/11/19	16:50	08:47	(unrelated sample)
JC97950-3	1B121645.D	11/11/19	17:21	09:18	TB-110419
JC97950-1	1B121646.D	11/11/19	17:52	09:49	RW-12270CM-110419
JC97950-2	1B121647.D	11/11/19	18:23	10:20	RW-12270CM-110419-F
ZZZZZZ	1B121648.D	11/11/19	18:55	10:52	(unrelated sample)
ZZZZZZ	1B121649.D	11/11/19	19:26	11:23	(unrelated sample)
ZZZZZZ	1B121650.D	11/11/19	19:57	11:54	(unrelated sample)

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V3A6923-BFB
Lab File ID: 3A160428.D
Instrument ID: GCMS3A
Injection Date: 07/18/18
Injection Time: 16:55

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	25408	20.8	Pass
75	30.0 - 60.0% of mass 95	62880	51.6	Pass
95	Base peak, 100% relative abundance	121864	100.0	Pass
96	5.0 - 9.0% of mass 95	8101	6.65	Pass
173	Less than 2.0% of mass 174	826	0.68 (0.81) ^a	Pass
174	50.0 - 120.0% of mass 95	102317	84.0	Pass
175	5.0 - 9.0% of mass 174	8168	6.70 (7.98) ^a	Pass
176	95.0 - 101.0% of mass 174	100370	82.4 (98.1) ^a	Pass
177	5.0 - 9.0% of mass 176	6691	5.49 (6.67) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3A6923-IC6923	3A160429.D	07/18/18	17:26	00:31	Initial cal 0.25
V3A6923-IC6923	3A160430.D	07/18/18	17:52	00:57	Initial cal 0.4
V3A6923-IC6923	3A160431.D	07/18/18	18:18	01:23	Initial cal 1
V3A6923-IC6923	3A160432.D	07/18/18	18:43	01:48	Initial cal 2
V3A6923-IC6923	3A160433.D	07/18/18	19:09	02:14	Initial cal 5
V3A6923-ICC6923	3A160434.D	07/18/18	19:35	02:40	Initial cal 20
V3A6923-IC6923	3A160435.D	07/18/18	20:00	03:05	Initial cal 50
V3A6923-IC6923	3A160436.D	07/18/18	20:26	03:31	Initial cal 100
V3A6923-IC6923	3A160437.D	07/18/18	20:52	03:57	Initial cal 200
V3A6923-ICV6923	3A160443.D	07/18/18	23:25	06:30	Initial cal verification 20

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V3A7075-BFB
Lab File ID: 3A163302.D
Instrument ID: GCMS3A
Injection Date: 11/11/19
Injection Time: 08:27

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	18079	19.8	Pass
75	30.0 - 60.0% of mass 95	47114	51.6	Pass
95	Base peak, 100% relative abundance	91245	100.0	Pass
96	5.0 - 9.0% of mass 95	5845	6.41	Pass
173	Less than 2.0% of mass 174	188	0.21 (0.27) ^a	Pass
174	50.0 - 120.0% of mass 95	69202	75.8	Pass
175	5.0 - 9.0% of mass 174	5279	5.79 (7.63) ^a	Pass
176	95.0 - 101.0% of mass 174	66365	72.7 (95.9) ^a	Pass
177	5.0 - 9.0% of mass 176	4507	4.94 (6.79) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3A7075-CC6923	3A163303.D	11/11/19	09:00	00:33	Continuing cal 5
V3A7075-BS	3A163304.D	11/11/19	09:29	01:02	Blank Spike
V3A7075-MB	3A163305.D	11/11/19	10:05	01:38	Method Blank
JC98119-9	3A163306.D	11/11/19	10:36	02:09	(used for QC only; not part of job JC97950)
JC98119-10	3A163307.D	11/11/19	11:04	02:37	(used for QC only; not part of job JC97950)
ZZZZZZ	3A163308.D	11/11/19	11:33	03:06	(unrelated sample)
ZZZZZZ	3A163309.D	11/11/19	12:03	03:36	(unrelated sample)
ZZZZZZ	3A163310.D	11/11/19	12:31	04:04	(unrelated sample)
JC98119-9MS	3A163311.D	11/11/19	13:00	04:33	Matrix Spike
JC98119-10DUP	3A163312.D	11/11/19	13:29	05:02	Duplicate
ZZZZZZ	3A163313.D	11/11/19	13:58	05:31	(unrelated sample)
ZZZZZZ	3A163314.D	11/11/19	14:26	05:59	(unrelated sample)
ZZZZZZ	3A163315.D	11/11/19	14:56	06:29	(unrelated sample)
ZZZZZZ	3A163316.D	11/11/19	15:24	06:57	(unrelated sample)
ZZZZZZ	3A163317.D	11/11/19	15:53	07:26	(unrelated sample)
ZZZZZZ	3A163318.D	11/11/19	16:22	07:55	(unrelated sample)
ZZZZZZ	3A163319.D	11/11/19	16:51	08:24	(unrelated sample)
ZZZZZZ	3A163320.D	11/11/19	17:19	08:52	(unrelated sample)
ZZZZZZ	3A163321.D	11/11/19	17:48	09:21	(unrelated sample)
ZZZZZZ	3A163322.D	11/11/19	18:17	09:50	(unrelated sample)
JC97950-1	3A163323.D	11/11/19	18:46	10:19	RW-12270CM-110419
JC97950-2	3A163324.D	11/11/19	19:14	10:47	RW-12270CM-110419-F
JC97950-3	3A163325.D	11/11/19	19:43	11:16	TB-110419

Surrogate Recovery Summary

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Method: EPA 524.2 REV 4.1	Matrix: AQ
---------------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
JC97950-1	1B121646.D	88	89
JC97950-2	1B121647.D	88	89
JC97950-3	1B121645.D	90	90
JC97789-1MS	1B121637.D	101	99
JC97789-2DUP	1B121638.D	85	89
V1B5884-BS	1B121630.D	101	104
V1B5884-MB	1B121631.D	91	95

Surrogate Compounds	Recovery Limits
S1 = 1,2-Dichlorobenzene-d4	70-130%
S2 = 4-Bromofluorobenzene	70-130%

5.6.1
5

Surrogate Recovery Summary

Job Number: JC97950
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Method: SW846 8260C BY SIM	Matrix: AQ
----------------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1
JC97950-1	3A163323.D	105
JC97950-2	3A163324.D	105
JC97950-3	3A163325.D	105
JC98119-10DUP	3A163312.D	96
JC98119-9MS	3A163311.D	77
V3A7075-BS	3A163304.D	90
V3A7075-MB	3A163305.D	98

Surrogate Compounds	Recovery Limits
S1 = 1,4-Dioxane-d8	25-195%

5.6.2
5

DECEMBER 2019

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

WSP Environment & Energy

Kop-Flex, Hanover, VA

31401545/02

SGS Job Number: JC99465

Sampling Date: 12/02/19

Report to:

WSP
11190 Sunrise Valley Drive Suite 300
Reston, VA 20190
eric.johnson@wspgroup.com; Chris.Cresci@wspgroup.com
ATTN: Eric Johnson

Total number of pages in report: **41**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.



Laura Degenhardt
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary 3

Section 2: Summary of Hits 4

Section 3: Sample Results 5

3.1: JC99465-1: RW-1227OCM-120219 6

3.2: JC99465-2: RW-1227OCM-120219-F 10

3.3: JC99465-3: TB-120219 14

Section 4: Misc. Forms 17

4.1: Chain of Custody 18

Section 5: MS Volatiles - QC Data Summaries 20

5.1: Method Blank Summary 21

5.2: Blank Spike Summary 25

5.3: Matrix Spike Summary 28

5.4: Duplicate Summary 32

5.5: Instrument Performance Checks (BFB) 36

5.6: Surrogate Recovery Summaries 40



Sample Summary

WSP Environment & Energy

Job No: JC99465

Kop-Flex, Hanover, VA
Project No: 31401545/02

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
---------------	----------------	---------	----------	-------------	------	------------------

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

JC99465-1	12/02/19	11:00	SB,CC	12/03/19	AQ	Ground Water	RW-1227OCM-120219
JC99465-2	12/02/19	10:55	SB,CC	12/03/19	AQ	Ground Water	RW-1227OCM-120219-F
JC99465-3	12/02/19	11:00	SB,CC	12/03/19	AQ	Trip Blank Water	TB-120219

Summary of Hits

Page 1 of 1

Job Number: JC99465
Account: WSP Environment & Energy
Project: Kop-Flex, Hanover, VA
Collected: 12/02/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC99465-1	RW-1227OCM-120219					
1,1-Dichloroethylene ^a		5.2	0.50	0.19	ug/l	EPA 524.2 REV 4.1
1,1,1-Trichloroethane ^a		0.22 J	0.50	0.22	ug/l	EPA 524.2 REV 4.1
1,4-Dioxane		2.1	0.40	0.095	ug/l	SW846 8260C BY SIM
JC99465-2	RW-1227OCM-120219-F					
Chloromethane ^a		0.15 J	0.50	0.13	ug/l	EPA 524.2 REV 4.1
1,1,1-Trichloroethane ^a		0.23 J	0.50	0.22	ug/l	EPA 524.2 REV 4.1
1,4-Dioxane		2.1	0.40	0.095	ug/l	SW846 8260C BY SIM
JC99465-3	TB-120219					
Acetone		4.4 J	5.0	2.5	ug/l	EPA 524.2 REV 4.1
Methylene chloride		1.0	0.50	0.37	ug/l	EPA 524.2 REV 4.1

(a) EPA 524.2 is not a certified method for non-potable water samples.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RW-1227OCM-120219	Date Sampled:	12/02/19
Lab Sample ID:	JC99465-1	Date Received:	12/03/19
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	1B121884.D	1	12/06/19 13:49	BK	n/a	n/a	V1B5896
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	2.5	ug/l	
78-93-3	2-Butanone	ND	5.0	0.43	ug/l	
71-43-2	Benzene	ND	0.50	0.16	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.12	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.27	ug/l	
74-83-9	Bromomethane	ND	0.50	0.18	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.068	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.43	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.057	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.18	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.093	ug/l	
75-00-3	Chloroethane	ND	0.50	0.080	ug/l	
67-66-3	Chloroform	ND	0.50	0.17	ug/l	
74-87-3	Chloromethane	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.098	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.075	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.22	ug/l	
75-35-4	1,1-Dichloroethylene	5.2	0.50	0.19	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.14	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.18	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.19	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.17	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.14	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.23	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.40	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.14	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-1227OCM-120219	Date Sampled:	12/02/19
Lab Sample ID:	JC99465-1	Date Received:	12/03/19
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.14	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.10	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.21	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.14	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.16	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.076	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.13	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.24	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.054	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.43	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.11	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.22	ug/l	
91-20-3	Naphthalene	ND	0.50	0.28	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.066	ug/l	
100-42-5	Styrene	ND	0.50	0.069	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	0.22	0.50	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.19	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.091	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.055	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.40	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.057	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.23	ug/l	
108-88-3	Toluene	ND	0.50	0.11	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.15	ug/l	
	m,p-Xylene	ND	0.50	0.14	ug/l	
95-47-6	o-Xylene	ND	0.50	0.076	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.076	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	91%		70-130%
460-00-4	4-Bromofluorobenzene	90%		70-130%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-1227OCM-120219	Date Sampled:	12/02/19
Lab Sample ID:	JC99465-1	Date Received:	12/03/19
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
---------	----------	--------	----	-----	-------	---

(a) EPA 524.2 is not a certified method for non-potable water samples.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-1227OCM-120219	
Lab Sample ID:	JC99465-1	Date Sampled: 12/02/19
Matrix:	AQ - Ground Water	Date Received: 12/03/19
Method:	SW846 8260C BY SIM	Percent Solids: n/a
Project:	Kop-Flex, Hanover, VA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3A163544.D	1	12/10/19 11:11	RS	n/a	n/a	V3A7086
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	2.1	0.40	0.095	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
17647-74-4	1,4-Dioxane-d8	90%		25-195%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-1227OCM-120219-F	Date Sampled:	12/02/19
Lab Sample ID:	JC99465-2	Date Received:	12/03/19
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	1B121885.D	1	12/06/19 14:20	BK	n/a	n/a	V1B5896
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	2.5	ug/l	
78-93-3	2-Butanone	ND	5.0	0.43	ug/l	
71-43-2	Benzene	ND	0.50	0.16	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.12	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.27	ug/l	
74-83-9	Bromomethane	ND	0.50	0.18	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.068	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.43	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.057	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.18	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.093	ug/l	
75-00-3	Chloroethane	ND	0.50	0.080	ug/l	
67-66-3	Chloroform	ND	0.50	0.17	ug/l	
74-87-3	Chloromethane	0.15	0.50	0.13	ug/l	J
95-49-8	o-Chlorotoluene	ND	0.50	0.098	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.075	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.22	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.19	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.14	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.18	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.19	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.17	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.14	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.23	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.40	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.14	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: RW-1227OCM-120219-F
Lab Sample ID: JC99465-2
Matrix: AQ - Ground Water
Method: EPA 524.2 REV 4.1
Project: Kop-Flex, Hanover, VA

Date Sampled: 12/02/19
Date Received: 12/03/19
Percent Solids: n/a

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.14	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.10	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.21	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.14	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.16	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.076	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.13	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.24	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.054	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.43	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.11	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.22	ug/l	
91-20-3	Naphthalene	ND	0.50	0.28	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.066	ug/l	
100-42-5	Styrene	ND	0.50	0.069	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	0.23	0.50	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.19	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.091	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.055	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.40	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.057	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.23	ug/l	
108-88-3	Toluene	ND	0.50	0.11	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.15	ug/l	
	m,p-Xylene	ND	0.50	0.14	ug/l	
95-47-6	o-Xylene	ND	0.50	0.076	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.076	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	90%		70-130%
460-00-4	4-Bromofluorobenzene	91%		70-130%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-1227OCM-120219-F	Date Sampled:	12/02/19
Lab Sample ID:	JC99465-2	Date Received:	12/03/19
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
---------	----------	--------	----	-----	-------	---

(a) EPA 524.2 is not a certified method for non-potable water samples.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-1227OCM-120219-F	Date Sampled:	12/02/19
Lab Sample ID:	JC99465-2	Date Received:	12/03/19
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C BY SIM		
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3A163545.D	1	12/10/19 11:41	RS	n/a	n/a	V3A7086
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	2.1	0.40	0.095	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
17647-74-4	1,4-Dioxane-d8	88%		25-195%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-120219	Date Sampled:	12/02/19
Lab Sample ID:	JC99465-3	Date Received:	12/03/19
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1B121886.D	1	12/06/19 14:52	BK	n/a	n/a	V1B5896
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	4.4	5.0	2.5	ug/l	J
78-93-3	2-Butanone	ND	5.0	0.43	ug/l	
71-43-2	Benzene	ND	0.50	0.16	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.12	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.27	ug/l	
74-83-9	Bromomethane	ND	0.50	0.18	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.068	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.43	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.057	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.18	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.093	ug/l	
75-00-3	Chloroethane	ND	0.50	0.080	ug/l	
67-66-3	Chloroform	ND	0.50	0.17	ug/l	
74-87-3	Chloromethane	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.098	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.075	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.22	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.19	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.14	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.18	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.19	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.17	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.14	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.23	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.40	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.14	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-120219	Date Sampled:	12/02/19
Lab Sample ID:	JC99465-3	Date Received:	12/03/19
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	EPA 524.2 REV 4.1		
Project:	Kop-Flex, Hanover, VA		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.14	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.10	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.21	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.14	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.16	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.076	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.13	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.24	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.054	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.43	ug/l	
75-09-2	Methylene chloride	1.0	0.50	0.37	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.11	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.22	ug/l	
91-20-3	Naphthalene	ND	0.50	0.28	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.066	ug/l	
100-42-5	Styrene	ND	0.50	0.069	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.19	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.091	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.055	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.40	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.057	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.23	ug/l	
108-88-3	Toluene	ND	0.50	0.11	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.15	ug/l	
	m,p-Xylene	ND	0.50	0.14	ug/l	
95-47-6	o-Xylene	ND	0.50	0.076	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.076	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	88%		70-130%
460-00-4	4-Bromofluorobenzene	89%		70-130%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-120219	
Lab Sample ID:	JC99465-3	Date Sampled: 12/02/19
Matrix:	AQ - Trip Blank Water	Date Received: 12/03/19
Method:	SW846 8260C BY SIM	Percent Solids: n/a
Project:	Kop-Flex, Hanover, VA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3A163543.D	1	12/10/19 10:42	RS	n/a	n/a	V3A7086
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.40	0.095	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
17647-74-4	1,4-Dioxane-d8	104%		25-195%		

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

[illegible]

JC99465: Chain of Custody

Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC99465

Client: WSP

Project: KOP-FLEX, HANOVER, VA

Date / Time Received: 12/3/2019 10:40:00 AM

Delivery Method:

Airbill #s:

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0);

Cooler Temps (Corrected) °C: Cooler 1: (2.8);

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | ☒ | ☐ | 3. COC Present: | ☒ | ☐ |
| 2. Custody Seals Intact: | ☒ | ☐ | 4. Smpl Dates/Time OK | ☒ | ☐ |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | ☒ | ☐ |
| 2. Cooler temp verification: | IR Gun | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|--------------------------|
| 1. Trip Blank present / cooler: | ☒ | ☐ | ☐ |
| 2. Trip Blank listed on COC: | ☒ | ☐ | ☐ |
| 3. Samples preserved properly: | ☒ | ☐ | |
| 4. VOCs headspace free: | ☒ | ☐ | ☐ |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | ☒ | ☐ |
| 2. Container labeling complete: | ☒ | ☐ |
| 3. Sample container label / COC agree: | ☒ | ☐ |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | ☒ | ☐ |
| 2. All containers accounted for: | ☒ | ☐ |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N

N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | ☒ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☒ | |
| 3. Sufficient volume recvd for analysis: | ☒ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☒ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☒ |

Test Strip Lot #s:

pH 1-12: 229517

pH 12+: 208717

Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JC99465: Chain of Custody

Page 2 of 2

MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 3

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5896-MB	1B121880.D	1	12/06/19	BK	n/a	n/a	V1B5896

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC99465-1, JC99465-2, JC99465-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	2.5	ug/l	
78-93-3	2-Butanone	ND	5.0	0.43	ug/l	
71-43-2	Benzene	ND	0.50	0.16	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.12	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.13	ug/l	
75-25-2	Bromoform	ND	0.50	0.27	ug/l	
74-83-9	Bromomethane	ND	0.50	0.18	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.068	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.43	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.057	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.18	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.093	ug/l	
75-00-3	Chloroethane	ND	0.50	0.080	ug/l	
67-66-3	Chloroform	ND	0.50	0.17	ug/l	
74-87-3	Chloromethane	ND	0.50	0.13	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.098	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.075	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.22	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.19	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.14	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.18	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.19	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.17	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.14	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.23	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.40	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.14	ug/l	
95-50-1	o-Dichlorobenzene	ND	0.50	0.14	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.10	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.21	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.14	ug/l	

Method Blank Summary

Page 2 of 3

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5896-MB	1B121880.D	1	12/06/19	BK	n/a	n/a	V1B5896

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC99465-1, JC99465-2, JC99465-3

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.076	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.13	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.24	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.054	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.43	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.11	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.22	ug/l	
91-20-3	Naphthalene	0.34	0.50	0.28	ug/l	J
103-65-1	n-Propylbenzene	ND	0.50	0.066	ug/l	
100-42-5	Styrene	ND	0.50	0.069	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.13	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.19	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.091	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.055	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.40	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.057	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.23	ug/l	
108-88-3	Toluene	ND	0.50	0.11	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.19	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.15	ug/l	
	m,p-Xylene	ND	0.50	0.14	ug/l	
95-47-6	o-Xylene	ND	0.50	0.076	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.076	ug/l	

CAS No.	Surrogate Recoveries	Limits
2199-69-1	1,2-Dichlorobenzene-d4	86% 70-130%
460-00-4	4-Bromofluorobenzene	92% 70-130%

Method Blank Summary

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5896-MB	1B121880.D	1	12/06/19	BK	n/a	n/a	V1B5896

The QC reported here applies to the following samples:

Method:

JC99465-1, JC99465-2, JC99465-3

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3A7086-MB	3A163542.D	1	12/10/19	RS	n/a	n/a	V3A7086

The QC reported here applies to the following samples: Method: SW846 8260C BY SIM

JC99465-1, JC99465-2, JC99465-3

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.40	0.095	ug/l	

CAS No.	Surrogate Recoveries	Limits
17647-74-4	1,4-Dioxane-d8	83% 25-195%

Blank Spike Summary

Page 1 of 2

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5896-BS	1B121879.D	1	12/06/19	BK	n/a	n/a	V1B5896

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC99465-1, JC99465-2, JC99465-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	20	16.9	85	70-130
78-93-3	2-Butanone	20	19.0	95	70-130
71-43-2	Benzene	5	4.7	94	70-130
108-86-1	Bromobenzene	5	4.6	92	70-130
74-97-5	Bromochloromethane	5	4.3	86	70-130
75-27-4	Bromodichloromethane	5	4.7	94	70-130
75-25-2	Bromoform	5	4.4	88	70-130
74-83-9	Bromomethane	5	4.1	82	70-130
104-51-8	n-Butylbenzene	5	5.1	102	70-130
135-98-8	sec-Butylbenzene	5	5.2	104	70-130
98-06-6	tert-Butylbenzene	5	4.9	98	70-130
75-15-0	Carbon disulfide	5	4.4	88	70-130
108-90-7	Chlorobenzene	5	4.8	96	70-130
75-00-3	Chloroethane	5	4.2	84	70-130
67-66-3	Chloroform	5	4.5	90	70-130
74-87-3	Chloromethane	5	4.1	82	70-130
95-49-8	o-Chlorotoluene	5	4.8	96	70-130
106-43-4	p-Chlorotoluene	5	5.3	106	70-130
56-23-5	Carbon tetrachloride	5	4.3	86	70-130
75-34-3	1,1-Dichloroethane	5	4.4	88	70-130
75-35-4	1,1-Dichloroethylene	5	4.4	88	70-130
563-58-6	1,1-Dichloropropene	5	4.6	92	70-130
96-12-8	1,2-Dibromo-3-chloropropane	5	4.9	98	70-130
106-93-4	1,2-Dibromoethane	5	4.8	96	70-130
107-06-2	1,2-Dichloroethane	5	4.3	86	70-130
78-87-5	1,2-Dichloropropane	5	5.0	100	70-130
142-28-9	1,3-Dichloropropane	5	5.0	100	70-130
594-20-7	2,2-Dichloropropane	5	4.3	86	70-130
124-48-1	Dibromochloromethane	5	4.7	94	70-130
74-95-3	Dibromomethane	5	4.6	92	70-130
75-71-8	Dichlorodifluoromethane	5	4.5	90	70-130
541-73-1	m-Dichlorobenzene	5	4.8	96	70-130
95-50-1	o-Dichlorobenzene	5	4.8	96	70-130
106-46-7	p-Dichlorobenzene	5	4.8	96	70-130
156-60-5	trans-1,2-Dichloroethylene	5	4.3	86	70-130
156-59-2	cis-1,2-Dichloroethylene	5	4.5	90	70-130

* = Outside of Control Limits.

Blank Spike Summary

Page 2 of 2

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5896-BS	1B121879.D	1	12/06/19	BK	n/a	n/a	V1B5896

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC99465-1, JC99465-2, JC99465-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	5	4.9	98	70-130
10061-02-6	trans-1,3-Dichloropropene	5	4.7	94	70-130
100-41-4	Ethylbenzene	5	5.0	100	70-130
87-68-3	Hexachlorobutadiene	5	4.3	86	70-130
591-78-6	2-Hexanone	20	21.4	107	70-130
98-82-8	Isopropylbenzene	5	5.0	100	70-130
99-87-6	p-Isopropyltoluene	5	4.9	98	70-130
75-09-2	Methylene chloride	5	4.4	88	70-130
1634-04-4	Methyl Tert Butyl Ether	5	4.4	88	70-130
108-10-1	4-Methyl-2-pentanone	20	21.1	106	70-130
91-20-3	Naphthalene	5	4.5	90	70-130
103-65-1	n-Propylbenzene	5	5.2	104	70-130
100-42-5	Styrene	5	5.0	100	70-130
630-20-6	1,1,1,2-Tetrachloroethane	5	4.6	92	70-130
71-55-6	1,1,1-Trichloroethane	5	4.3	86	70-130
79-34-5	1,1,2,2-Tetrachloroethane	5	5.5	110	70-130
79-00-5	1,1,2-Trichloroethane	5	5.3	106	70-130
87-61-6	1,2,3-Trichlorobenzene	5	4.4	88	70-130
96-18-4	1,2,3-Trichloropropane	5	5.1	102	70-130
120-82-1	1,2,4-Trichlorobenzene	5	4.3	86	70-130
95-63-6	1,2,4-Trimethylbenzene	5	5.2	104	70-130
108-67-8	1,3,5-Trimethylbenzene	5	5.1	102	70-130
127-18-4	Tetrachloroethylene	5	4.4	88	70-130
108-88-3	Toluene	5	5.0	100	70-130
79-01-6	Trichloroethylene	5	4.5	90	70-130
75-69-4	Trichlorofluoromethane	5	4.6	92	70-130
75-01-4	Vinyl chloride	5	4.4	88	70-130
	m,p-Xylene	10	10.0	100	70-130
95-47-6	o-Xylene	5	5.0	100	70-130
1330-20-7	Xylenes (total)	15	15.1	101	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2199-69-1	1,2-Dichlorobenzene-d4	99%	70-130%
460-00-4	4-Bromofluorobenzene	102%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3A7086-BS	3A163541.D	1	12/10/19	RS	n/a	n/a	V3A7086

The QC reported here applies to the following samples:

Method: SW846 8260C BY SIM

JC99465-1, JC99465-2, JC99465-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
123-91-1	1,4-Dioxane	20	17.9	90	48-137

CAS No.	Surrogate Recoveries	BSP	Limits
17647-74-4	1,4-Dioxane-d8	88%	25-195%

* = Outside of Control Limits.

Matrix Spike Summary

Page 1 of 3

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC99538-1MS	1B121887.D	1	12/06/19	BK	n/a	n/a	V1B5896
JC99538-1	1B121883.D	1	12/06/19	BK	n/a	n/a	V1B5896

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC99465-1, JC99465-2, JC99465-3

CAS No.	Compound	JC99538-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
67-64-1	Acetone	ND		20	19.7	99	41-142
78-93-3	2-Butanone	ND		20	22.0	110	55-129
71-43-2	Benzene	ND		5	5.3	106	53-138
108-86-1	Bromobenzene	ND		5	5.1	102	54-138
74-97-5	Bromochloromethane	ND		5	4.9	98	55-140
75-27-4	Bromodichloromethane	ND		5	5.2	104	57-147
75-25-2	Bromoform	31.7		5	33.2	30* a	47-137
74-83-9	Bromomethane	ND		5	3.8	76	40-162
104-51-8	n-Butylbenzene	ND		5	5.9	118	45-144
135-98-8	sec-Butylbenzene	ND		5	6.0	120	46-145
98-06-6	tert-Butylbenzene	ND		5	5.6	112	48-141
75-15-0	Carbon disulfide	ND		5	5.0	100	35-127
108-90-7	Chlorobenzene	ND		5	5.4	108	54-135
75-00-3	Chloroethane	ND		5	4.0	80	38-153
67-66-3	Chloroform	ND		5	4.9	98	57-151
74-87-3	Chloromethane	ND		5	3.8	76	39-165
95-49-8	o-Chlorotoluene	ND		5	5.4	108	55-142
106-43-4	p-Chlorotoluene	ND		5	5.8	116	55-139
56-23-5	Carbon tetrachloride	ND		5	5.0	100	49-170
75-34-3	1,1-Dichloroethane	ND		5	5.0	100	55-149
75-35-4	1,1-Dichloroethylene	ND		5	5.0	100	42-142
563-58-6	1,1-Dichloropropene	ND		5	5.3	106	46-151
96-12-8	1,2-Dibromo-3-chloropropane	ND		5	6.6	132	48-141
106-93-4	1,2-Dibromoethane	ND		5	5.3	106	57-135
107-06-2	1,2-Dichloroethane	ND		5	5.0	100	59-166
78-87-5	1,2-Dichloropropane	ND		5	5.4	108	53-142
142-28-9	1,3-Dichloropropane	ND		5	5.7	114	58-143
594-20-7	2,2-Dichloropropane	ND		5	5.0	100	38-165
124-48-1	Dibromochloromethane	1.7		5	6.9	104	55-138
74-95-3	Dibromomethane	ND		5	6.5	130	61-144
75-71-8	Dichlorodifluoromethane	ND		5	4.5	90	23-172
541-73-1	m-Dichlorobenzene	ND		5	5.5	110	53-138
95-50-1	o-Dichlorobenzene	ND		5	5.6	112	54-140
106-46-7	p-Dichlorobenzene	ND		5	5.6	112	53-137
156-60-5	trans-1,2-Dichloroethylene	ND		5	4.8	96	47-148
156-59-2	cis-1,2-Dichloroethylene	ND		5	5.0	100	51-146

* = Outside of Control Limits.

Matrix Spike Summary

Page 2 of 3

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC99538-1MS	1B121887.D	1	12/06/19	BK	n/a	n/a	V1B5896
JC99538-1	1B121883.D	1	12/06/19	BK	n/a	n/a	V1B5896

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC99465-1, JC99465-2, JC99465-3

CAS No.	Compound	JC99538-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
10061-01-5	cis-1,3-Dichloropropene	ND		5	5.3	106	51-136
10061-02-6	trans-1,3-Dichloropropene	ND		5	5.3	106	54-142
100-41-4	Ethylbenzene	ND		5	5.6	112	51-138
87-68-3	Hexachlorobutadiene	ND		5	5.4	108	40-154
591-78-6	2-Hexanone	ND		20	26.3	132* ^b	53-128
98-82-8	Isopropylbenzene	ND		5	5.6	112	49-139
99-87-6	p-Isopropyltoluene	ND		5	5.6	112	45-141
75-09-2	Methylene chloride	ND		5	4.9	98	54-137
1634-04-4	Methyl Tert Butyl Ether	ND		5	4.9	98	53-143
108-10-1	4-Methyl-2-pentanone	ND		20	24.7	124	58-127
91-20-3	Naphthalene	ND		5	5.8	116	44-140
103-65-1	n-Propylbenzene	ND		5	5.9	118	50-142
100-42-5	Styrene	ND		5	5.6	112	23-130
630-20-6	1,1,1,2-Tetrachloroethane	ND		5	5.3	106	57-144
71-55-6	1,1,1-Trichloroethane	ND		5	5.0	100	52-164
79-34-5	1,1,2,2-Tetrachloroethane	ND		5	6.7	134	58-138
79-00-5	1,1,2-Trichloroethane	ND		5	5.9	118	59-139
87-61-6	1,2,3-Trichlorobenzene	ND		5	5.7	114	47-141
96-18-4	1,2,3-Trichloropropane	ND		5	6.0	120	56-148
120-82-1	1,2,4-Trichlorobenzene	ND		5	5.4	108	46-137
95-63-6	1,2,4-Trimethylbenzene	ND		5	5.8	116	41-138
108-67-8	1,3,5-Trimethylbenzene	ND		5	5.8	116	45-138
127-18-4	Tetrachloroethylene	ND		5	5.0	100	45-145
108-88-3	Toluene	ND		5	5.5	110	52-134
79-01-6	Trichloroethylene	ND		5	5.1	102	54-143
75-69-4	Trichlorofluoromethane	ND		5	4.4	88	36-167
75-01-4	Vinyl chloride	ND		5	4.1	82	35-162
	m,p-Xylene	ND		10	11.2	112	49-135
95-47-6	o-Xylene	ND		5	5.5	110	49-134
1330-20-7	Xylenes (total)	ND		15	16.8	112	50-134

CAS No.	Surrogate Recoveries	MS	JC99538-1	Limits
2199-69-1	1,2-Dichlorobenzene-d4	101%	88%	70-130%
460-00-4	4-Bromofluorobenzene	102%	94%	70-130%

* = Outside of Control Limits.

Matrix Spike Summary

Page 3 of 3

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC99538-1MS	1B121887.D	1	12/06/19	BK	n/a	n/a	V1B5896
JC99538-1	1B121883.D	1	12/06/19	BK	n/a	n/a	V1B5896

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC99465-1, JC99465-2, JC99465-3

- (a) Outside control limits due to high level in sample relative to spike amount.
- (b) Outside in house control limits.

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC99740-3MS	3A163550.D	1	12/10/19	RS	n/a	n/a	V3A7086
JC99740-3	3A163547.D	1	12/10/19	RS	n/a	n/a	V3A7086

The QC reported here applies to the following samples: Method: SW846 8260C BY SIM

JC99465-1, JC99465-2, JC99465-3

CAS No.	Compound	JC99740-3 ug/l	Spike Q	MS ug/l	MS %	Limits
123-91-1	1,4-Dioxane	ND	20	17.2	86	28-162

CAS No.	Surrogate Recoveries	MS	JC99740-3	Limits
17647-74-4	1,4-Dioxane-d8	84%	102%	25-195%

* = Outside of Control Limits.

Duplicate Summary

Page 1 of 3

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC99465-1DUP	1B121888.D	1	12/06/19	BK	n/a	n/a	V1B5896
JC99465-1 ^a	1B121884.D	1	12/06/19	BK	n/a	n/a	V1B5896

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC99465-1, JC99465-2, JC99465-3

CAS No.	Compound	JC99465-1 ug/l	DUP Q ug/l	Q	RPD	Limits
67-64-1	Acetone	ND	ND		nc	10
78-93-3	2-Butanone	ND	ND		nc	12
71-43-2	Benzene	ND	ND		nc	10
108-86-1	Bromobenzene	ND	ND		nc	10
74-97-5	Bromochloromethane	ND	ND		nc	10
75-27-4	Bromodichloromethane	ND	ND		nc	10
75-25-2	Bromoform	ND	ND		nc	10
74-83-9	Bromomethane	ND	ND		nc	10
104-51-8	n-Butylbenzene	ND	ND		nc	10
135-98-8	sec-Butylbenzene	ND	ND		nc	10
98-06-6	tert-Butylbenzene	ND	ND		nc	10
75-15-0	Carbon disulfide	ND	ND		nc	19
108-90-7	Chlorobenzene	ND	ND		nc	10
75-00-3	Chloroethane	ND	ND		nc	10
67-66-3	Chloroform	ND	ND		nc	12
74-87-3	Chloromethane	ND	0.20	J	200* ^b	10
95-49-8	o-Chlorotoluene	ND	ND		nc	10
106-43-4	p-Chlorotoluene	ND	ND		nc	10
56-23-5	Carbon tetrachloride	ND	ND		nc	10
75-34-3	1,1-Dichloroethane	ND	ND		nc	10
75-35-4	1,1-Dichloroethylene	5.2	5.4		4	10
563-58-6	1,1-Dichloropropene	ND	ND		nc	10
96-12-8	1,2-Dibromo-3-chloropropane	ND	ND		nc	10
106-93-4	1,2-Dibromoethane	ND	ND		nc	10
107-06-2	1,2-Dichloroethane	ND	ND		nc	10
78-87-5	1,2-Dichloropropane	ND	ND		nc	10
142-28-9	1,3-Dichloropropane	ND	ND		nc	10
594-20-7	2,2-Dichloropropane	ND	ND		nc	10
124-48-1	Dibromochloromethane	ND	ND		nc	10
74-95-3	Dibromomethane	ND	ND		nc	10
75-71-8	Dichlorodifluoromethane	ND	ND		nc	10
541-73-1	m-Dichlorobenzene	ND	ND		nc	10
95-50-1	o-Dichlorobenzene	ND	ND		nc	10
106-46-7	p-Dichlorobenzene	ND	ND		nc	10
156-60-5	trans-1,2-Dichloroethylene	ND	ND		nc	10
156-59-2	cis-1,2-Dichloroethylene	ND	ND		nc	10

* = Outside of Control Limits.

Duplicate Summary

Page 2 of 3

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC99465-1DUP	1B121888.D	1	12/06/19	BK	n/a	n/a	V1B5896
JC99465-1 ^a	1B121884.D	1	12/06/19	BK	n/a	n/a	V1B5896

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC99465-1, JC99465-2, JC99465-3

CAS No.	Compound	JC99465-1 ug/l	DUP Q ug/l	Q	RPD	Limits
10061-01-5	cis-1,3-Dichloropropene	ND	ND		nc	10
10061-02-6	trans-1,3-Dichloropropene	ND	ND		nc	10
100-41-4	Ethylbenzene	ND	ND		nc	10
87-68-3	Hexachlorobutadiene	ND	ND		nc	10
591-78-6	2-Hexanone	ND	ND		nc	10
98-82-8	Isopropylbenzene	ND	ND		nc	10
99-87-6	p-Isopropyltoluene	ND	ND		nc	10
75-09-2	Methylene chloride	ND	ND		nc	10
1634-04-4	Methyl Tert Butyl Ether	ND	ND		nc	10
108-10-1	4-Methyl-2-pentanone	ND	ND		nc	10
91-20-3	Naphthalene	ND	ND		nc	10
103-65-1	n-Propylbenzene	ND	ND		nc	10
100-42-5	Styrene	ND	ND		nc	10
630-20-6	1,1,1,2-Tetrachloroethane	ND	ND		nc	10
71-55-6	1,1,1-Trichloroethane	0.22	J ND		200* ^b	10
79-34-5	1,1,2,2-Tetrachloroethane	ND	ND		nc	10
79-00-5	1,1,2-Trichloroethane	ND	ND		nc	10
87-61-6	1,2,3-Trichlorobenzene	ND	ND		nc	10
96-18-4	1,2,3-Trichloropropane	ND	ND		nc	10
120-82-1	1,2,4-Trichlorobenzene	ND	ND		nc	10
95-63-6	1,2,4-Trimethylbenzene	ND	ND		nc	10
108-67-8	1,3,5-Trimethylbenzene	ND	ND		nc	10
127-18-4	Tetrachloroethylene	ND	ND		nc	10
108-88-3	Toluene	ND	ND		nc	10
79-01-6	Trichloroethylene	ND	ND		nc	10
75-69-4	Trichlorofluoromethane	ND	ND		nc	10
75-01-4	Vinyl chloride	ND	ND		nc	10
	m,p-Xylene	ND	ND		nc	10
95-47-6	o-Xylene	ND	ND		nc	10
1330-20-7	Xylenes (total)	ND	ND		nc	10

CAS No.	Surrogate Recoveries	DUP	JC99465-1	Limits
2199-69-1	1,2-Dichlorobenzene-d4	87%	91%	70-130%
460-00-4	4-Bromofluorobenzene	91%	90%	70-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC99465-1DUP	1B121888.D	1	12/06/19	BK	n/a	n/a	V1B5896
JC99465-1 ^a	1B121884.D	1	12/06/19	BK	n/a	n/a	V1B5896

The QC reported here applies to the following samples:

Method: EPA 524.2 REV 4.1

JC99465-1, JC99465-2, JC99465-3

- (a) EPA 524.2 is not a certified method for non-potable water samples.
- (b) High RPD due to low concentration of hit

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC99740-1DUP	3A163549.D	1	12/10/19	RS	n/a	n/a	V3A7086
JC99740-1	3A163546.D	1	12/10/19	RS	n/a	n/a	V3A7086

The QC reported here applies to the following samples: Method: SW846 8260C BY SIM

JC99465-1, JC99465-2, JC99465-3

CAS No.	Compound	JC99740-1 ug/l	DUP Q	ug/l	Q	RPD	Limits
123-91-1	1,4-Dioxane	ND	ND			nc	48

CAS No.	Surrogate Recoveries	DUP	JC99740-1	Limits
17647-74-4	1,4-Dioxane-d8	97%	102%	25-195%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V1B5887-BFB
Lab File ID: 1B121697.D
Instrument ID: GCMS1B
Injection Date: 11/14/19
Injection Time: 08:10

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	4724	16.5	Pass
75	30.0 - 80.0% of mass 95	13306	46.5	Pass
95	Base peak, 100% relative abundance	28613	100.0	Pass
96	5.0 - 9.0% of mass 95	2235	7.81	Pass
173	Less than 2.0% of mass 174	113	0.39 (0.42) ^a	Pass
174	50.0 - 120.0% of mass 95	27043	94.5	Pass
175	5.0 - 9.0% of mass 174	2095	7.32 (7.75) ^a	Pass
176	95.0 - 101.0% of mass 174	26315	92.0 (97.3) ^a	Pass
177	5.0 - 9.0% of mass 176	1697	5.93 (6.45) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1B5887-IC5887	1B121698.D	11/14/19	08:47	00:37	Initial cal 0.2
V1B5887-IC5887	1B121699.D	11/14/19	09:18	01:08	Initial cal 0.5
V1B5887-IC5887	1B121700.D	11/14/19	09:49	01:39	Initial cal 1
V1B5887-IC5887	1B121701.D	11/14/19	10:20	02:10	Initial cal 2
V1B5887-IC5887	1B121702.D	11/14/19	10:51	02:41	Initial cal 5
V1B5887-ICC5887	1B121703.D	11/14/19	11:22	03:12	Initial cal 10
V1B5887-IC5887	1B121704.D	11/14/19	11:54	03:44	Initial cal 20
V1B5887-IC5887	1B121705.D	11/14/19	12:25	04:15	Initial cal 40
V1B5887-IC5887	1B121706.D	11/14/19	12:57	04:47	Initial cal 80
V1B5887-ICV5887	1B121709.D	11/14/19	14:34	06:24	Initial cal verification 10
V1B5887-ICV5887	1B121710.D	11/14/19	15:15	07:05	Initial cal verification 10

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V1B5896-BFB
Lab File ID: 1B121877.D
Instrument ID: GCMS1B
Injection Date: 12/06/19
Injection Time: 09:50

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	5067	16.3	Pass
75	30.0 - 80.0% of mass 95	14108	45.4	Pass
95	Base peak, 100% relative abundance	31075	100.0	Pass
96	5.0 - 9.0% of mass 95	2344	7.54	Pass
173	Less than 2.0% of mass 174	96	0.31 (0.36) ^a	Pass
174	50.0 - 120.0% of mass 95	26941	86.7	Pass
175	5.0 - 9.0% of mass 174	2254	7.25 (8.37) ^a	Pass
176	95.0 - 101.0% of mass 174	26163	84.2 (97.1) ^a	Pass
177	5.0 - 9.0% of mass 176	1819	5.85 (6.95) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1B5896-CC5887	1B121878.D	12/06/19	10:25	00:35	Continuing cal 5
V1B5896-BS	1B121879.D	12/06/19	10:56	01:06	Blank Spike
V1B5896-MB	1B121880.D	12/06/19	11:30	01:40	Method Blank
ZZZZZZ	1B121881.D	12/06/19	12:16	02:26	(unrelated sample)
ZZZZZZ	1B121882.D	12/06/19	12:47	02:57	(unrelated sample)
JC99538-1	1B121883.D	12/06/19	13:18	03:28	(used for QC only; not part of job JC99465)
JC99465-1	1B121884.D	12/06/19	13:49	03:59	RW-1227OCM-120219
JC99465-2	1B121885.D	12/06/19	14:20	04:30	RW-1227OCM-120219-F
JC99465-3	1B121886.D	12/06/19	14:52	05:02	TB-120219
JC99538-1MS	1B121887.D	12/06/19	15:23	05:33	Matrix Spike
JC99465-1DUP	1B121888.D	12/06/19	15:54	06:04	Duplicate
ZZZZZZ	1B121889.D	12/06/19	16:25	06:35	(unrelated sample)
ZZZZZZ	1B121890.D	12/06/19	16:56	07:06	(unrelated sample)
ZZZZZZ	1B121891.D	12/06/19	17:27	07:37	(unrelated sample)
ZZZZZZ	1B121892.D	12/06/19	17:58	08:08	(unrelated sample)
ZZZZZZ	1B121893.D	12/06/19	18:29	08:39	(unrelated sample)
ZZZZZZ	1B121894.D	12/06/19	19:01	09:11	(unrelated sample)
ZZZZZZ	1B121895.D	12/06/19	19:32	09:42	(unrelated sample)

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V3A6923-BFB
Lab File ID: 3A160428.D
Instrument ID: GCMS3A
Injection Date: 07/18/18
Injection Time: 16:55

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	25408	20.8	Pass
75	30.0 - 60.0% of mass 95	62880	51.6	Pass
95	Base peak, 100% relative abundance	121864	100.0	Pass
96	5.0 - 9.0% of mass 95	8101	6.65	Pass
173	Less than 2.0% of mass 174	826	0.68 (0.81) ^a	Pass
174	50.0 - 120.0% of mass 95	102317	84.0	Pass
175	5.0 - 9.0% of mass 174	8168	6.70 (7.98) ^a	Pass
176	95.0 - 101.0% of mass 174	100370	82.4 (98.1) ^a	Pass
177	5.0 - 9.0% of mass 176	6691	5.49 (6.67) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3A6923-IC6923	3A160429.D	07/18/18	17:26	00:31	Initial cal 0.25
V3A6923-IC6923	3A160430.D	07/18/18	17:52	00:57	Initial cal 0.4
V3A6923-IC6923	3A160431.D	07/18/18	18:18	01:23	Initial cal 1
V3A6923-IC6923	3A160432.D	07/18/18	18:43	01:48	Initial cal 2
V3A6923-IC6923	3A160433.D	07/18/18	19:09	02:14	Initial cal 5
V3A6923-ICC6923	3A160434.D	07/18/18	19:35	02:40	Initial cal 20
V3A6923-IC6923	3A160435.D	07/18/18	20:00	03:05	Initial cal 50
V3A6923-IC6923	3A160436.D	07/18/18	20:26	03:31	Initial cal 100
V3A6923-IC6923	3A160437.D	07/18/18	20:52	03:57	Initial cal 200
V3A6923-ICV6923	3A160443.D	07/18/18	23:25	06:30	Initial cal verification 20

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V3A7086-BFB **Injection Date:** 12/10/19
Lab File ID: 3A163539.D **Injection Time:** 08:37
Instrument ID: GCMS3A

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	12436	18.1	Pass
75	30.0 - 60.0% of mass 95	33802	49.1	Pass
95	Base peak, 100% relative abundance	68888	100.0	Pass
96	5.0 - 9.0% of mass 95	4273	6.20	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	53200	77.2	Pass
175	5.0 - 9.0% of mass 174	3987	5.79 (7.49) ^a	Pass
176	95.0 - 101.0% of mass 174	51762	75.1 (97.3) ^a	Pass
177	5.0 - 9.0% of mass 176	3344	4.85 (6.46) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3A7086-CC6923	3A163540.D	12/10/19	09:06	00:29	Continuing cal 5
V3A7086-BS	3A163541.D	12/10/19	09:40	01:03	Blank Spike
V3A7086-MB	3A163542.D	12/10/19	10:13	01:36	Method Blank
JC99465-3	3A163543.D	12/10/19	10:42	02:05	TB-120219
JC99465-1	3A163544.D	12/10/19	11:11	02:34	RW-1227OCM-120219
JC99465-2	3A163545.D	12/10/19	11:41	03:04	RW-1227OCM-120219-F
JC99740-1	3A163546.D	12/10/19	12:11	03:34	(used for QC only; not part of job JC99465)
JC99740-3	3A163547.D	12/10/19	12:40	04:03	(used for QC only; not part of job JC99465)
ZZZZZZ	3A163548.D	12/10/19	13:09	04:32	(unrelated sample)
JC99740-1DUP	3A163549.D	12/10/19	13:38	05:01	Duplicate
JC99740-3MS	3A163550.D	12/10/19	14:07	05:30	Matrix Spike

Surrogate Recovery Summary

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Method: EPA 524.2 REV 4.1	Matrix: AQ
---------------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
JC99465-1	1B121884.D	91	90
JC99465-2	1B121885.D	90	91
JC99465-3	1B121886.D	88	89
JC99465-1DUP	1B121888.D	87	91
JC99538-1MS	1B121887.D	101	102
V1B5896-BS	1B121879.D	99	102
V1B5896-MB	1B121880.D	86	92

Surrogate Compounds	Recovery Limits
---------------------	-----------------

S1 = 1,2-Dichlorobenzene-d4	70-130%
S2 = 4-Bromofluorobenzene	70-130%

5.6.1
5

Surrogate Recovery Summary

Job Number: JC99465
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Method: SW846 8260C BY SIM	Matrix: AQ
----------------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1
JC99465-1	3A163544.D	90
JC99465-2	3A163545.D	88
JC99465-3	3A163543.D	104
JC99740-1DUP	3A163549.D	97
JC99740-3MS	3A163550.D	84
V3A7086-BS	3A163541.D	88
V3A7086-MB	3A163542.D	83

Surrogate Compounds	Recovery Limits
S1 = 1,4-Dioxane-d8	25-195%

5.6.2
5

ENCLOSURE B – LABORATORY ANALYTICAL REPORT FOR OFFSITE
GROUNDWATER MONITORING WELL SAMPLES
(NOVEMBER 2019)

December 03, 2019

Eric Johnson
WSP USA
13530 Dulles Technology Drive
Suite 300
Herndon, VA 20171

RE: Project: Former Kop Flex Offsite #1
Pace Project No.: 92454724

Dear Eric Johnson:

Enclosed are the analytical results for sample(s) received by the laboratory on November 21, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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,



Taylor Ezell
taylor.ezell@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Molly Long, WSP
Pam Robertson, WSP USA



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Pace Analytical Services Charlotte

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078

Louisiana/NELAP Certification # LA170028

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92454724001	MW-33D-295	Water	11/20/19 08:40	11/21/19 09:32
92454724002	MW-33D-235	Water	11/20/19 08:55	11/21/19 09:32
92454724003	MW-35D	Water	11/20/19 09:20	11/21/19 09:32
92454724004	MW-30D-413	Water	11/20/19 09:45	11/21/19 09:32
92454724005	MW-30D-273	Water	11/20/19 09:55	11/21/19 09:32
92454724006	MW-29D	Water	11/20/19 10:10	11/21/19 09:32
92454724007	MW-32D	Water	11/20/19 10:30	11/21/19 09:32
92454724008	MW-36D	Water	11/20/19 10:50	11/21/19 09:32
92454724009	MW-28D	Water	11/20/19 11:05	11/21/19 09:32
92454724010	MW-31D	Water	11/20/19 11:25	11/21/19 09:32
92454724011	MW-34D	Water	11/20/19 11:45	11/21/19 09:32
92454724012	TRIP BLANK	Water	11/20/19 00:00	11/21/19 09:32
92454724013	DUP 111919B	Water	11/19/19 00:00	11/21/19 09:32
92454724014	MW-25D-130	Water	11/19/19 16:00	11/21/19 09:32
92454724015	MW-25D-192	Water	11/19/19 16:15	11/21/19 09:32
92454724016	MW-46D	Water	11/19/19 12:25	11/21/19 09:32
92454724017	MW-45	Water	11/19/19 12:35	11/21/19 09:32
92454724018	MW-24D	Water	11/19/19 12:55	11/21/19 09:32

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92454724001	MW-33D-295	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724002	MW-33D-235	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724003	MW-35D	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724004	MW-30D-413	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724005	MW-30D-273	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724006	MW-29D	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724007	MW-32D	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724008	MW-36D	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724009	MW-28D	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724010	MW-31D	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724011	MW-34D	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724012	TRIP BLANK	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724013	DUP 111919B	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724014	MW-25D-130	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724015	MW-25D-192	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724016	MW-46D	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724017	MW-45	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C
92454724018	MW-24D	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	LMB	3	PASI-C

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-33D-295		Lab ID: 92454724001		Collected: 11/20/19 08:40		Received: 11/21/19 09:32		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV Low Level	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	25.0	1		11/27/19 12:19	67-64-1		
Benzene	ND	ug/L	1.0	1		11/27/19 12:19	71-43-2		
Bromobenzene	ND	ug/L	1.0	1		11/27/19 12:19	108-86-1		
Bromochloromethane	ND	ug/L	1.0	1		11/27/19 12:19	74-97-5		
Bromodichloromethane	ND	ug/L	1.0	1		11/27/19 12:19	75-27-4		
Bromoform	ND	ug/L	1.0	1		11/27/19 12:19	75-25-2		
Bromomethane	ND	ug/L	2.0	1		11/27/19 12:19	74-83-9		
2-Butanone (MEK)	ND	ug/L	5.0	1		11/27/19 12:19	78-93-3		
Carbon tetrachloride	ND	ug/L	1.0	1		11/27/19 12:19	56-23-5		
Chlorobenzene	ND	ug/L	1.0	1		11/27/19 12:19	108-90-7		
Chloroethane	ND	ug/L	1.0	1		11/27/19 12:19	75-00-3		
Chloroform	ND	ug/L	5.0	1		11/27/19 12:19	67-66-3		
Chloromethane	ND	ug/L	1.0	1		11/27/19 12:19	74-87-3		
2-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 12:19	95-49-8		
4-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 12:19	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/27/19 12:19	96-12-8		
Dibromochloromethane	ND	ug/L	1.0	1		11/27/19 12:19	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/27/19 12:19	106-93-4		
Dibromomethane	ND	ug/L	1.0	1		11/27/19 12:19	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 12:19	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 12:19	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 12:19	106-46-7		
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/27/19 12:19	75-71-8		
1,1-Dichloroethane	ND	ug/L	1.0	1		11/27/19 12:19	75-34-3		
1,2-Dichloroethane	ND	ug/L	1.0	1		11/27/19 12:19	107-06-2		
1,1-Dichloroethene	3.7	ug/L	1.0	1		11/27/19 12:19	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 12:19	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 12:19	156-60-5		
1,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 12:19	78-87-5		
1,3-Dichloropropane	ND	ug/L	1.0	1		11/27/19 12:19	142-28-9		
2,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 12:19	594-20-7		
1,1-Dichloropropene	ND	ug/L	1.0	1		11/27/19 12:19	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 12:19	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 12:19	10061-02-6		
Diisopropyl ether	ND	ug/L	1.0	1		11/27/19 12:19	108-20-3		
Ethylbenzene	ND	ug/L	1.0	1		11/27/19 12:19	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/27/19 12:19	87-68-3		
2-Hexanone	ND	ug/L	5.0	1		11/27/19 12:19	591-78-6		
p-Isopropyltoluene	ND	ug/L	1.0	1		11/27/19 12:19	99-87-6		
Methylene Chloride	ND	ug/L	5.0	1		11/27/19 12:19	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/27/19 12:19	108-10-1		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/27/19 12:19	1634-04-4		
Naphthalene	ND	ug/L	1.0	1		11/27/19 12:19	91-20-3		
Styrene	ND	ug/L	1.0	1		11/27/19 12:19	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 12:19	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 12:19	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		11/27/19 12:19	127-18-4		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-33D-295		Lab ID: 92454724001		Collected: 11/20/19 08:40		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 12:19	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 12:19	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 12:19	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 12:19	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 12:19	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 12:19	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 12:19	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 12:19	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 12:19	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 12:19	75-01-4		
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 12:19	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 12:19	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 12:19	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130	1		11/27/19 12:19	460-00-4		
1,2-Dichloroethane-d4 (S)	91	%	70-130	1		11/27/19 12:19	17060-07-0		
Toluene-d8 (S)	100	%	70-130	1		11/27/19 12:19	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	6.3	ug/L	2.0	1		11/23/19 02:57	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	50-150	1		11/23/19 02:57	17060-07-0		
Toluene-d8 (S)	106	%	50-150	1		11/23/19 02:57	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-33D-235		Lab ID: 92454724002		Collected: 11/20/19 08:55		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1			11/27/19 10:47	67-64-1	
Benzene	ND	ug/L	1.0	1			11/27/19 10:47	71-43-2	
Bromobenzene	ND	ug/L	1.0	1			11/27/19 10:47	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1			11/27/19 10:47	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1			11/27/19 10:47	75-27-4	
Bromoform	ND	ug/L	1.0	1			11/27/19 10:47	75-25-2	
Bromomethane	ND	ug/L	2.0	1			11/27/19 10:47	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1			11/27/19 10:47	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1			11/27/19 10:47	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1			11/27/19 10:47	108-90-7	
Chloroethane	ND	ug/L	1.0	1			11/27/19 10:47	75-00-3	
Chloroform	ND	ug/L	5.0	1			11/27/19 10:47	67-66-3	
Chloromethane	ND	ug/L	1.0	1			11/27/19 10:47	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 10:47	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 10:47	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1			11/27/19 10:47	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1			11/27/19 10:47	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1			11/27/19 10:47	106-93-4	
Dibromomethane	ND	ug/L	1.0	1			11/27/19 10:47	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 10:47	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 10:47	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 10:47	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1			11/27/19 10:47	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1			11/27/19 10:47	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1			11/27/19 10:47	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1			11/27/19 10:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 10:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 10:47	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 10:47	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1			11/27/19 10:47	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 10:47	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1			11/27/19 10:47	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 10:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 10:47	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1			11/27/19 10:47	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1			11/27/19 10:47	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1			11/27/19 10:47	87-68-3	
2-Hexanone	ND	ug/L	5.0	1			11/27/19 10:47	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1			11/27/19 10:47	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1			11/27/19 10:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1			11/27/19 10:47	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1			11/27/19 10:47	1634-04-4	
Naphthalene	ND	ug/L	1.0	1			11/27/19 10:47	91-20-3	
Styrene	ND	ug/L	1.0	1			11/27/19 10:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 10:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 10:47	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1			11/27/19 10:47	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-33D-235		Lab ID: 92454724002		Collected: 11/20/19 08:55		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 10:47	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 10:47	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 10:47	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 10:47	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 10:47	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 10:47	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 10:47	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 10:47	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 10:47	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 10:47	75-01-4		
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 10:47	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 10:47	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 10:47	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130	1		11/27/19 10:47	460-00-4		
1,2-Dichloroethane-d4 (S)	89	%	70-130	1		11/27/19 10:47	17060-07-0		
Toluene-d8 (S)	99	%	70-130	1		11/27/19 10:47	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/23/19 03:17	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%	50-150	1		11/23/19 03:17	17060-07-0		
Toluene-d8 (S)	107	%	50-150	1		11/23/19 03:17	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-35D		Lab ID: 92454724003		Collected: 11/20/19 09:20		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1			11/27/19 11:06	67-64-1	
Benzene	ND	ug/L	1.0	1			11/27/19 11:06	71-43-2	
Bromobenzene	ND	ug/L	1.0	1			11/27/19 11:06	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1			11/27/19 11:06	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1			11/27/19 11:06	75-27-4	
Bromoform	ND	ug/L	1.0	1			11/27/19 11:06	75-25-2	
Bromomethane	ND	ug/L	2.0	1			11/27/19 11:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1			11/27/19 11:06	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1			11/27/19 11:06	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1			11/27/19 11:06	108-90-7	
Chloroethane	ND	ug/L	1.0	1			11/27/19 11:06	75-00-3	
Chloroform	ND	ug/L	5.0	1			11/27/19 11:06	67-66-3	
Chloromethane	ND	ug/L	1.0	1			11/27/19 11:06	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 11:06	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 11:06	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1			11/27/19 11:06	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1			11/27/19 11:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1			11/27/19 11:06	106-93-4	
Dibromomethane	ND	ug/L	1.0	1			11/27/19 11:06	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 11:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 11:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 11:06	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1			11/27/19 11:06	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1			11/27/19 11:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1			11/27/19 11:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1			11/27/19 11:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 11:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 11:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 11:06	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1			11/27/19 11:06	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 11:06	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1			11/27/19 11:06	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 11:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 11:06	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1			11/27/19 11:06	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1			11/27/19 11:06	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1			11/27/19 11:06	87-68-3	
2-Hexanone	ND	ug/L	5.0	1			11/27/19 11:06	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1			11/27/19 11:06	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1			11/27/19 11:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1			11/27/19 11:06	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1			11/27/19 11:06	1634-04-4	
Naphthalene	ND	ug/L	1.0	1			11/27/19 11:06	91-20-3	
Styrene	ND	ug/L	1.0	1			11/27/19 11:06	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 11:06	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 11:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1			11/27/19 11:06	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-35D		Lab ID: 92454724003		Collected: 11/20/19 09:20		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 11:06	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 11:06	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 11:06	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 11:06	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 11:06	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 11:06	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 11:06	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 11:06	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 11:06	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 11:06	75-01-4		
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 11:06	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 11:06	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 11:06	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130	1		11/27/19 11:06	460-00-4		
1,2-Dichloroethane-d4 (S)	91	%	70-130	1		11/27/19 11:06	17060-07-0		
Toluene-d8 (S)	100	%	70-130	1		11/27/19 11:06	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/23/19 20:22	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	50-150	1		11/23/19 20:22	17060-07-0		
Toluene-d8 (S)	105	%	50-150	1		11/23/19 20:22	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-30D-413		Lab ID: 92454724004		Collected: 11/20/19 09:45		Received: 11/21/19 09:32		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV Low Level	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	25.0	1		11/27/19 11:24	67-64-1		
Benzene	ND	ug/L	1.0	1		11/27/19 11:24	71-43-2		
Bromobenzene	ND	ug/L	1.0	1		11/27/19 11:24	108-86-1		
Bromochloromethane	ND	ug/L	1.0	1		11/27/19 11:24	74-97-5		
Bromodichloromethane	ND	ug/L	1.0	1		11/27/19 11:24	75-27-4		
Bromoform	ND	ug/L	1.0	1		11/27/19 11:24	75-25-2		
Bromomethane	ND	ug/L	2.0	1		11/27/19 11:24	74-83-9		
2-Butanone (MEK)	ND	ug/L	5.0	1		11/27/19 11:24	78-93-3		
Carbon tetrachloride	ND	ug/L	1.0	1		11/27/19 11:24	56-23-5		
Chlorobenzene	ND	ug/L	1.0	1		11/27/19 11:24	108-90-7		
Chloroethane	ND	ug/L	1.0	1		11/27/19 11:24	75-00-3		
Chloroform	ND	ug/L	5.0	1		11/27/19 11:24	67-66-3		
Chloromethane	ND	ug/L	1.0	1		11/27/19 11:24	74-87-3		
2-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 11:24	95-49-8		
4-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 11:24	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/27/19 11:24	96-12-8		
Dibromochloromethane	ND	ug/L	1.0	1		11/27/19 11:24	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/27/19 11:24	106-93-4		
Dibromomethane	ND	ug/L	1.0	1		11/27/19 11:24	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 11:24	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 11:24	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 11:24	106-46-7		
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/27/19 11:24	75-71-8		
1,1-Dichloroethane	ND	ug/L	1.0	1		11/27/19 11:24	75-34-3		
1,2-Dichloroethane	ND	ug/L	1.0	1		11/27/19 11:24	107-06-2		
1,1-Dichloroethene	ND	ug/L	1.0	1		11/27/19 11:24	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 11:24	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 11:24	156-60-5		
1,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 11:24	78-87-5		
1,3-Dichloropropane	ND	ug/L	1.0	1		11/27/19 11:24	142-28-9		
2,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 11:24	594-20-7		
1,1-Dichloropropene	ND	ug/L	1.0	1		11/27/19 11:24	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 11:24	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 11:24	10061-02-6		
Diisopropyl ether	ND	ug/L	1.0	1		11/27/19 11:24	108-20-3		
Ethylbenzene	ND	ug/L	1.0	1		11/27/19 11:24	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/27/19 11:24	87-68-3		
2-Hexanone	ND	ug/L	5.0	1		11/27/19 11:24	591-78-6		
p-Isopropyltoluene	ND	ug/L	1.0	1		11/27/19 11:24	99-87-6		
Methylene Chloride	ND	ug/L	5.0	1		11/27/19 11:24	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/27/19 11:24	108-10-1		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/27/19 11:24	1634-04-4		
Naphthalene	ND	ug/L	1.0	1		11/27/19 11:24	91-20-3		
Styrene	ND	ug/L	1.0	1		11/27/19 11:24	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 11:24	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 11:24	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		11/27/19 11:24	127-18-4		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-30D-413		Lab ID: 92454724004		Collected: 11/20/19 09:45		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 11:24	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 11:24	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 11:24	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 11:24	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 11:24	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 11:24	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 11:24	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 11:24	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 11:24	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 11:24	75-01-4		
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 11:24	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 11:24	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 11:24	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130	1		11/27/19 11:24	460-00-4		
1,2-Dichloroethane-d4 (S)	91	%	70-130	1		11/27/19 11:24	17060-07-0		
Toluene-d8 (S)	99	%	70-130	1		11/27/19 11:24	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/23/19 20:42	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	50-150	1		11/23/19 20:42	17060-07-0		
Toluene-d8 (S)	107	%	50-150	1		11/23/19 20:42	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-30D-273		Lab ID: 92454724005		Collected: 11/20/19 09:55		Received: 11/21/19 09:32		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV Low Level	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	25.0	1		11/27/19 21:46	67-64-1		
Benzene	ND	ug/L	1.0	1		11/27/19 21:46	71-43-2		
Bromobenzene	ND	ug/L	1.0	1		11/27/19 21:46	108-86-1		
Bromochloromethane	ND	ug/L	1.0	1		11/27/19 21:46	74-97-5		
Bromodichloromethane	ND	ug/L	1.0	1		11/27/19 21:46	75-27-4		
Bromoform	ND	ug/L	1.0	1		11/27/19 21:46	75-25-2		
Bromomethane	ND	ug/L	2.0	1		11/27/19 21:46	74-83-9		
2-Butanone (MEK)	ND	ug/L	5.0	1		11/27/19 21:46	78-93-3		
Carbon tetrachloride	ND	ug/L	1.0	1		11/27/19 21:46	56-23-5		
Chlorobenzene	ND	ug/L	1.0	1		11/27/19 21:46	108-90-7		
Chloroethane	ND	ug/L	1.0	1		11/27/19 21:46	75-00-3		
Chloroform	ND	ug/L	5.0	1		11/27/19 21:46	67-66-3		
Chloromethane	ND	ug/L	1.0	1		11/27/19 21:46	74-87-3		
2-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 21:46	95-49-8		
4-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 21:46	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/27/19 21:46	96-12-8		
Dibromochloromethane	ND	ug/L	1.0	1		11/27/19 21:46	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/27/19 21:46	106-93-4		
Dibromomethane	ND	ug/L	1.0	1		11/27/19 21:46	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 21:46	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 21:46	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 21:46	106-46-7		
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/27/19 21:46	75-71-8		
1,1-Dichloroethane	1.1	ug/L	1.0	1		11/27/19 21:46	75-34-3		
1,2-Dichloroethane	ND	ug/L	1.0	1		11/27/19 21:46	107-06-2		
1,1-Dichloroethene	43.3	ug/L	1.0	1		11/27/19 21:46	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 21:46	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 21:46	156-60-5		
1,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 21:46	78-87-5		
1,3-Dichloropropane	ND	ug/L	1.0	1		11/27/19 21:46	142-28-9		
2,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 21:46	594-20-7		
1,1-Dichloropropene	ND	ug/L	1.0	1		11/27/19 21:46	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 21:46	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 21:46	10061-02-6		
Diisopropyl ether	ND	ug/L	1.0	1		11/27/19 21:46	108-20-3		
Ethylbenzene	ND	ug/L	1.0	1		11/27/19 21:46	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/27/19 21:46	87-68-3		
2-Hexanone	ND	ug/L	5.0	1		11/27/19 21:46	591-78-6		
p-Isopropyltoluene	ND	ug/L	1.0	1		11/27/19 21:46	99-87-6		
Methylene Chloride	ND	ug/L	5.0	1		11/27/19 21:46	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/27/19 21:46	108-10-1		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/27/19 21:46	1634-04-4		
Naphthalene	ND	ug/L	1.0	1		11/27/19 21:46	91-20-3		
Styrene	ND	ug/L	1.0	1		11/27/19 21:46	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 21:46	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 21:46	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		11/27/19 21:46	127-18-4		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-30D-273		Lab ID: 92454724005		Collected: 11/20/19 09:55		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 21:46	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 21:46	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 21:46	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 21:46	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 21:46	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 21:46	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 21:46	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 21:46	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 21:46	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 21:46	75-01-4		
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 21:46	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 21:46	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 21:46	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130	1		11/27/19 21:46	460-00-4		
1,2-Dichloroethane-d4 (S)	87	%	70-130	1		11/27/19 21:46	17060-07-0		
Toluene-d8 (S)	101	%	70-130	1		11/27/19 21:46	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	22.8	ug/L	2.0	1		11/23/19 21:02	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%	50-150	1		11/23/19 21:02	17060-07-0		
Toluene-d8 (S)	108	%	50-150	1		11/23/19 21:02	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-29D		Lab ID: 92454724006		Collected: 11/20/19 10:10		Received: 11/21/19 09:32		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV Low Level	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	25.0	1		11/27/19 11:42	67-64-1		
Benzene	ND	ug/L	1.0	1		11/27/19 11:42	71-43-2		
Bromobenzene	ND	ug/L	1.0	1		11/27/19 11:42	108-86-1		
Bromochloromethane	ND	ug/L	1.0	1		11/27/19 11:42	74-97-5		
Bromodichloromethane	ND	ug/L	1.0	1		11/27/19 11:42	75-27-4		
Bromoform	ND	ug/L	1.0	1		11/27/19 11:42	75-25-2		
Bromomethane	ND	ug/L	2.0	1		11/27/19 11:42	74-83-9		
2-Butanone (MEK)	ND	ug/L	5.0	1		11/27/19 11:42	78-93-3		
Carbon tetrachloride	ND	ug/L	1.0	1		11/27/19 11:42	56-23-5		
Chlorobenzene	ND	ug/L	1.0	1		11/27/19 11:42	108-90-7		
Chloroethane	ND	ug/L	1.0	1		11/27/19 11:42	75-00-3		
Chloroform	ND	ug/L	5.0	1		11/27/19 11:42	67-66-3		
Chloromethane	ND	ug/L	1.0	1		11/27/19 11:42	74-87-3		
2-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 11:42	95-49-8		
4-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 11:42	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/27/19 11:42	96-12-8		
Dibromochloromethane	ND	ug/L	1.0	1		11/27/19 11:42	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/27/19 11:42	106-93-4		
Dibromomethane	ND	ug/L	1.0	1		11/27/19 11:42	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 11:42	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 11:42	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 11:42	106-46-7		
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/27/19 11:42	75-71-8		
1,1-Dichloroethane	ND	ug/L	1.0	1		11/27/19 11:42	75-34-3		
1,2-Dichloroethane	ND	ug/L	1.0	1		11/27/19 11:42	107-06-2		
1,1-Dichloroethene	ND	ug/L	1.0	1		11/27/19 11:42	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 11:42	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 11:42	156-60-5		
1,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 11:42	78-87-5		
1,3-Dichloropropane	ND	ug/L	1.0	1		11/27/19 11:42	142-28-9		
2,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 11:42	594-20-7		
1,1-Dichloropropene	ND	ug/L	1.0	1		11/27/19 11:42	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 11:42	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 11:42	10061-02-6		
Diisopropyl ether	ND	ug/L	1.0	1		11/27/19 11:42	108-20-3		
Ethylbenzene	ND	ug/L	1.0	1		11/27/19 11:42	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/27/19 11:42	87-68-3		
2-Hexanone	ND	ug/L	5.0	1		11/27/19 11:42	591-78-6		
p-Isopropyltoluene	ND	ug/L	1.0	1		11/27/19 11:42	99-87-6		
Methylene Chloride	ND	ug/L	5.0	1		11/27/19 11:42	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/27/19 11:42	108-10-1		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/27/19 11:42	1634-04-4		
Naphthalene	ND	ug/L	1.0	1		11/27/19 11:42	91-20-3		
Styrene	ND	ug/L	1.0	1		11/27/19 11:42	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 11:42	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 11:42	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		11/27/19 11:42	127-18-4		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-29D		Lab ID: 92454724006		Collected: 11/20/19 10:10		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 11:42	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 11:42	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 11:42	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 11:42	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 11:42	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 11:42	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 11:42	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 11:42	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 11:42	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 11:42	75-01-4		
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 11:42	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 11:42	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 11:42	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130	1		11/27/19 11:42	460-00-4		
1,2-Dichloroethane-d4 (S)	90	%	70-130	1		11/27/19 11:42	17060-07-0		
Toluene-d8 (S)	100	%	70-130	1		11/27/19 11:42	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/23/19 21:21	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	50-150	1		11/23/19 21:21	17060-07-0		
Toluene-d8 (S)	106	%	50-150	1		11/23/19 21:21	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-32D		Lab ID: 92454724007		Collected: 11/20/19 10:30		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1			11/27/19 12:37	67-64-1	
Benzene	ND	ug/L	1.0	1			11/27/19 12:37	71-43-2	
Bromobenzene	ND	ug/L	1.0	1			11/27/19 12:37	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1			11/27/19 12:37	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1			11/27/19 12:37	75-27-4	
Bromoform	ND	ug/L	1.0	1			11/27/19 12:37	75-25-2	
Bromomethane	ND	ug/L	2.0	1			11/27/19 12:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1			11/27/19 12:37	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1			11/27/19 12:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1			11/27/19 12:37	108-90-7	
Chloroethane	ND	ug/L	1.0	1			11/27/19 12:37	75-00-3	
Chloroform	ND	ug/L	5.0	1			11/27/19 12:37	67-66-3	
Chloromethane	ND	ug/L	1.0	1			11/27/19 12:37	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 12:37	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 12:37	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1			11/27/19 12:37	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1			11/27/19 12:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1			11/27/19 12:37	106-93-4	
Dibromomethane	ND	ug/L	1.0	1			11/27/19 12:37	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 12:37	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 12:37	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 12:37	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1			11/27/19 12:37	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1			11/27/19 12:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1			11/27/19 12:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1			11/27/19 12:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 12:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 12:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 12:37	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1			11/27/19 12:37	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 12:37	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1			11/27/19 12:37	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 12:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 12:37	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1			11/27/19 12:37	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1			11/27/19 12:37	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1			11/27/19 12:37	87-68-3	
2-Hexanone	ND	ug/L	5.0	1			11/27/19 12:37	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1			11/27/19 12:37	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1			11/27/19 12:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1			11/27/19 12:37	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1			11/27/19 12:37	1634-04-4	
Naphthalene	ND	ug/L	1.0	1			11/27/19 12:37	91-20-3	
Styrene	ND	ug/L	1.0	1			11/27/19 12:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 12:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 12:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1			11/27/19 12:37	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-32D		Lab ID: 92454724007		Collected: 11/20/19 10:30		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 12:37	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 12:37	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 12:37	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 12:37	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 12:37	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 12:37	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 12:37	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 12:37	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 12:37	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 12:37	75-01-4		
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 12:37	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 12:37	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 12:37	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130	1		11/27/19 12:37	460-00-4		
1,2-Dichloroethane-d4 (S)	91	%	70-130	1		11/27/19 12:37	17060-07-0		
Toluene-d8 (S)	99	%	70-130	1		11/27/19 12:37	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/23/19 21:41	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	50-150	1		11/23/19 21:41	17060-07-0		
Toluene-d8 (S)	107	%	50-150	1		11/23/19 21:41	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-36D		Lab ID: 92454724008		Collected: 11/20/19 10:50		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1			11/27/19 19:23	67-64-1	
Benzene	ND	ug/L	1.0	1			11/27/19 19:23	71-43-2	
Bromobenzene	ND	ug/L	1.0	1			11/27/19 19:23	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1			11/27/19 19:23	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1			11/27/19 19:23	75-27-4	
Bromoform	ND	ug/L	1.0	1			11/27/19 19:23	75-25-2	
Bromomethane	ND	ug/L	2.0	1			11/27/19 19:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1			11/27/19 19:23	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1			11/27/19 19:23	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1			11/27/19 19:23	108-90-7	
Chloroethane	ND	ug/L	1.0	1			11/27/19 19:23	75-00-3	
Chloroform	ND	ug/L	5.0	1			11/27/19 19:23	67-66-3	
Chloromethane	ND	ug/L	1.0	1			11/27/19 19:23	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 19:23	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 19:23	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1			11/27/19 19:23	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1			11/27/19 19:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1			11/27/19 19:23	106-93-4	
Dibromomethane	ND	ug/L	1.0	1			11/27/19 19:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 19:23	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 19:23	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 19:23	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1			11/27/19 19:23	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1			11/27/19 19:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1			11/27/19 19:23	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1			11/27/19 19:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 19:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 19:23	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 19:23	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1			11/27/19 19:23	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 19:23	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1			11/27/19 19:23	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 19:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 19:23	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1			11/27/19 19:23	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1			11/27/19 19:23	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1			11/27/19 19:23	87-68-3	
2-Hexanone	ND	ug/L	5.0	1			11/27/19 19:23	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1			11/27/19 19:23	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1			11/27/19 19:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1			11/27/19 19:23	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1			11/27/19 19:23	1634-04-4	
Naphthalene	ND	ug/L	1.0	1			11/27/19 19:23	91-20-3	
Styrene	ND	ug/L	1.0	1			11/27/19 19:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 19:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 19:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1			11/27/19 19:23	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-36D		Lab ID: 92454724008		Collected: 11/20/19 10:50		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1			11/27/19 19:23	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1			11/27/19 19:23	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1			11/27/19 19:23	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1			11/27/19 19:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1			11/27/19 19:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	1			11/27/19 19:23	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1			11/27/19 19:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1			11/27/19 19:23	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1			11/27/19 19:23	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1			11/27/19 19:23	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1			11/27/19 19:23	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1			11/27/19 19:23	179601-23-1	
o-Xylene	ND	ug/L	1.0	1			11/27/19 19:23	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130	1			11/27/19 19:23	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	70-130	1			11/27/19 19:23	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1			11/27/19 19:23	2037-26-5	
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1			11/23/19 22:01	123-91-1	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	50-150	1			11/23/19 22:01	17060-07-0	
Toluene-d8 (S)	108	%	50-150	1			11/23/19 22:01	2037-26-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-28D		Lab ID: 92454724009		Collected: 11/20/19 11:05		Received: 11/21/19 09:32		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV Low Level	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	25.0	1		11/27/19 19:41	67-64-1		
Benzene	ND	ug/L	1.0	1		11/27/19 19:41	71-43-2		
Bromobenzene	ND	ug/L	1.0	1		11/27/19 19:41	108-86-1		
Bromochloromethane	ND	ug/L	1.0	1		11/27/19 19:41	74-97-5		
Bromodichloromethane	ND	ug/L	1.0	1		11/27/19 19:41	75-27-4		
Bromoform	ND	ug/L	1.0	1		11/27/19 19:41	75-25-2		
Bromomethane	ND	ug/L	2.0	1		11/27/19 19:41	74-83-9		
2-Butanone (MEK)	ND	ug/L	5.0	1		11/27/19 19:41	78-93-3		
Carbon tetrachloride	ND	ug/L	1.0	1		11/27/19 19:41	56-23-5		
Chlorobenzene	ND	ug/L	1.0	1		11/27/19 19:41	108-90-7		
Chloroethane	ND	ug/L	1.0	1		11/27/19 19:41	75-00-3		
Chloroform	ND	ug/L	5.0	1		11/27/19 19:41	67-66-3		
Chloromethane	ND	ug/L	1.0	1		11/27/19 19:41	74-87-3		
2-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 19:41	95-49-8		
4-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 19:41	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/27/19 19:41	96-12-8		
Dibromochloromethane	ND	ug/L	1.0	1		11/27/19 19:41	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/27/19 19:41	106-93-4		
Dibromomethane	ND	ug/L	1.0	1		11/27/19 19:41	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 19:41	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 19:41	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 19:41	106-46-7		
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/27/19 19:41	75-71-8		
1,1-Dichloroethane	ND	ug/L	1.0	1		11/27/19 19:41	75-34-3		
1,2-Dichloroethane	ND	ug/L	1.0	1		11/27/19 19:41	107-06-2		
1,1-Dichloroethene	6.1	ug/L	1.0	1		11/27/19 19:41	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 19:41	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 19:41	156-60-5		
1,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 19:41	78-87-5		
1,3-Dichloropropane	ND	ug/L	1.0	1		11/27/19 19:41	142-28-9		
2,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 19:41	594-20-7		
1,1-Dichloropropene	ND	ug/L	1.0	1		11/27/19 19:41	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 19:41	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 19:41	10061-02-6		
Diisopropyl ether	ND	ug/L	1.0	1		11/27/19 19:41	108-20-3		
Ethylbenzene	ND	ug/L	1.0	1		11/27/19 19:41	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/27/19 19:41	87-68-3		
2-Hexanone	ND	ug/L	5.0	1		11/27/19 19:41	591-78-6		
p-Isopropyltoluene	ND	ug/L	1.0	1		11/27/19 19:41	99-87-6		
Methylene Chloride	ND	ug/L	5.0	1		11/27/19 19:41	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/27/19 19:41	108-10-1		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/27/19 19:41	1634-04-4		
Naphthalene	ND	ug/L	1.0	1		11/27/19 19:41	91-20-3		
Styrene	ND	ug/L	1.0	1		11/27/19 19:41	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 19:41	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 19:41	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		11/27/19 19:41	127-18-4		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-28D		Lab ID: 92454724009		Collected: 11/20/19 11:05		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 19:41	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 19:41	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 19:41	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 19:41	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 19:41	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 19:41	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 19:41	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 19:41	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 19:41	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 19:41	75-01-4		
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 19:41	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 19:41	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 19:41	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130	1		11/27/19 19:41	460-00-4		
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		11/27/19 19:41	17060-07-0		
Toluene-d8 (S)	103	%	70-130	1		11/27/19 19:41	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	3.9	ug/L	2.0	1		11/23/19 22:21	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	50-150	1		11/23/19 22:21	17060-07-0		
Toluene-d8 (S)	108	%	50-150	1		11/23/19 22:21	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-31D		Lab ID: 92454724010		Collected: 11/20/19 11:25		Received: 11/21/19 09:32		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV Low Level		Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/27/19 18:47	67-64-1		
Benzene	ND	ug/L	1.0	1		11/27/19 18:47	71-43-2		
Bromobenzene	ND	ug/L	1.0	1		11/27/19 18:47	108-86-1		
Bromochloromethane	ND	ug/L	1.0	1		11/27/19 18:47	74-97-5		
Bromodichloromethane	ND	ug/L	1.0	1		11/27/19 18:47	75-27-4		
Bromoform	ND	ug/L	1.0	1		11/27/19 18:47	75-25-2		
Bromomethane	ND	ug/L	2.0	1		11/27/19 18:47	74-83-9		
2-Butanone (MEK)	ND	ug/L	5.0	1		11/27/19 18:47	78-93-3		
Carbon tetrachloride	ND	ug/L	1.0	1		11/27/19 18:47	56-23-5		
Chlorobenzene	ND	ug/L	1.0	1		11/27/19 18:47	108-90-7		
Chloroethane	ND	ug/L	1.0	1		11/27/19 18:47	75-00-3		
Chloroform	ND	ug/L	5.0	1		11/27/19 18:47	67-66-3		
Chloromethane	ND	ug/L	1.0	1		11/27/19 18:47	74-87-3		
2-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 18:47	95-49-8		
4-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 18:47	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/27/19 18:47	96-12-8		
Dibromochloromethane	ND	ug/L	1.0	1		11/27/19 18:47	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/27/19 18:47	106-93-4		
Dibromomethane	ND	ug/L	1.0	1		11/27/19 18:47	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 18:47	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 18:47	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 18:47	106-46-7		
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/27/19 18:47	75-71-8		
1,1-Dichloroethane	ND	ug/L	1.0	1		11/27/19 18:47	75-34-3		
1,2-Dichloroethane	ND	ug/L	1.0	1		11/27/19 18:47	107-06-2		
1,1-Dichloroethene	ND	ug/L	1.0	1		11/27/19 18:47	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 18:47	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 18:47	156-60-5		
1,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 18:47	78-87-5		
1,3-Dichloropropane	ND	ug/L	1.0	1		11/27/19 18:47	142-28-9		
2,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 18:47	594-20-7		
1,1-Dichloropropene	ND	ug/L	1.0	1		11/27/19 18:47	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 18:47	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 18:47	10061-02-6		
Diisopropyl ether	ND	ug/L	1.0	1		11/27/19 18:47	108-20-3		
Ethylbenzene	ND	ug/L	1.0	1		11/27/19 18:47	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/27/19 18:47	87-68-3		
2-Hexanone	ND	ug/L	5.0	1		11/27/19 18:47	591-78-6		
p-Isopropyltoluene	ND	ug/L	1.0	1		11/27/19 18:47	99-87-6		
Methylene Chloride	ND	ug/L	5.0	1		11/27/19 18:47	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/27/19 18:47	108-10-1		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/27/19 18:47	1634-04-4		
Naphthalene	ND	ug/L	1.0	1		11/27/19 18:47	91-20-3		
Styrene	ND	ug/L	1.0	1		11/27/19 18:47	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 18:47	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 18:47	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		11/27/19 18:47	127-18-4		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-31D		Lab ID: 92454724010		Collected: 11/20/19 11:25		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 18:47	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 18:47	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 18:47	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 18:47	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 18:47	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 18:47	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 18:47	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 18:47	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 18:47	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 18:47	75-01-4		
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 18:47	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 18:47	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 18:47	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130	1		11/27/19 18:47	460-00-4		
1,2-Dichloroethane-d4 (S)	91	%	70-130	1		11/27/19 18:47	17060-07-0		
Toluene-d8 (S)	104	%	70-130	1		11/27/19 18:47	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/23/19 22:41	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	50-150	1		11/23/19 22:41	17060-07-0		
Toluene-d8 (S)	107	%	50-150	1		11/23/19 22:41	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-34D		Lab ID: 92454724011		Collected: 11/20/19 11:45		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1			11/27/19 19:05	67-64-1	
Benzene	ND	ug/L	1.0	1			11/27/19 19:05	71-43-2	
Bromobenzene	ND	ug/L	1.0	1			11/27/19 19:05	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1			11/27/19 19:05	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1			11/27/19 19:05	75-27-4	
Bromoform	ND	ug/L	1.0	1			11/27/19 19:05	75-25-2	
Bromomethane	ND	ug/L	2.0	1			11/27/19 19:05	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1			11/27/19 19:05	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1			11/27/19 19:05	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1			11/27/19 19:05	108-90-7	
Chloroethane	ND	ug/L	1.0	1			11/27/19 19:05	75-00-3	
Chloroform	ND	ug/L	5.0	1			11/27/19 19:05	67-66-3	
Chloromethane	ND	ug/L	1.0	1			11/27/19 19:05	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 19:05	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 19:05	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1			11/27/19 19:05	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1			11/27/19 19:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1			11/27/19 19:05	106-93-4	
Dibromomethane	ND	ug/L	1.0	1			11/27/19 19:05	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 19:05	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 19:05	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 19:05	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1			11/27/19 19:05	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1			11/27/19 19:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1			11/27/19 19:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1			11/27/19 19:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 19:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 19:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 19:05	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1			11/27/19 19:05	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 19:05	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1			11/27/19 19:05	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 19:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 19:05	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1			11/27/19 19:05	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1			11/27/19 19:05	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1			11/27/19 19:05	87-68-3	
2-Hexanone	ND	ug/L	5.0	1			11/27/19 19:05	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1			11/27/19 19:05	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1			11/27/19 19:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1			11/27/19 19:05	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1			11/27/19 19:05	1634-04-4	
Naphthalene	ND	ug/L	1.0	1			11/27/19 19:05	91-20-3	
Styrene	ND	ug/L	1.0	1			11/27/19 19:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 19:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 19:05	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1			11/27/19 19:05	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-34D		Lab ID: 92454724011		Collected: 11/20/19 11:45		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1			11/27/19 19:05	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1			11/27/19 19:05	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1			11/27/19 19:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1			11/27/19 19:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1			11/27/19 19:05	79-00-5	
Trichloroethene	ND	ug/L	1.0	1			11/27/19 19:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1			11/27/19 19:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1			11/27/19 19:05	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1			11/27/19 19:05	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1			11/27/19 19:05	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1			11/27/19 19:05	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1			11/27/19 19:05	179601-23-1	
o-Xylene	ND	ug/L	1.0	1			11/27/19 19:05	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130	1			11/27/19 19:05	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1			11/27/19 19:05	17060-07-0	
Toluene-d8 (S)	102	%	70-130	1			11/27/19 19:05	2037-26-5	
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1			11/23/19 23:01	123-91-1	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	50-150	1			11/23/19 23:01	17060-07-0	
Toluene-d8 (S)	108	%	50-150	1			11/23/19 23:01	2037-26-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: TRIP BLANK		Lab ID: 92454724012		Collected: 11/20/19 00:00		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1			11/27/19 17:53	67-64-1	
Benzene	ND	ug/L	1.0	1			11/27/19 17:53	71-43-2	
Bromobenzene	ND	ug/L	1.0	1			11/27/19 17:53	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1			11/27/19 17:53	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1			11/27/19 17:53	75-27-4	
Bromoform	ND	ug/L	1.0	1			11/27/19 17:53	75-25-2	
Bromomethane	ND	ug/L	2.0	1			11/27/19 17:53	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1			11/27/19 17:53	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1			11/27/19 17:53	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1			11/27/19 17:53	108-90-7	
Chloroethane	ND	ug/L	1.0	1			11/27/19 17:53	75-00-3	
Chloroform	ND	ug/L	5.0	1			11/27/19 17:53	67-66-3	
Chloromethane	ND	ug/L	1.0	1			11/27/19 17:53	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 17:53	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 17:53	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1			11/27/19 17:53	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1			11/27/19 17:53	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1			11/27/19 17:53	106-93-4	
Dibromomethane	ND	ug/L	1.0	1			11/27/19 17:53	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 17:53	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 17:53	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 17:53	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1			11/27/19 17:53	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1			11/27/19 17:53	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1			11/27/19 17:53	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1			11/27/19 17:53	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 17:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 17:53	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 17:53	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1			11/27/19 17:53	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 17:53	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1			11/27/19 17:53	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 17:53	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 17:53	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1			11/27/19 17:53	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1			11/27/19 17:53	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1			11/27/19 17:53	87-68-3	
2-Hexanone	ND	ug/L	5.0	1			11/27/19 17:53	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1			11/27/19 17:53	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1			11/27/19 17:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1			11/27/19 17:53	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1			11/27/19 17:53	1634-04-4	
Naphthalene	ND	ug/L	1.0	1			11/27/19 17:53	91-20-3	
Styrene	ND	ug/L	1.0	1			11/27/19 17:53	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 17:53	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 17:53	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1			11/27/19 17:53	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: TRIP BLANK		Lab ID: 92454724012		Collected: 11/20/19 00:00		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1			11/27/19 17:53	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1			11/27/19 17:53	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1			11/27/19 17:53	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1			11/27/19 17:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1			11/27/19 17:53	79-00-5	
Trichloroethene	ND	ug/L	1.0	1			11/27/19 17:53	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1			11/27/19 17:53	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1			11/27/19 17:53	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1			11/27/19 17:53	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1			11/27/19 17:53	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1			11/27/19 17:53	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1			11/27/19 17:53	179601-23-1	
o-Xylene	ND	ug/L	1.0	1			11/27/19 17:53	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130	1			11/27/19 17:53	460-00-4	
1,2-Dichloroethane-d4 (S)	86	%	70-130	1			11/27/19 17:53	17060-07-0	
Toluene-d8 (S)	102	%	70-130	1			11/27/19 17:53	2037-26-5	
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1			11/23/19 19:42	123-91-1	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	50-150	1			11/23/19 19:42	17060-07-0	
Toluene-d8 (S)	105	%	50-150	1			11/23/19 19:42	2037-26-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: DUP 111919B		Lab ID: 92454724013		Collected: 11/19/19 00:00		Received: 11/21/19 09:32		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV Low Level		Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/27/19 13:39	67-64-1		
Benzene	ND	ug/L	1.0	1		11/27/19 13:39	71-43-2		
Bromobenzene	ND	ug/L	1.0	1		11/27/19 13:39	108-86-1		
Bromochloromethane	ND	ug/L	1.0	1		11/27/19 13:39	74-97-5		
Bromodichloromethane	ND	ug/L	1.0	1		11/27/19 13:39	75-27-4		
Bromoform	ND	ug/L	1.0	1		11/27/19 13:39	75-25-2		
Bromomethane	ND	ug/L	2.0	1		11/27/19 13:39	74-83-9		
2-Butanone (MEK)	ND	ug/L	5.0	1		11/27/19 13:39	78-93-3		
Carbon tetrachloride	ND	ug/L	1.0	1		11/27/19 13:39	56-23-5		
Chlorobenzene	ND	ug/L	1.0	1		11/27/19 13:39	108-90-7		
Chloroethane	ND	ug/L	1.0	1		11/27/19 13:39	75-00-3		
Chloroform	ND	ug/L	5.0	1		11/27/19 13:39	67-66-3		
Chloromethane	ND	ug/L	1.0	1		11/27/19 13:39	74-87-3		
2-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 13:39	95-49-8		
4-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 13:39	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/27/19 13:39	96-12-8		
Dibromochloromethane	ND	ug/L	1.0	1		11/27/19 13:39	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/27/19 13:39	106-93-4		
Dibromomethane	ND	ug/L	1.0	1		11/27/19 13:39	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 13:39	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 13:39	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 13:39	106-46-7		
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/27/19 13:39	75-71-8	L1	
1,1-Dichloroethane	13.8	ug/L	1.0	1		11/27/19 13:39	75-34-3		
1,2-Dichloroethane	ND	ug/L	1.0	1		11/27/19 13:39	107-06-2		
1,1-Dichloroethene	59.4	ug/L	1.0	1		11/27/19 13:39	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 13:39	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 13:39	156-60-5		
1,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 13:39	78-87-5		
1,3-Dichloropropane	ND	ug/L	1.0	1		11/27/19 13:39	142-28-9		
2,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 13:39	594-20-7		
1,1-Dichloropropene	ND	ug/L	1.0	1		11/27/19 13:39	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 13:39	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 13:39	10061-02-6		
Diisopropyl ether	ND	ug/L	1.0	1		11/27/19 13:39	108-20-3		
Ethylbenzene	ND	ug/L	1.0	1		11/27/19 13:39	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/27/19 13:39	87-68-3		
2-Hexanone	ND	ug/L	5.0	1		11/27/19 13:39	591-78-6		
p-Isopropyltoluene	ND	ug/L	1.0	1		11/27/19 13:39	99-87-6		
Methylene Chloride	ND	ug/L	5.0	1		11/27/19 13:39	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/27/19 13:39	108-10-1		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/27/19 13:39	1634-04-4		
Naphthalene	ND	ug/L	1.0	1		11/27/19 13:39	91-20-3		
Styrene	ND	ug/L	1.0	1		11/27/19 13:39	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 13:39	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 13:39	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		11/27/19 13:39	127-18-4		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: DUP 111919B		Lab ID: 92454724013		Collected: 11/19/19 00:00		Received: 11/21/19 09:32		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 13:39	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 13:39	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 13:39	120-82-1		
1,1,1-Trichloroethane	7.6	ug/L	1.0	1		11/27/19 13:39	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 13:39	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 13:39	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 13:39	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 13:39	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 13:39	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 13:39	75-01-4	L1	
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 13:39	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 13:39	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 13:39	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130	1		11/27/19 13:39	460-00-4		
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		11/27/19 13:39	17060-07-0		
Toluene-d8 (S)	106	%	70-130	1		11/27/19 13:39	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	44.0	ug/L	2.0	1		11/23/19 23:21	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	50-150	1		11/23/19 23:21	17060-07-0		
Toluene-d8 (S)	108	%	50-150	1		11/23/19 23:21	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-25D-130		Lab ID: 92454724014		Collected: 11/19/19 16:00		Received: 11/21/19 09:32		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV Low Level	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	25.0	1		11/27/19 19:59	67-64-1		
Benzene	ND	ug/L	1.0	1		11/27/19 19:59	71-43-2		
Bromobenzene	ND	ug/L	1.0	1		11/27/19 19:59	108-86-1		
Bromochloromethane	ND	ug/L	1.0	1		11/27/19 19:59	74-97-5		
Bromodichloromethane	ND	ug/L	1.0	1		11/27/19 19:59	75-27-4		
Bromoform	ND	ug/L	1.0	1		11/27/19 19:59	75-25-2		
Bromomethane	ND	ug/L	2.0	1		11/27/19 19:59	74-83-9		
2-Butanone (MEK)	ND	ug/L	5.0	1		11/27/19 19:59	78-93-3		
Carbon tetrachloride	ND	ug/L	1.0	1		11/27/19 19:59	56-23-5		
Chlorobenzene	ND	ug/L	1.0	1		11/27/19 19:59	108-90-7		
Chloroethane	ND	ug/L	1.0	1		11/27/19 19:59	75-00-3		
Chloroform	ND	ug/L	5.0	1		11/27/19 19:59	67-66-3		
Chloromethane	ND	ug/L	1.0	1		11/27/19 19:59	74-87-3		
2-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 19:59	95-49-8		
4-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 19:59	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/27/19 19:59	96-12-8		
Dibromochloromethane	ND	ug/L	1.0	1		11/27/19 19:59	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/27/19 19:59	106-93-4		
Dibromomethane	ND	ug/L	1.0	1		11/27/19 19:59	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 19:59	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 19:59	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 19:59	106-46-7		
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/27/19 19:59	75-71-8		
1,1-Dichloroethane	2.7	ug/L	1.0	1		11/27/19 19:59	75-34-3		
1,2-Dichloroethane	ND	ug/L	1.0	1		11/27/19 19:59	107-06-2		
1,1-Dichloroethene	62.1	ug/L	1.0	1		11/27/19 19:59	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 19:59	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 19:59	156-60-5		
1,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 19:59	78-87-5		
1,3-Dichloropropane	ND	ug/L	1.0	1		11/27/19 19:59	142-28-9		
2,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 19:59	594-20-7		
1,1-Dichloropropene	ND	ug/L	1.0	1		11/27/19 19:59	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 19:59	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 19:59	10061-02-6		
Diisopropyl ether	ND	ug/L	1.0	1		11/27/19 19:59	108-20-3		
Ethylbenzene	ND	ug/L	1.0	1		11/27/19 19:59	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/27/19 19:59	87-68-3		
2-Hexanone	ND	ug/L	5.0	1		11/27/19 19:59	591-78-6		
p-Isopropyltoluene	ND	ug/L	1.0	1		11/27/19 19:59	99-87-6		
Methylene Chloride	ND	ug/L	5.0	1		11/27/19 19:59	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/27/19 19:59	108-10-1		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/27/19 19:59	1634-04-4		
Naphthalene	ND	ug/L	1.0	1		11/27/19 19:59	91-20-3		
Styrene	ND	ug/L	1.0	1		11/27/19 19:59	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 19:59	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 19:59	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		11/27/19 19:59	127-18-4		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-25D-130		Lab ID: 92454724014		Collected: 11/19/19 16:00		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 19:59	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 19:59	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 19:59	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 19:59	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 19:59	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 19:59	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 19:59	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 19:59	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 19:59	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 19:59	75-01-4		
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 19:59	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 19:59	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 19:59	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130	1		11/27/19 19:59	460-00-4		
1,2-Dichloroethane-d4 (S)	89	%	70-130	1		11/27/19 19:59	17060-07-0		
Toluene-d8 (S)	103	%	70-130	1		11/27/19 19:59	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	31.0	ug/L	2.0	1		11/23/19 23:40	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	50-150	1		11/23/19 23:40	17060-07-0		
Toluene-d8 (S)	110	%	50-150	1		11/23/19 23:40	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-25D-192		Lab ID: 92454724015		Collected: 11/19/19 16:15		Received: 11/21/19 09:32		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV Low Level	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	25.0	1		11/27/19 20:16	67-64-1		
Benzene	ND	ug/L	1.0	1		11/27/19 20:16	71-43-2		
Bromobenzene	ND	ug/L	1.0	1		11/27/19 20:16	108-86-1		
Bromochloromethane	ND	ug/L	1.0	1		11/27/19 20:16	74-97-5		
Bromodichloromethane	ND	ug/L	1.0	1		11/27/19 20:16	75-27-4		
Bromoform	ND	ug/L	1.0	1		11/27/19 20:16	75-25-2		
Bromomethane	ND	ug/L	2.0	1		11/27/19 20:16	74-83-9		
2-Butanone (MEK)	ND	ug/L	5.0	1		11/27/19 20:16	78-93-3		
Carbon tetrachloride	ND	ug/L	1.0	1		11/27/19 20:16	56-23-5		
Chlorobenzene	ND	ug/L	1.0	1		11/27/19 20:16	108-90-7		
Chloroethane	ND	ug/L	1.0	1		11/27/19 20:16	75-00-3		
Chloroform	ND	ug/L	5.0	1		11/27/19 20:16	67-66-3		
Chloromethane	ND	ug/L	1.0	1		11/27/19 20:16	74-87-3		
2-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 20:16	95-49-8		
4-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 20:16	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/27/19 20:16	96-12-8		
Dibromochloromethane	ND	ug/L	1.0	1		11/27/19 20:16	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/27/19 20:16	106-93-4		
Dibromomethane	ND	ug/L	1.0	1		11/27/19 20:16	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 20:16	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 20:16	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 20:16	106-46-7		
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/27/19 20:16	75-71-8		
1,1-Dichloroethane	12.6	ug/L	1.0	1		11/27/19 20:16	75-34-3		
1,2-Dichloroethane	ND	ug/L	1.0	1		11/27/19 20:16	107-06-2		
1,1-Dichloroethene	53.2	ug/L	1.0	1		11/27/19 20:16	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 20:16	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 20:16	156-60-5		
1,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 20:16	78-87-5		
1,3-Dichloropropane	ND	ug/L	1.0	1		11/27/19 20:16	142-28-9		
2,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 20:16	594-20-7		
1,1-Dichloropropene	ND	ug/L	1.0	1		11/27/19 20:16	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 20:16	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 20:16	10061-02-6		
Diisopropyl ether	ND	ug/L	1.0	1		11/27/19 20:16	108-20-3		
Ethylbenzene	ND	ug/L	1.0	1		11/27/19 20:16	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/27/19 20:16	87-68-3		
2-Hexanone	ND	ug/L	5.0	1		11/27/19 20:16	591-78-6		
p-Isopropyltoluene	ND	ug/L	1.0	1		11/27/19 20:16	99-87-6		
Methylene Chloride	ND	ug/L	5.0	1		11/27/19 20:16	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/27/19 20:16	108-10-1		
Methyl-tert-butyl ether	1.1	ug/L	1.0	1		11/27/19 20:16	1634-04-4		
Naphthalene	ND	ug/L	1.0	1		11/27/19 20:16	91-20-3		
Styrene	ND	ug/L	1.0	1		11/27/19 20:16	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 20:16	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 20:16	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		11/27/19 20:16	127-18-4		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-25D-192		Lab ID: 92454724015		Collected: 11/19/19 16:15		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 20:16	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 20:16	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 20:16	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 20:16	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 20:16	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 20:16	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 20:16	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 20:16	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 20:16	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 20:16	75-01-4		
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 20:16	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 20:16	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 20:16	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130	1		11/27/19 20:16	460-00-4		
1,2-Dichloroethane-d4 (S)	91	%	70-130	1		11/27/19 20:16	17060-07-0		
Toluene-d8 (S)	103	%	70-130	1		11/27/19 20:16	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	41.1	ug/L	2.0	1		11/24/19 00:00	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	50-150	1		11/24/19 00:00	17060-07-0		
Toluene-d8 (S)	109	%	50-150	1		11/24/19 00:00	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-46D		Lab ID: 92454724016		Collected: 11/19/19 12:25		Received: 11/21/19 09:32		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV Low Level		Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/27/19 20:34	67-64-1		
Benzene	ND	ug/L	1.0	1		11/27/19 20:34	71-43-2		
Bromobenzene	ND	ug/L	1.0	1		11/27/19 20:34	108-86-1		
Bromochloromethane	ND	ug/L	1.0	1		11/27/19 20:34	74-97-5		
Bromodichloromethane	ND	ug/L	1.0	1		11/27/19 20:34	75-27-4		
Bromoform	ND	ug/L	1.0	1		11/27/19 20:34	75-25-2		
Bromomethane	ND	ug/L	2.0	1		11/27/19 20:34	74-83-9		
2-Butanone (MEK)	ND	ug/L	5.0	1		11/27/19 20:34	78-93-3		
Carbon tetrachloride	ND	ug/L	1.0	1		11/27/19 20:34	56-23-5		
Chlorobenzene	ND	ug/L	1.0	1		11/27/19 20:34	108-90-7		
Chloroethane	ND	ug/L	1.0	1		11/27/19 20:34	75-00-3		
Chloroform	ND	ug/L	5.0	1		11/27/19 20:34	67-66-3		
Chloromethane	ND	ug/L	1.0	1		11/27/19 20:34	74-87-3		
2-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 20:34	95-49-8		
4-Chlorotoluene	ND	ug/L	1.0	1		11/27/19 20:34	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/27/19 20:34	96-12-8		
Dibromochloromethane	ND	ug/L	1.0	1		11/27/19 20:34	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/27/19 20:34	106-93-4		
Dibromomethane	ND	ug/L	1.0	1		11/27/19 20:34	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 20:34	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 20:34	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/27/19 20:34	106-46-7		
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/27/19 20:34	75-71-8		
1,1-Dichloroethane	23.4	ug/L	1.0	1		11/27/19 20:34	75-34-3		
1,2-Dichloroethane	1.4	ug/L	1.0	1		11/27/19 20:34	107-06-2		
1,1-Dichloroethene	114	ug/L	1.0	1		11/27/19 20:34	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 20:34	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/27/19 20:34	156-60-5		
1,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 20:34	78-87-5		
1,3-Dichloropropane	ND	ug/L	1.0	1		11/27/19 20:34	142-28-9		
2,2-Dichloropropane	ND	ug/L	1.0	1		11/27/19 20:34	594-20-7		
1,1-Dichloropropene	ND	ug/L	1.0	1		11/27/19 20:34	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 20:34	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/27/19 20:34	10061-02-6		
Diisopropyl ether	ND	ug/L	1.0	1		11/27/19 20:34	108-20-3		
Ethylbenzene	ND	ug/L	1.0	1		11/27/19 20:34	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/27/19 20:34	87-68-3		
2-Hexanone	ND	ug/L	5.0	1		11/27/19 20:34	591-78-6		
p-Isopropyltoluene	ND	ug/L	1.0	1		11/27/19 20:34	99-87-6		
Methylene Chloride	ND	ug/L	5.0	1		11/27/19 20:34	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/27/19 20:34	108-10-1		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/27/19 20:34	1634-04-4		
Naphthalene	ND	ug/L	1.0	1		11/27/19 20:34	91-20-3		
Styrene	ND	ug/L	1.0	1		11/27/19 20:34	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 20:34	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/27/19 20:34	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		11/27/19 20:34	127-18-4		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-46D		Lab ID: 92454724016		Collected: 11/19/19 12:25		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 20:34	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 20:34	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 20:34	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 20:34	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 20:34	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 20:34	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 20:34	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 20:34	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 20:34	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 20:34	75-01-4		
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 20:34	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 20:34	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 20:34	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130	1		11/27/19 20:34	460-00-4		
1,2-Dichloroethane-d4 (S)	92	%	70-130	1		11/27/19 20:34	17060-07-0		
Toluene-d8 (S)	101	%	70-130	1		11/27/19 20:34	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	96.3	ug/L	4.0	2		11/24/19 18:32	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	50-150	2		11/24/19 18:32	17060-07-0		
Toluene-d8 (S)	88	%	50-150	2		11/24/19 18:32	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-45		Lab ID: 92454724017		Collected: 11/19/19 12:35		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1			11/27/19 13:56	67-64-1	
Benzene	ND	ug/L	1.0	1			11/27/19 13:56	71-43-2	
Bromobenzene	ND	ug/L	1.0	1			11/27/19 13:56	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1			11/27/19 13:56	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1			11/27/19 13:56	75-27-4	
Bromoform	ND	ug/L	1.0	1			11/27/19 13:56	75-25-2	
Bromomethane	ND	ug/L	2.0	1			11/27/19 13:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1			11/27/19 13:56	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1			11/27/19 13:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1			11/27/19 13:56	108-90-7	
Chloroethane	ND	ug/L	1.0	1			11/27/19 13:56	75-00-3	
Chloroform	ND	ug/L	5.0	1			11/27/19 13:56	67-66-3	
Chloromethane	ND	ug/L	1.0	1			11/27/19 13:56	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 13:56	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1			11/27/19 13:56	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1			11/27/19 13:56	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1			11/27/19 13:56	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1			11/27/19 13:56	106-93-4	
Dibromomethane	ND	ug/L	1.0	1			11/27/19 13:56	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 13:56	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 13:56	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1			11/27/19 13:56	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1			11/27/19 13:56	75-71-8	L1
1,1-Dichloroethane	ND	ug/L	1.0	1			11/27/19 13:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1			11/27/19 13:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1			11/27/19 13:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 13:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1			11/27/19 13:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 13:56	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1			11/27/19 13:56	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1			11/27/19 13:56	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1			11/27/19 13:56	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 13:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1			11/27/19 13:56	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1			11/27/19 13:56	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1			11/27/19 13:56	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1			11/27/19 13:56	87-68-3	
2-Hexanone	ND	ug/L	5.0	1			11/27/19 13:56	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1			11/27/19 13:56	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1			11/27/19 13:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1			11/27/19 13:56	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1			11/27/19 13:56	1634-04-4	
Naphthalene	ND	ug/L	1.0	1			11/27/19 13:56	91-20-3	
Styrene	ND	ug/L	1.0	1			11/27/19 13:56	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 13:56	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1			11/27/19 13:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1			11/27/19 13:56	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-45		Lab ID: 92454724017		Collected: 11/19/19 12:35		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/27/19 13:56	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 13:56	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/27/19 13:56	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/27/19 13:56	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/27/19 13:56	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		11/27/19 13:56	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		11/27/19 13:56	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/27/19 13:56	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		11/27/19 13:56	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		11/27/19 13:56	75-01-4		L1
Xylene (Total)	ND	ug/L	1.0	1		11/27/19 13:56	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		11/27/19 13:56	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		11/27/19 13:56	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130	1		11/27/19 13:56	460-00-4		
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		11/27/19 13:56	17060-07-0		
Toluene-d8 (S)	107	%	70-130	1		11/27/19 13:56	2037-26-5		
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/24/19 18:12	123-91-1		
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	50-150	1		11/24/19 18:12	17060-07-0		
Toluene-d8 (S)	91	%	50-150	1		11/24/19 18:12	2037-26-5		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-24D		Lab ID: 92454724018		Collected: 11/19/19 12:55		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Acetone	ND	ug/L	125	5			12/02/19 18:57	67-64-1	
Benzene	ND	ug/L	5.0	5			12/02/19 18:57	71-43-2	
Bromobenzene	ND	ug/L	5.0	5			12/02/19 18:57	108-86-1	
Bromochloromethane	ND	ug/L	5.0	5			12/02/19 18:57	74-97-5	
Bromodichloromethane	ND	ug/L	5.0	5			12/02/19 18:57	75-27-4	
Bromoform	ND	ug/L	5.0	5			12/02/19 18:57	75-25-2	
Bromomethane	ND	ug/L	10.0	5			12/02/19 18:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	25.0	5			12/02/19 18:57	78-93-3	
Carbon tetrachloride	ND	ug/L	5.0	5			12/02/19 18:57	56-23-5	
Chlorobenzene	ND	ug/L	5.0	5			12/02/19 18:57	108-90-7	
Chloroethane	ND	ug/L	5.0	5			12/02/19 18:57	75-00-3	
Chloroform	ND	ug/L	25.0	5			12/02/19 18:57	67-66-3	
Chloromethane	ND	ug/L	5.0	5			12/02/19 18:57	74-87-3	
2-Chlorotoluene	ND	ug/L	5.0	5			12/02/19 18:57	95-49-8	
4-Chlorotoluene	ND	ug/L	5.0	5			12/02/19 18:57	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	25.0	5			12/02/19 18:57	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	5			12/02/19 18:57	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	5			12/02/19 18:57	106-93-4	
Dibromomethane	ND	ug/L	5.0	5			12/02/19 18:57	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	5			12/02/19 18:57	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	5			12/02/19 18:57	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	5			12/02/19 18:57	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	5			12/02/19 18:57	75-71-8	L1,M0
1,1-Dichloroethane	54.5	ug/L	5.0	5			12/02/19 18:57	75-34-3	
1,2-Dichloroethane	6.6	ug/L	5.0	5			12/02/19 18:57	107-06-2	
1,1-Dichloroethene	868	ug/L	5.0	5			12/02/19 18:57	75-35-4	M1
cis-1,2-Dichloroethene	ND	ug/L	5.0	5			12/02/19 18:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	5			12/02/19 18:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	5			12/02/19 18:57	78-87-5	
1,3-Dichloropropane	ND	ug/L	5.0	5			12/02/19 18:57	142-28-9	
2,2-Dichloropropane	ND	ug/L	5.0	5			12/02/19 18:57	594-20-7	
1,1-Dichloropropene	ND	ug/L	5.0	5			12/02/19 18:57	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	5.0	5			12/02/19 18:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	5			12/02/19 18:57	10061-02-6	
Diisopropyl ether	ND	ug/L	5.0	5			12/02/19 18:57	108-20-3	
Ethylbenzene	ND	ug/L	5.0	5			12/02/19 18:57	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	5			12/02/19 18:57	87-68-3	
2-Hexanone	ND	ug/L	25.0	5			12/02/19 18:57	591-78-6	
p-Isopropyltoluene	ND	ug/L	5.0	5			12/02/19 18:57	99-87-6	
Methylene Chloride	ND	ug/L	25.0	5			12/02/19 18:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0	5			12/02/19 18:57	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	5.0	5			12/02/19 18:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	5			12/02/19 18:57	91-20-3	
Styrene	ND	ug/L	5.0	5			12/02/19 18:57	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	5			12/02/19 18:57	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5			12/02/19 18:57	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	5			12/02/19 18:57	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Sample: MW-24D		Lab ID: 92454724018		Collected: 11/19/19 12:55		Received: 11/21/19 09:32		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260B							
Toluene	ND	ug/L	5.0	5			12/02/19 18:57	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	5			12/02/19 18:57	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	5			12/02/19 18:57	120-82-1	
1,1,1-Trichloroethane	10.0	ug/L	5.0	5			12/02/19 18:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	5			12/02/19 18:57	79-00-5	
Trichloroethene	6.0	ug/L	5.0	5			12/02/19 18:57	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	5			12/02/19 18:57	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	5.0	5			12/02/19 18:57	96-18-4	
Vinyl acetate	ND	ug/L	10.0	5			12/02/19 18:57	108-05-4	
Vinyl chloride	ND	ug/L	5.0	5			12/02/19 18:57	75-01-4	L1
Xylene (Total)	ND	ug/L	5.0	5			12/02/19 18:57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	5			12/02/19 18:57	179601-23-1	
o-Xylene	ND	ug/L	5.0	5			12/02/19 18:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	110	%	70-130	5			12/02/19 18:57	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	5			12/02/19 18:57	17060-07-0	
Toluene-d8 (S)	112	%	70-130	5			12/02/19 18:57	2037-26-5	
8260 MSV SIM		Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	155	ug/L	5.0	2.5			11/24/19 01:00	123-91-1	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	50-150	2.5			11/24/19 01:00	17060-07-0	
Toluene-d8 (S)	109	%	50-150	2.5			11/24/19 01:00	2037-26-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1
Pace Project No.: 92454724

QC Batch: 511941 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92454724001, 92454724002, 92454724003, 92454724004, 92454724006, 92454724007

METHOD BLANK: 2745688 Matrix: Water
Associated Lab Samples: 92454724001, 92454724002, 92454724003, 92454724004, 92454724006, 92454724007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/27/19 05:17	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/27/19 05:17	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/27/19 05:17	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/27/19 05:17	
1,1-Dichloroethane	ug/L	ND	1.0	11/27/19 05:17	
1,1-Dichloroethene	ug/L	ND	1.0	11/27/19 05:17	
1,1-Dichloropropene	ug/L	ND	1.0	11/27/19 05:17	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/27/19 05:17	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/27/19 05:17	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/27/19 05:17	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	11/27/19 05:17	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/27/19 05:17	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/27/19 05:17	
1,2-Dichloroethane	ug/L	ND	1.0	11/27/19 05:17	
1,2-Dichloropropane	ug/L	ND	1.0	11/27/19 05:17	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/27/19 05:17	
1,3-Dichloropropane	ug/L	ND	1.0	11/27/19 05:17	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/27/19 05:17	
2,2-Dichloropropane	ug/L	ND	1.0	11/27/19 05:17	
2-Butanone (MEK)	ug/L	ND	5.0	11/27/19 05:17	
2-Chlorotoluene	ug/L	ND	1.0	11/27/19 05:17	
2-Hexanone	ug/L	ND	5.0	11/27/19 05:17	
4-Chlorotoluene	ug/L	ND	1.0	11/27/19 05:17	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/27/19 05:17	
Acetone	ug/L	ND	25.0	11/27/19 05:17	
Benzene	ug/L	ND	1.0	11/27/19 05:17	
Bromobenzene	ug/L	ND	1.0	11/27/19 05:17	
Bromochloromethane	ug/L	ND	1.0	11/27/19 05:17	
Bromodichloromethane	ug/L	ND	1.0	11/27/19 05:17	
Bromoform	ug/L	ND	1.0	11/27/19 05:17	
Bromomethane	ug/L	ND	2.0	11/27/19 05:17	
Carbon tetrachloride	ug/L	ND	1.0	11/27/19 05:17	
Chlorobenzene	ug/L	ND	1.0	11/27/19 05:17	
Chloroethane	ug/L	ND	1.0	11/27/19 05:17	
Chloroform	ug/L	ND	5.0	11/27/19 05:17	
Chloromethane	ug/L	ND	1.0	11/27/19 05:17	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/27/19 05:17	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/27/19 05:17	
Dibromochloromethane	ug/L	ND	1.0	11/27/19 05:17	
Dibromomethane	ug/L	ND	1.0	11/27/19 05:17	
Dichlorodifluoromethane	ug/L	ND	1.0	11/27/19 05:17	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

METHOD BLANK: 2745688

Matrix: Water

Associated Lab Samples: 92454724001, 92454724002, 92454724003, 92454724004, 92454724006, 92454724007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/27/19 05:17	
Ethylbenzene	ug/L	ND	1.0	11/27/19 05:17	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/27/19 05:17	
m&p-Xylene	ug/L	ND	2.0	11/27/19 05:17	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/27/19 05:17	
Methylene Chloride	ug/L	ND	5.0	11/27/19 05:17	
Naphthalene	ug/L	ND	1.0	11/27/19 05:17	
o-Xylene	ug/L	ND	1.0	11/27/19 05:17	
p-Isopropyltoluene	ug/L	ND	1.0	11/27/19 05:17	
Styrene	ug/L	ND	1.0	11/27/19 05:17	
Tetrachloroethene	ug/L	ND	1.0	11/27/19 05:17	
Toluene	ug/L	ND	1.0	11/27/19 05:17	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/27/19 05:17	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/27/19 05:17	
Trichloroethene	ug/L	ND	1.0	11/27/19 05:17	
Trichlorofluoromethane	ug/L	ND	1.0	11/27/19 05:17	
Vinyl acetate	ug/L	ND	2.0	11/27/19 05:17	
Vinyl chloride	ug/L	ND	1.0	11/27/19 05:17	
Xylene (Total)	ug/L	ND	1.0	11/27/19 05:17	
1,2-Dichloroethane-d4 (S)	%	89	70-130	11/27/19 05:17	
4-Bromofluorobenzene (S)	%	101	70-130	11/27/19 05:17	
Toluene-d8 (S)	%	101	70-130	11/27/19 05:17	

LABORATORY CONTROL SAMPLE: 2745689

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.1	100	70-130	
1,1,1-Trichloroethane	ug/L	50	45.7	91	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.8	100	70-130	
1,1,2-Trichloroethane	ug/L	50	51.7	103	70-130	
1,1-Dichloroethane	ug/L	50	48.5	97	70-130	
1,1-Dichloroethene	ug/L	50	44.7	89	70-130	
1,1-Dichloropropene	ug/L	50	50.5	101	70-130	
1,2,3-Trichlorobenzene	ug/L	50	54.8	110	70-130	
1,2,3-Trichloropropane	ug/L	50	49.2	98	70-130	
1,2,4-Trichlorobenzene	ug/L	50	51.4	103	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	54.5	109	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	51.7	103	70-130	
1,2-Dichlorobenzene	ug/L	50	49.2	98	70-130	
1,2-Dichloroethane	ug/L	50	42.2	84	70-130	
1,2-Dichloropropane	ug/L	50	51.0	102	70-130	
1,3-Dichlorobenzene	ug/L	50	48.3	97	70-130	
1,3-Dichloropropane	ug/L	50	50.7	101	70-131	
1,4-Dichlorobenzene	ug/L	50	49.6	99	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

LABORATORY CONTROL SAMPLE: 2745689

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	42.4	85	69-130	
2-Butanone (MEK)	ug/L	100	111	111	64-135	
2-Chlorotoluene	ug/L	50	48.0	96	70-130	
2-Hexanone	ug/L	100	105	105	66-135	
4-Chlorotoluene	ug/L	50	47.8	96	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	70-130	
Acetone	ug/L	100	118	118	61-157	
Benzene	ug/L	50	50.6	101	70-130	
Bromobenzene	ug/L	50	51.7	103	70-130	
Bromochloromethane	ug/L	50	49.4	99	70-130	
Bromodichloromethane	ug/L	50	49.0	98	70-130	
Bromoform	ug/L	50	53.3	107	70-130	
Bromomethane	ug/L	50	45.0	90	38-130	
Carbon tetrachloride	ug/L	50	46.4	93	70-130	
Chlorobenzene	ug/L	50	48.6	97	70-130	
Chloroethane	ug/L	50	32.1	64	37-142	
Chloroform	ug/L	50	47.4	95	70-130	
Chloromethane	ug/L	50	47.2	94	48-130	
cis-1,2-Dichloroethene	ug/L	50	46.5	93	70-130	
cis-1,3-Dichloropropene	ug/L	50	52.4	105	70-130	
Dibromochloromethane	ug/L	50	50.5	101	70-130	
Dibromomethane	ug/L	50	51.2	102	70-130	
Dichlorodifluoromethane	ug/L	50	52.0	104	53-134	
Diisopropyl ether	ug/L	50	51.3	103	70-135	
Ethylbenzene	ug/L	50	46.2	92	70-130	
Hexachloro-1,3-butadiene	ug/L	50	50.1	100	68-132	
m&p-Xylene	ug/L	100	93.7	94	70-130	
Methyl-tert-butyl ether	ug/L	50	49.3	99	70-130	
Methylene Chloride	ug/L	50	44.8	90	67-132	
Naphthalene	ug/L	50	53.9	108	70-130	
o-Xylene	ug/L	50	48.5	97	70-130	
p-Isopropyltoluene	ug/L	50	48.5	97	70-130	
Styrene	ug/L	50	50.3	101	70-130	
Tetrachloroethene	ug/L	50	47.6	95	69-130	
Toluene	ug/L	50	48.4	97	70-130	
trans-1,2-Dichloroethene	ug/L	50	47.4	95	70-130	
trans-1,3-Dichloropropene	ug/L	50	50.6	101	70-130	
Trichloroethene	ug/L	50	48.7	97	70-130	
Trichlorofluoromethane	ug/L	50	36.5	73	63-130	
Vinyl acetate	ug/L	100	95.9	96	55-143	
Vinyl chloride	ug/L	50	53.7	107	70-131	
Xylene (Total)	ug/L	150	142	95	70-130	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	
Toluene-d8 (S)	%			101	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1
Pace Project No.: 92454724

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2745690 2745691											
Parameter	Units	92454473012		MS	MSD	MS		MS	MSD	% Rec Limits	Max RPD
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec		
1,1,1,2-Tetrachloroethane	ug/L	ND	800	800	800	901	901	113	113	73-134	0 30
1,1,1-Trichloroethane	ug/L	ND	800	800	800	908	896	113	112	82-143	1 30
1,1,2,2-Tetrachloroethane	ug/L	ND	800	800	800	885	895	111	112	70-136	1 30
1,1,2-Trichloroethane	ug/L	ND	800	800	800	889	893	111	112	70-135	0 30
1,1-Dichloroethane	ug/L	ND	800	800	800	875	877	109	110	70-139	0 30
1,1-Dichloroethene	ug/L	ND	800	800	800	910	894	114	112	70-154	2 30
1,1-Dichloropropene	ug/L	ND	800	800	800	960	941	120	118	70-149	2 30
1,2,3-Trichlorobenzene	ug/L	ND	800	800	800	934	1010	117	126	70-135	8 30
1,2,3-Trichloropropane	ug/L	ND	800	800	800	938	902	117	113	71-137	4 30
1,2,4-Trichlorobenzene	ug/L	ND	800	800	800	950	971	119	121	73-140	2 30
1,2-Dibromo-3-chloropropane	ug/L	ND	800	800	800	906	952	113	119	65-134	5 30
1,2-Dibromoethane (EDB)	ug/L	ND	800	800	800	911	899	114	112	70-137	1 30
1,2-Dichlorobenzene	ug/L	ND	800	800	800	946	928	118	116	70-133	2 30
1,2-Dichloroethane	ug/L	ND	800	800	800	817	827	102	103	70-137	1 30
1,2-Dichloropropane	ug/L	ND	800	800	800	887	904	111	113	70-140	2 30
1,3-Dichlorobenzene	ug/L	ND	800	800	800	947	908	118	114	70-135	4 30
1,3-Dichloropropane	ug/L	ND	800	800	800	924	901	115	113	70-143	2 30
1,4-Dichlorobenzene	ug/L	ND	800	800	800	954	920	119	115	70-133	4 30
2,2-Dichloropropane	ug/L	ND	800	800	800	842	847	105	106	61-148	1 30
2-Butanone (MEK)	ug/L	1170	1600	1600	1600	2690	2730	95	98	60-139	1 30
2-Chlorotoluene	ug/L	ND	800	800	800	958	933	120	117	70-144	3 30
2-Hexanone	ug/L	ND	1600	1600	1600	1700	1740	103	106	65-138	2 30
4-Chlorotoluene	ug/L	ND	800	800	800	929	912	116	114	70-137	2 30
4-Methyl-2-pentanone (MIBK)	ug/L	ND	1600	1600	1600	1710	1780	106	110	65-135	4 30
Acetone	ug/L	8790	1600	1600	1600	10700	10900	117	132	60-148	2 30
Benzene	ug/L	2090	800	800	800	3070	3080	122	123	70-151	0 30
Bromobenzene	ug/L	ND	800	800	800	948	932	119	117	70-136	2 30
Bromochloromethane	ug/L	ND	800	800	800	881	885	110	111	70-141	0 30
Bromodichloromethane	ug/L	ND	800	800	800	869	890	109	111	70-138	2 30
Bromoform	ug/L	ND	800	800	800	885	873	111	109	63-130	1 30
Bromomethane	ug/L	ND	800	800	800	932	921	117	115	15-152	1 30
Carbon tetrachloride	ug/L	ND	800	800	800	943	935	118	117	70-143	1 30
Chlorobenzene	ug/L	ND	800	800	800	927	912	116	114	70-138	2 30
Chloroethane	ug/L	ND	800	800	800	843	802	105	100	52-163	5 30
Chloroform	ug/L	ND	800	800	800	879	865	110	108	70-139	2 30
Chloromethane	ug/L	ND	800	800	800	755	729	94	91	41-139	3 30
cis-1,2-Dichloroethene	ug/L	ND	800	800	800	866	866	108	108	70-141	0 30
cis-1,3-Dichloropropene	ug/L	ND	800	800	800	897	895	112	112	70-137	0 30
Dibromochloromethane	ug/L	ND	800	800	800	894	861	112	108	70-134	4 30
Dibromomethane	ug/L	ND	800	800	800	886	900	111	113	70-138	2 30
Dichlorodifluoromethane	ug/L	ND	800	800	800	745	725	93	91	47-155	3 30
Diisopropyl ether	ug/L	ND	800	800	800	827	842	103	105	63-144	2 30
Ethylbenzene	ug/L	251	800	800	800	1230	1200	123	119	66-153	2 30
Hexachloro-1,3-butadiene	ug/L	ND	800	800	800	955	926	119	116	65-149	3 30

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2745690 2745691												
		92454473012	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Parameter	Units	Result										
m&p-Xylene	ug/L	613	1600	1600	2530	2460	120	116	69-152	3	30	
Methyl-tert-butyl ether	ug/L	ND	800	800	842	861	105	108	54-156	2	30	
Methylene Chloride	ug/L	ND	800	800	889	876	111	109	42-159	2	30	
Naphthalene	ug/L	237	800	800	1140	1280	112	130	61-148	12	30	
o-Xylene	ug/L	146	800	800	1070	1040	116	111	70-148	3	30	
p-Isopropyltoluene	ug/L	ND	800	800	1010	973	123	119	70-146	3	30	
Styrene	ug/L	ND	800	800	932	901	116	113	70-135	3	30	
Tetrachloroethene	ug/L	ND	800	800	891	868	111	108	59-143	3	30	
Toluene	ug/L	246	800	800	1180	1140	117	111	59-148	4	30	
trans-1,2-Dichloroethene	ug/L	ND	800	800	894	882	112	110	70-146	1	30	
trans-1,3-Dichloropropene	ug/L	ND	800	800	874	860	109	107	70-135	2	30	
Trichloroethene	ug/L	ND	800	800	919	933	115	117	70-147	1	30	
Trichlorofluoromethane	ug/L	ND	800	800	860	843	107	105	70-148	2	30	
Vinyl acetate	ug/L	ND	1600	1600	1690	1690	106	106	49-151	0	30	
Vinyl chloride	ug/L	ND	800	800	873	860	109	107	70-156	2	30	
Xylene (Total)	ug/L	759	2400	2400	3600	3500	118	114	63-158	3	30	
1,2-Dichloroethane-d4 (S)	%						99	100	70-130			
4-Bromofluorobenzene (S)	%						97	97	70-130			
Toluene-d8 (S)	%						99	98	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

QC Batch:	511970	Analysis Method:	EPA 8260B
QC Batch Method:	EPA 8260B	Analysis Description:	8260 MSV Low Level
Associated Lab Samples:	92454724005, 92454724008, 92454724009, 92454724010, 92454724011, 92454724012, 92454724014, 92454724015, 92454724016		

METHOD BLANK:	2745850	Matrix:	Water
Associated Lab Samples:	92454724005, 92454724008, 92454724009, 92454724010, 92454724011, 92454724012, 92454724014, 92454724015, 92454724016		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/27/19 17:35	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/27/19 17:35	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/27/19 17:35	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/27/19 17:35	
1,1-Dichloroethane	ug/L	ND	1.0	11/27/19 17:35	
1,1-Dichloroethene	ug/L	ND	1.0	11/27/19 17:35	
1,1-Dichloropropene	ug/L	ND	1.0	11/27/19 17:35	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/27/19 17:35	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/27/19 17:35	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/27/19 17:35	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	11/27/19 17:35	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/27/19 17:35	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/27/19 17:35	
1,2-Dichloroethane	ug/L	ND	1.0	11/27/19 17:35	
1,2-Dichloropropane	ug/L	ND	1.0	11/27/19 17:35	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/27/19 17:35	
1,3-Dichloropropane	ug/L	ND	1.0	11/27/19 17:35	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/27/19 17:35	
2,2-Dichloropropane	ug/L	ND	1.0	11/27/19 17:35	
2-Butanone (MEK)	ug/L	ND	5.0	11/27/19 17:35	
2-Chlorotoluene	ug/L	ND	1.0	11/27/19 17:35	
2-Hexanone	ug/L	ND	5.0	11/27/19 17:35	
4-Chlorotoluene	ug/L	ND	1.0	11/27/19 17:35	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/27/19 17:35	
Acetone	ug/L	ND	25.0	11/27/19 17:35	
Benzene	ug/L	ND	1.0	11/27/19 17:35	
Bromobenzene	ug/L	ND	1.0	11/27/19 17:35	
Bromochloromethane	ug/L	ND	1.0	11/27/19 17:35	
Bromodichloromethane	ug/L	ND	1.0	11/27/19 17:35	
Bromoform	ug/L	ND	1.0	11/27/19 17:35	
Bromomethane	ug/L	ND	2.0	11/27/19 17:35	
Carbon tetrachloride	ug/L	ND	1.0	11/27/19 17:35	
Chlorobenzene	ug/L	ND	1.0	11/27/19 17:35	
Chloroethane	ug/L	ND	1.0	11/27/19 17:35	
Chloroform	ug/L	ND	5.0	11/27/19 17:35	
Chloromethane	ug/L	ND	1.0	11/27/19 17:35	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/27/19 17:35	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/27/19 17:35	
Dibromochloromethane	ug/L	ND	1.0	11/27/19 17:35	
Dibromomethane	ug/L	ND	1.0	11/27/19 17:35	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

METHOD BLANK: 2745850

Matrix: Water

Associated Lab Samples: 92454724005, 92454724008, 92454724009, 92454724010, 92454724011, 92454724012, 92454724014, 92454724015, 92454724016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	ND	1.0	11/27/19 17:35	
Diisopropyl ether	ug/L	ND	1.0	11/27/19 17:35	
Ethylbenzene	ug/L	ND	1.0	11/27/19 17:35	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/27/19 17:35	
m&p-Xylene	ug/L	ND	2.0	11/27/19 17:35	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/27/19 17:35	
Methylene Chloride	ug/L	ND	5.0	11/27/19 17:35	
Naphthalene	ug/L	ND	1.0	11/27/19 17:35	
o-Xylene	ug/L	ND	1.0	11/27/19 17:35	
p-Isopropyltoluene	ug/L	ND	1.0	11/27/19 17:35	
Styrene	ug/L	ND	1.0	11/27/19 17:35	
Tetrachloroethene	ug/L	ND	1.0	11/27/19 17:35	
Toluene	ug/L	ND	1.0	11/27/19 17:35	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/27/19 17:35	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/27/19 17:35	
Trichloroethene	ug/L	ND	1.0	11/27/19 17:35	
Trichlorofluoromethane	ug/L	ND	1.0	11/27/19 17:35	
Vinyl acetate	ug/L	ND	2.0	11/27/19 17:35	
Vinyl chloride	ug/L	ND	1.0	11/27/19 17:35	
Xylene (Total)	ug/L	ND	1.0	11/27/19 17:35	
1,2-Dichloroethane-d4 (S)	%	94	70-130	11/27/19 17:35	
4-Bromofluorobenzene (S)	%	96	70-130	11/27/19 17:35	
Toluene-d8 (S)	%	103	70-130	11/27/19 17:35	

LABORATORY CONTROL SAMPLE: 2745851

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.9	108	70-130	
1,1,1-Trichloroethane	ug/L	50	53.3	107	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	52.5	105	70-130	
1,1,2-Trichloroethane	ug/L	50	53.6	107	70-130	
1,1-Dichloroethane	ug/L	50	51.6	103	70-130	
1,1-Dichloroethene	ug/L	50	51.9	104	70-130	
1,1-Dichloropropene	ug/L	50	56.4	113	70-130	
1,2,3-Trichlorobenzene	ug/L	50	59.8	120	70-130	
1,2,3-Trichloropropane	ug/L	50	54.4	109	70-130	
1,2,4-Trichlorobenzene	ug/L	50	57.3	115	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	56.5	113	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	54.5	109	70-130	
1,2-Dichlorobenzene	ug/L	50	55.4	111	70-130	
1,2-Dichloroethane	ug/L	50	50.4	101	70-130	
1,2-Dichloropropane	ug/L	50	53.7	107	70-130	
1,3-Dichlorobenzene	ug/L	50	55.1	110	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

LABORATORY CONTROL SAMPLE: 2745851

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichloropropane	ug/L	50	54.0	108	70-131	
1,4-Dichlorobenzene	ug/L	50	55.4	111	70-130	
2,2-Dichloropropane	ug/L	50	55.1	110	69-130	
2-Butanone (MEK)	ug/L	100	103	103	64-135	
2-Chlorotoluene	ug/L	50	52.6	105	70-130	
2-Hexanone	ug/L	100	101	101	66-135	
4-Chlorotoluene	ug/L	50	53.5	107	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	96.3	96	70-130	
Acetone	ug/L	100	113	113	61-157	
Benzene	ug/L	50	51.3	103	70-130	
Bromobenzene	ug/L	50	54.8	110	70-130	
Bromochloromethane	ug/L	50	54.2	108	70-130	
Bromodichloromethane	ug/L	50	53.7	107	70-130	
Bromoform	ug/L	50	53.8	108	70-130	
Bromomethane	ug/L	50	46.9	94	38-130	
Carbon tetrachloride	ug/L	50	54.7	109	70-130	
Chlorobenzene	ug/L	50	53.9	108	70-130	
Chloroethane	ug/L	50	39.9	80	37-142	
Chloroform	ug/L	50	51.6	103	70-130	
Chloromethane	ug/L	50	45.8	92	48-130	
cis-1,2-Dichloroethene	ug/L	50	51.0	102	70-130	
cis-1,3-Dichloropropene	ug/L	50	54.7	109	70-130	
Dibromochloromethane	ug/L	50	53.9	108	70-130	
Dibromomethane	ug/L	50	52.7	105	70-130	
Dichlorodifluoromethane	ug/L	50	49.9	100	53-134	
Diisopropyl ether	ug/L	50	50.0	100	70-135	
Ethylbenzene	ug/L	50	53.9	108	70-130	
Hexachloro-1,3-butadiene	ug/L	50	55.2	110	68-132	
m&p-Xylene	ug/L	100	106	106	70-130	
Methyl-tert-butyl ether	ug/L	50	51.1	102	70-130	
Methylene Chloride	ug/L	50	51.4	103	67-132	
Naphthalene	ug/L	50	56.9	114	70-130	
o-Xylene	ug/L	50	52.2	104	70-130	
p-Isopropyltoluene	ug/L	50	55.6	111	70-130	
Styrene	ug/L	50	54.4	109	70-130	
Tetrachloroethene	ug/L	50	51.7	103	69-130	
Toluene	ug/L	50	51.4	103	70-130	
trans-1,2-Dichloroethene	ug/L	50	51.7	103	70-130	
trans-1,3-Dichloropropene	ug/L	50	52.9	106	70-130	
Trichloroethene	ug/L	50	54.4	109	70-130	
Trichlorofluoromethane	ug/L	50	48.4	97	63-130	
Vinyl acetate	ug/L	100	107	107	55-143	
Vinyl chloride	ug/L	50	53.2	106	70-131	
Xylene (Total)	ug/L	150	158	106	70-130	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Toluene-d8 (S)	%			99	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

MATRIX SPIKE SAMPLE:		2747200					
Parameter	Units	92454724011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	23.8	119	73-134	
1,1,1-Trichloroethane	ug/L	ND	20	25.2	126	82-143	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.4	112	70-136	
1,1,2-Trichloroethane	ug/L	ND	20	23.4	117	70-135	
1,1-Dichloroethane	ug/L	ND	20	24.2	121	70-139	
1,1-Dichloroethene	ug/L	ND	20	25.0	125	70-154	
1,1-Dichloropropene	ug/L	ND	20	26.7	133	70-149	
1,2,3-Trichlorobenzene	ug/L	ND	20	21.4	107	70-135	
1,2,3-Trichloropropane	ug/L	ND	20	22.7	113	71-137	
1,2,4-Trichlorobenzene	ug/L	ND	20	21.1	106	73-140	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	22.6	113	65-134	
1,2-Dibromoethane (EDB)	ug/L	ND	20	23.7	119	70-137	
1,2-Dichlorobenzene	ug/L	ND	20	21.2	106	70-133	
1,2-Dichloroethane	ug/L	ND	20	22.9	114	70-137	
1,2-Dichloropropane	ug/L	ND	20	23.1	116	70-140	
1,3-Dichlorobenzene	ug/L	ND	20	21.0	105	70-135	
1,3-Dichloropropane	ug/L	ND	20	23.4	117	70-143	
1,4-Dichlorobenzene	ug/L	ND	20	21.1	105	70-133	
2,2-Dichloropropane	ug/L	ND	20	26.1	131	61-148	
2-Butanone (MEK)	ug/L	ND	40	47.8	119	60-139	
2-Chlorotoluene	ug/L	ND	20	21.5	107	70-144	
2-Hexanone	ug/L	ND	40	44.8	112	65-138	
4-Chlorotoluene	ug/L	ND	20	21.5	108	70-137	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	45.0	113	65-135	
Acetone	ug/L	ND	40	46.5	116	60-148	
Benzene	ug/L	ND	20	23.8	119	70-151	
Bromobenzene	ug/L	ND	20	22.9	114	70-136	
Bromochloromethane	ug/L	ND	20	26.4	132	70-141	
Bromodichloromethane	ug/L	ND	20	23.5	118	70-138	
Bromoform	ug/L	ND	20	23.4	117	63-130	
Bromomethane	ug/L	ND	20	25.6	128	15-152	
Carbon tetrachloride	ug/L	ND	20	25.0	125	70-143	
Chlorobenzene	ug/L	ND	20	22.1	111	70-138	
Chloroethane	ug/L	ND	20	25.6	128	52-163	
Chloroform	ug/L	ND	20	25.0	125	70-139	
Chloromethane	ug/L	ND	20	22.7	113	41-139	
cis-1,2-Dichloroethene	ug/L	ND	20	24.4	122	70-141	
cis-1,3-Dichloropropene	ug/L	ND	20	23.8	119	70-137	
Dibromochloromethane	ug/L	ND	20	23.4	117	70-134	
Dibromomethane	ug/L	ND	20	24.0	120	70-138	
Dichlorodifluoromethane	ug/L	ND	20	27.3	137	47-155	
Diisopropyl ether	ug/L	ND	20	25.0	125	63-144	
Ethylbenzene	ug/L	ND	20	22.6	113	66-153	
Hexachloro-1,3-butadiene	ug/L	ND	20	23.0	115	65-149	
m&p-Xylene	ug/L	ND	40	44.6	111	69-152	
Methyl-tert-butyl ether	ug/L	ND	20	24.7	124	54-156	
Methylene Chloride	ug/L	ND	20	24.1	121	42-159	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

MATRIX SPIKE SAMPLE: 2747200		92454724011	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Naphthalene	ug/L	ND	20	21.1	105	61-148	
o-Xylene	ug/L	ND	20	22.9	114	70-148	
p-Isopropyltoluene	ug/L	ND	20	21.2	106	70-146	
Styrene	ug/L	ND	20	22.8	114	70-135	
Tetrachloroethene	ug/L	ND	20	23.2	116	59-143	
Toluene	ug/L	ND	20	23.0	115	59-148	
trans-1,2-Dichloroethene	ug/L	ND	20	25.1	126	70-146	
trans-1,3-Dichloropropene	ug/L	ND	20	23.6	118	70-135	
Trichloroethene	ug/L	ND	20	24.1	120	70-147	
Trichlorofluoromethane	ug/L	ND	20	24.8	124	70-148	
Vinyl acetate	ug/L	ND	40	45.9	115	49-151	
Vinyl chloride	ug/L	ND	20	28.1	140	70-156	
Xylene (Total)	ug/L	ND	60	67.5	112	63-158	
1,2-Dichloroethane-d4 (S)	%				97	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 2747199

Parameter	Units	92454724010	Dup	RPD	Max	
		Result	Result		RPD	Qualifiers
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-Dichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,1-Dichloropropene	ug/L	ND	ND		30	
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-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-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	
2-Hexanone	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	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

SAMPLE DUPLICATE: 2747199

Parameter	Units	92454724010 Result	Dup Result	RPD	Max RPD	Qualifiers
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	
Diisopropyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Hexachloro-1,3-butadiene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
p-Isopropyltoluene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	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 acetate	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	91	97			
4-Bromofluorobenzene (S)	%	96	96			
Toluene-d8 (S)	%	104	103			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

QC Batch: 512103

Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B

Analysis Description: 8260 MSV Low Level

Associated Lab Samples: 92454724013, 92454724017

METHOD BLANK: 2746253

Matrix: Water

Associated Lab Samples: 92454724013, 92454724017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/27/19 12:27	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/27/19 12:27	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/27/19 12:27	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/27/19 12:27	
1,1-Dichloroethane	ug/L	ND	1.0	11/27/19 12:27	
1,1-Dichloroethene	ug/L	ND	1.0	11/27/19 12:27	
1,1-Dichloropropene	ug/L	ND	1.0	11/27/19 12:27	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/27/19 12:27	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/27/19 12:27	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/27/19 12:27	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	11/27/19 12:27	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/27/19 12:27	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/27/19 12:27	
1,2-Dichloroethane	ug/L	ND	1.0	11/27/19 12:27	
1,2-Dichloropropane	ug/L	ND	1.0	11/27/19 12:27	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/27/19 12:27	
1,3-Dichloropropane	ug/L	ND	1.0	11/27/19 12:27	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/27/19 12:27	
2,2-Dichloropropane	ug/L	ND	1.0	11/27/19 12:27	
2-Butanone (MEK)	ug/L	ND	5.0	11/27/19 12:27	
2-Chlorotoluene	ug/L	ND	1.0	11/27/19 12:27	
2-Hexanone	ug/L	ND	5.0	11/27/19 12:27	
4-Chlorotoluene	ug/L	ND	1.0	11/27/19 12:27	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/27/19 12:27	
Acetone	ug/L	ND	25.0	11/27/19 12:27	
Benzene	ug/L	ND	1.0	11/27/19 12:27	
Bromobenzene	ug/L	ND	1.0	11/27/19 12:27	
Bromochloromethane	ug/L	ND	1.0	11/27/19 12:27	
Bromodichloromethane	ug/L	ND	1.0	11/27/19 12:27	
Bromoform	ug/L	ND	1.0	11/27/19 12:27	
Bromomethane	ug/L	ND	2.0	11/27/19 12:27	
Carbon tetrachloride	ug/L	ND	1.0	11/27/19 12:27	
Chlorobenzene	ug/L	ND	1.0	11/27/19 12:27	
Chloroethane	ug/L	ND	1.0	11/27/19 12:27	
Chloroform	ug/L	ND	5.0	11/27/19 12:27	
Chloromethane	ug/L	ND	1.0	11/27/19 12:27	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/27/19 12:27	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/27/19 12:27	
Dibromochloromethane	ug/L	ND	1.0	11/27/19 12:27	
Dibromomethane	ug/L	ND	1.0	11/27/19 12:27	
Dichlorodifluoromethane	ug/L	ND	1.0	11/27/19 12:27	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

METHOD BLANK: 2746253

Matrix: Water

Associated Lab Samples: 92454724013, 92454724017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/27/19 12:27	
Ethylbenzene	ug/L	ND	1.0	11/27/19 12:27	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/27/19 12:27	
m&p-Xylene	ug/L	ND	2.0	11/27/19 12:27	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/27/19 12:27	
Methylene Chloride	ug/L	ND	5.0	11/27/19 12:27	
Naphthalene	ug/L	ND	1.0	11/27/19 12:27	
o-Xylene	ug/L	ND	1.0	11/27/19 12:27	
p-Isopropyltoluene	ug/L	ND	1.0	11/27/19 12:27	
Styrene	ug/L	ND	1.0	11/27/19 12:27	
Tetrachloroethene	ug/L	ND	1.0	11/27/19 12:27	
Toluene	ug/L	ND	1.0	11/27/19 12:27	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/27/19 12:27	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/27/19 12:27	
Trichloroethene	ug/L	ND	1.0	11/27/19 12:27	
Trichlorofluoromethane	ug/L	ND	1.0	11/27/19 12:27	
Vinyl acetate	ug/L	ND	2.0	11/27/19 12:27	
Vinyl chloride	ug/L	ND	1.0	11/27/19 12:27	
Xylene (Total)	ug/L	ND	1.0	11/27/19 12:27	
1,2-Dichloroethane-d4 (S)	%	98	70-130	11/27/19 12:27	
4-Bromofluorobenzene (S)	%	107	70-130	11/27/19 12:27	
Toluene-d8 (S)	%	107	70-130	11/27/19 12:27	

LABORATORY CONTROL SAMPLE: 2746254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.0	106	70-130	
1,1,1-Trichloroethane	ug/L	50	52.7	105	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	51.2	102	70-130	
1,1,2-Trichloroethane	ug/L	50	53.7	107	70-130	
1,1-Dichloroethane	ug/L	50	51.7	103	70-130	
1,1-Dichloroethene	ug/L	50	56.3	113	70-130	
1,1-Dichloropropene	ug/L	50	58.4	117	70-130	
1,2,3-Trichlorobenzene	ug/L	50	50.2	100	70-130	
1,2,3-Trichloropropane	ug/L	50	52.2	104	70-130	
1,2,4-Trichlorobenzene	ug/L	50	49.9	100	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	48.1	96	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	52.8	106	70-130	
1,2-Dichlorobenzene	ug/L	50	49.7	99	70-130	
1,2-Dichloroethane	ug/L	50	50.8	102	70-130	
1,2-Dichloropropane	ug/L	50	53.8	108	70-130	
1,3-Dichlorobenzene	ug/L	50	49.2	98	70-130	
1,3-Dichloropropane	ug/L	50	56.2	112	70-131	
1,4-Dichlorobenzene	ug/L	50	49.0	98	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

LABORATORY CONTROL SAMPLE: 2746254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	52.3	105	69-130	
2-Butanone (MEK)	ug/L	100	108	108	64-135	
2-Chlorotoluene	ug/L	50	50.1	100	70-130	
2-Hexanone	ug/L	100	104	104	66-135	
4-Chlorotoluene	ug/L	50	50.4	101	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	104	70-130	
Acetone	ug/L	100	124	124	61-157	
Benzene	ug/L	50	52.7	105	70-130	
Bromobenzene	ug/L	50	49.5	99	70-130	
Bromochloromethane	ug/L	50	53.5	107	70-130	
Bromodichloromethane	ug/L	50	51.4	103	70-130	
Bromoform	ug/L	50	51.8	104	70-130	
Bromomethane	ug/L	50	37.3	75	38-130	
Carbon tetrachloride	ug/L	50	49.8	100	70-130	
Chlorobenzene	ug/L	50	49.5	99	70-130	
Chloroethane	ug/L	50	55.9	112	37-142	
Chloroform	ug/L	50	52.7	105	70-130	
Chloromethane	ug/L	50	57.3	115	48-130	
cis-1,2-Dichloroethene	ug/L	50	51.4	103	70-130	
cis-1,3-Dichloropropene	ug/L	50	57.7	115	70-130	
Dibromochloromethane	ug/L	50	53.8	108	70-130	
Dibromomethane	ug/L	50	46.3	93	70-130	
Dichlorodifluoromethane	ug/L	50	68.5	137	53-134	L1
Diisopropyl ether	ug/L	50	56.6	113	70-135	
Ethylbenzene	ug/L	50	49.2	98	70-130	
Hexachloro-1,3-butadiene	ug/L	50	50.8	102	68-132	
m&p-Xylene	ug/L	100	99.8	100	70-130	
Methyl-tert-butyl ether	ug/L	50	57.7	115	70-130	
Methylene Chloride	ug/L	50	52.1	104	67-132	
Naphthalene	ug/L	50	50.8	102	70-130	
o-Xylene	ug/L	50	49.9	100	70-130	
p-Isopropyltoluene	ug/L	50	49.8	100	70-130	
Styrene	ug/L	50	51.9	104	70-130	
Tetrachloroethene	ug/L	50	47.0	94	69-130	
Toluene	ug/L	50	48.5	97	70-130	
trans-1,2-Dichloroethene	ug/L	50	53.9	108	70-130	
trans-1,3-Dichloropropene	ug/L	50	55.8	112	70-130	
Trichloroethene	ug/L	50	52.9	106	70-130	
Trichlorofluoromethane	ug/L	50	51.4	103	63-130	
Vinyl acetate	ug/L	100	110	110	55-143	
Vinyl chloride	ug/L	50	66.5	133	70-131	L1
Xylene (Total)	ug/L	150	150	100	70-130	
1,2-Dichloroethane-d4 (S)	%			105	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			98	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2746255 2746256											
Parameter	Units	92454820011		MS		MSD		MS		MSD	
		Result	Conc.	Spike	Conc.	Result	Conc.	% Rec	% Rec	Limits	Max
											RPD
1,1,1,2-Tetrachloroethane	ug/L	1.0 U	20	20	18.7	19.9	94	100	73-134	6	30
1,1,1-Trichloroethane	ug/L	1.0 U	20	20	21.4	21.1	107	106	82-143	1	30
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	20	20	20.0	20.7	100	103	70-136	3	30
1,1,2-Trichloroethane	ug/L	1.0 U	20	20	21.5	20.6	108	103	70-135	5	30
1,1-Dichloroethane	ug/L	1.0 U	20	20	22.0	21.6	110	108	70-139	2	30
1,1-Dichloroethene	ug/L	1.0 U	20	20	24.3	23.8	122	119	70-154	2	30
1,1-Dichloropropene	ug/L	1.0 U	20	20	22.4	22.9	112	115	70-149	2	30
1,2,3-Trichlorobenzene	ug/L	1.0 U	20	20	19.4	20.1	97	100	70-135	3	30
1,2,3-Trichloropropane	ug/L	1.0 U	20	20	20.0	20.7	100	103	71-137	3	30
1,2,4-Trichlorobenzene	ug/L	1.0 U	20	20	18.6	19.8	93	99	73-140	6	30
1,2-Dibromo-3-chloropropane	ug/L	5.0 U	20	20	17.9	18.8	89	94	65-134	5	30
1,2-Dibromoethane (EDB)	ug/L	1.0 U	20	20	20.0	20.6	100	103	70-137	3	30
1,2-Dichlorobenzene	ug/L	1.0 U	20	20	19.6	20.5	98	103	70-133	4	30
1,2-Dichloroethane	ug/L	1.0 U	20	20	20.7	20.5	103	103	70-137	1	30
1,2-Dichloropropane	ug/L	1.0 U	20	20	22.3	21.4	112	107	70-140	4	30
1,3-Dichlorobenzene	ug/L	1.0 U	20	20	19.8	19.8	99	99	70-135	0	30
1,3-Dichloropropane	ug/L	1.0 U	20	20	21.2	21.9	106	110	70-143	3	30
1,4-Dichlorobenzene	ug/L	1.0 U	20	20	20.1	19.5	101	97	70-133	3	30
2,2-Dichloropropane	ug/L	1.0 U	20	20	19.8	19.7	99	99	61-148	0	30
2-Butanone (MEK)	ug/L	5.0 U	40	40	35.7	39.8	89	99	60-139	11	30
2-Chlorotoluene	ug/L	1.0 U	20	20	20.1	20.3	100	102	70-144	1	30
2-Hexanone	ug/L	5.0 U	40	40	40.2	42.6	101	107	65-138	6	30
4-Chlorotoluene	ug/L	1.0 U	20	20	20.3	20.6	102	103	70-137	1	30
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 U	40	40	39.8	42.0	100	105	65-135	5	30
Acetone	ug/L	25.0 U	40	40	42.9	45.6	107	114	60-148	6	30
Benzene	ug/L	1.0 U	20	20	22.6	21.6	113	108	70-151	4	30
Bromobenzene	ug/L	1.0 U	20	20	20.0	20.0	100	100	70-136	0	30
Bromochloromethane	ug/L	1.0 U	20	20	22.2	22.1	111	110	70-141	1	30
Bromodichloromethane	ug/L	1.0 U	20	20	21.7	20.9	109	105	70-138	4	30
Bromoform	ug/L	1.0 U	20	20	18.8	19.7	94	98	63-130	4	30
Bromomethane	ug/L	2.0 U	20	20	17.1	18.5	86	92	15-152	8	30
Carbon tetrachloride	ug/L	1.0 U	20	20	22.7	22.1	113	111	70-143	3	30
Chlorobenzene	ug/L	1.0 U	20	20	20.6	20.7	103	104	70-138	1	30
Chloroethane	ug/L	1.0 U	20	20	28.1	26.0	141	130	52-163	8	30
Chloroform	ug/L	5.0 U	20	20	21.6	21.8	108	109	70-139	1	30
Chloromethane	ug/L	1.0 U	20	20	24.2	24.1	121	120	41-139	1	30
cis-1,2-Dichloroethene	ug/L	1.0 U	20	20	21.4	21.5	107	107	70-141	0	30
cis-1,3-Dichloropropene	ug/L	1.0 U	20	20	21.0	21.1	105	105	70-137	0	30
Dibromochloromethane	ug/L	1.0 U	20	20	19.0	19.7	95	98	70-134	3	30
Dibromomethane	ug/L	1.0 U	20	20	20.4	19.3	102	97	70-138	5	30
Dichlorodifluoromethane	ug/L	1.0 U	20	20	28.2	28.2	141	141	47-155	0	30
Diisopropyl ether	ug/L	1.0 U	20	20	20.6	21.9	103	109	63-144	6	30
Ethylbenzene	ug/L	1.0 U	20	20	20.5	20.7	102	104	66-153	1	30
Hexachloro-1,3-butadiene	ug/L	1.0 U	20	20	18.6	18.1	93	91	65-149	3	30

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2746255 2746256											
Parameter	Units	92454820011		MS		MSD		MS		MSD	
		Result	Conc.	Spike	Conc.	Result	Conc.	% Rec	% Rec	Limits	Max
										RPD	RPD
m&p-Xylene	ug/L	2.0 U	40	40	42.3	42.8	106	107	69-152	1	30
Methyl-tert-butyl ether	ug/L	1.0 U	20	20	20.1	21.2	100	106	54-156	5	30
Methylene Chloride	ug/L	5.0 U	20	20	23.6	23.0	118	115	42-159	3	30
Naphthalene	ug/L	1.0 U	20	20	18.8	19.5	94	98	61-148	4	30
o-Xylene	ug/L	1.0 U	20	20	20.3	20.5	101	103	70-148	1	30
p-Isopropyltoluene	ug/L	1.0 U	20	20	19.3	19.8	97	99	70-146	2	30
Styrene	ug/L	1.0 U	20	20	20.4	20.9	102	104	70-135	2	30
Tetrachloroethene	ug/L	1.0 U	20	20	19.2	19.0	96	95	59-143	1	30
Toluene	ug/L	1.0 U	20	20	21.3	20.7	106	103	59-148	3	30
trans-1,2-Dichloroethene	ug/L	1.0 U	20	20	22.5	22.2	113	111	70-146	2	30
trans-1,3-Dichloropropene	ug/L	1.0 U	20	20	20.7	21.3	104	107	70-135	3	30
Trichloroethene	ug/L	1.8	20	20	23.9	23.3	111	108	70-147	3	30
Trichlorofluoromethane	ug/L	1.0 U	20	20	23.1	22.5	115	113	70-148	2	30
Vinyl acetate	ug/L	2.0 U	40	40	34.4	35.4	86	88	49-151	3	30
Vinyl chloride	ug/L	1.0 U	20	20	26.5	26.4	133	132	70-156	0	30
Xylene (Total)	ug/L	1.0 U	60	60	62.6	63.3	104	106	63-158	1	30
1,2-Dichloroethane-d4 (S)	%						104	107	70-130		
4-Bromofluorobenzene (S)	%						101	103	70-130		
Toluene-d8 (S)	%						103	101	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1
Pace Project No.: 92454724

QC Batch:	512363	Analysis Method:	EPA 8260B
QC Batch Method:	EPA 8260B	Analysis Description:	8260 MSV Low Level
Associated Lab Samples:	92454724018		

METHOD BLANK:	2747429	Matrix:	Water
Associated Lab Samples:	92454724018		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	12/02/19 12:07	
1,1,1-Trichloroethane	ug/L	ND	1.0	12/02/19 12:07	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	12/02/19 12:07	
1,1,2-Trichloroethane	ug/L	ND	1.0	12/02/19 12:07	
1,1-Dichloroethane	ug/L	ND	1.0	12/02/19 12:07	
1,1-Dichloroethene	ug/L	ND	1.0	12/02/19 12:07	
1,1-Dichloropropene	ug/L	ND	1.0	12/02/19 12:07	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	12/02/19 12:07	
1,2,3-Trichloropropane	ug/L	ND	1.0	12/02/19 12:07	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	12/02/19 12:07	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	12/02/19 12:07	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	12/02/19 12:07	
1,2-Dichlorobenzene	ug/L	ND	1.0	12/02/19 12:07	
1,2-Dichloroethane	ug/L	ND	1.0	12/02/19 12:07	
1,2-Dichloropropane	ug/L	ND	1.0	12/02/19 12:07	
1,3-Dichlorobenzene	ug/L	ND	1.0	12/02/19 12:07	
1,3-Dichloropropane	ug/L	ND	1.0	12/02/19 12:07	
1,4-Dichlorobenzene	ug/L	ND	1.0	12/02/19 12:07	
2,2-Dichloropropane	ug/L	ND	1.0	12/02/19 12:07	
2-Butanone (MEK)	ug/L	ND	5.0	12/02/19 12:07	
2-Chlorotoluene	ug/L	ND	1.0	12/02/19 12:07	
2-Hexanone	ug/L	ND	5.0	12/02/19 12:07	
4-Chlorotoluene	ug/L	ND	1.0	12/02/19 12:07	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	12/02/19 12:07	
Acetone	ug/L	ND	25.0	12/02/19 12:07	
Benzene	ug/L	ND	1.0	12/02/19 12:07	
Bromobenzene	ug/L	ND	1.0	12/02/19 12:07	
Bromochloromethane	ug/L	ND	1.0	12/02/19 12:07	
Bromodichloromethane	ug/L	ND	1.0	12/02/19 12:07	
Bromoform	ug/L	ND	1.0	12/02/19 12:07	
Bromomethane	ug/L	ND	2.0	12/02/19 12:07	
Carbon tetrachloride	ug/L	ND	1.0	12/02/19 12:07	
Chlorobenzene	ug/L	ND	1.0	12/02/19 12:07	
Chloroethane	ug/L	ND	1.0	12/02/19 12:07	
Chloroform	ug/L	ND	5.0	12/02/19 12:07	
Chloromethane	ug/L	ND	1.0	12/02/19 12:07	
cis-1,2-Dichloroethene	ug/L	ND	1.0	12/02/19 12:07	
cis-1,3-Dichloropropene	ug/L	ND	1.0	12/02/19 12:07	
Dibromochloromethane	ug/L	ND	1.0	12/02/19 12:07	
Dibromomethane	ug/L	ND	1.0	12/02/19 12:07	
Dichlorodifluoromethane	ug/L	ND	1.0	12/02/19 12:07	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1
Pace Project No.: 92454724

METHOD BLANK: 2747429

Matrix: Water

Associated Lab Samples: 92454724018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	12/02/19 12:07	
Ethylbenzene	ug/L	ND	1.0	12/02/19 12:07	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	12/02/19 12:07	
m&p-Xylene	ug/L	ND	2.0	12/02/19 12:07	
Methyl-tert-butyl ether	ug/L	ND	1.0	12/02/19 12:07	
Methylene Chloride	ug/L	ND	5.0	12/02/19 12:07	
Naphthalene	ug/L	ND	1.0	12/02/19 12:07	
o-Xylene	ug/L	ND	1.0	12/02/19 12:07	
p-Isopropyltoluene	ug/L	ND	1.0	12/02/19 12:07	
Styrene	ug/L	ND	1.0	12/02/19 12:07	
Tetrachloroethene	ug/L	ND	1.0	12/02/19 12:07	
Toluene	ug/L	ND	1.0	12/02/19 12:07	
trans-1,2-Dichloroethene	ug/L	ND	1.0	12/02/19 12:07	
trans-1,3-Dichloropropene	ug/L	ND	1.0	12/02/19 12:07	
Trichloroethene	ug/L	ND	1.0	12/02/19 12:07	
Trichlorofluoromethane	ug/L	ND	1.0	12/02/19 12:07	
Vinyl acetate	ug/L	ND	2.0	12/02/19 12:07	
Vinyl chloride	ug/L	ND	1.0	12/02/19 12:07	
Xylene (Total)	ug/L	ND	1.0	12/02/19 12:07	
1,2-Dichloroethane-d4 (S)	%	103	70-130	12/02/19 12:07	
4-Bromofluorobenzene (S)	%	106	70-130	12/02/19 12:07	
Toluene-d8 (S)	%	109	70-130	12/02/19 12:07	

LABORATORY CONTROL SAMPLE: 2747430

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.1	106	70-130	
1,1,1-Trichloroethane	ug/L	50	53.0	106	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	52.0	104	70-130	
1,1,2-Trichloroethane	ug/L	50	53.3	107	70-130	
1,1-Dichloroethane	ug/L	50	51.6	103	70-130	
1,1-Dichloroethene	ug/L	50	57.1	114	70-130	
1,1-Dichloropropene	ug/L	50	59.0	118	70-130	
1,2,3-Trichlorobenzene	ug/L	50	51.7	103	70-130	
1,2,3-Trichloropropane	ug/L	50	54.1	108	70-130	
1,2,4-Trichlorobenzene	ug/L	50	51.4	103	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	51.3	103	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	52.8	106	70-130	
1,2-Dichlorobenzene	ug/L	50	50.1	100	70-130	
1,2-Dichloroethane	ug/L	50	51.3	103	70-130	
1,2-Dichloropropane	ug/L	50	52.6	105	70-130	
1,3-Dichlorobenzene	ug/L	50	48.8	98	70-130	
1,3-Dichloropropane	ug/L	50	55.4	111	70-131	
1,4-Dichlorobenzene	ug/L	50	49.5	99	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

LABORATORY CONTROL SAMPLE: 2747430

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	55.0	110	69-130	
2-Butanone (MEK)	ug/L	100	113	113	64-135	
2-Chlorotoluene	ug/L	50	49.6	99	70-130	
2-Hexanone	ug/L	100	106	106	66-135	
4-Chlorotoluene	ug/L	50	50.8	102	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	109	109	70-130	
Acetone	ug/L	100	128	128	61-157	
Benzene	ug/L	50	52.4	105	70-130	
Bromobenzene	ug/L	50	48.5	97	70-130	
Bromochloromethane	ug/L	50	53.9	108	70-130	
Bromodichloromethane	ug/L	50	52.1	104	70-130	
Bromoform	ug/L	50	54.0	108	70-130	
Bromomethane	ug/L	50	57.7	115	38-130	
Carbon tetrachloride	ug/L	50	51.3	103	70-130	
Chlorobenzene	ug/L	50	48.3	97	70-130	
Chloroethane	ug/L	50	54.2	108	37-142	
Chloroform	ug/L	50	52.1	104	70-130	
Chloromethane	ug/L	50	58.8	118	48-130	
cis-1,2-Dichloroethene	ug/L	50	51.2	102	70-130	
cis-1,3-Dichloropropene	ug/L	50	57.2	114	70-130	
Dibromochloromethane	ug/L	50	53.2	106	70-130	
Dibromomethane	ug/L	50	46.7	93	70-130	
Dichlorodifluoromethane	ug/L	50	71.2	142	53-134	L1
Diisopropyl ether	ug/L	50	58.1	116	70-135	
Ethylbenzene	ug/L	50	48.4	97	70-130	
Hexachloro-1,3-butadiene	ug/L	50	48.4	97	68-132	
m&p-Xylene	ug/L	100	98.5	98	70-130	
Methyl-tert-butyl ether	ug/L	50	59.0	118	70-130	
Methylene Chloride	ug/L	50	54.0	108	67-132	
Naphthalene	ug/L	50	51.0	102	70-130	
o-Xylene	ug/L	50	46.9	94	70-130	
p-Isopropyltoluene	ug/L	50	49.6	99	70-130	
Styrene	ug/L	50	50.1	100	70-130	
Tetrachloroethene	ug/L	50	46.8	94	69-130	
Toluene	ug/L	50	48.2	96	70-130	
trans-1,2-Dichloroethene	ug/L	50	53.7	107	70-130	
trans-1,3-Dichloropropene	ug/L	50	57.6	115	70-130	
Trichloroethene	ug/L	50	51.8	104	70-130	
Trichlorofluoromethane	ug/L	50	51.2	102	63-130	
Vinyl acetate	ug/L	100	104	104	55-143	
Vinyl chloride	ug/L	50	66.6	133	70-131	L1
Xylene (Total)	ug/L	150	145	97	70-130	
1,2-Dichloroethane-d4 (S)	%			101	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			98	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1
Pace Project No.: 92454724

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2747431				2747432									
Parameter	Units	92454724018	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max	Qual
		Result	Spike	Spike									
1,1,1,2-Tetrachloroethane	ug/L	ND	100	100	103	107	103	107	73-134		3	30	E,M1
1,1,1-Trichloroethane	ug/L	10.0	100	100	127	123	117	113	82-143		3	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	100	100	106	105	106	105	70-136		0	30	
1,1,2-Trichloroethane	ug/L	ND	100	100	107	109	107	109	70-135		2	30	
1,1-Dichloroethane	ug/L	54.5	100	100	164	164	110	110	70-139		0	30	
1,1-Dichloroethene	ug/L	868	100	100	1110	1100	238	233	70-154		0	30	
1,1-Dichloropropene	ug/L	ND	100	100	119	118	119	118	70-149		0	30	
1,2,3-Trichlorobenzene	ug/L	ND	100	100	101	100	101	100	70-135		1	30	
1,2,3-Trichloropropane	ug/L	ND	100	100	105	109	105	109	71-137		3	30	
1,2,4-Trichlorobenzene	ug/L	ND	100	100	92.7	97.8	93	98	73-140		5	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	100	100	97.2	94.7	97	95	65-134		3	30	
1,2-Dibromoethane (EDB)	ug/L	ND	100	100	100	104	100	104	70-137		3	30	
1,2-Dichlorobenzene	ug/L	ND	100	100	104	102	104	102	70-133		2	30	
1,2-Dichloroethane	ug/L	6.6	100	100	112	115	105	108	70-137		2	30	
1,2-Dichloropropane	ug/L	ND	100	100	112	112	112	112	70-140		0	30	
1,3-Dichlorobenzene	ug/L	ND	100	100	101	100	101	100	70-135		1	30	
1,3-Dichloropropane	ug/L	ND	100	100	109	109	109	109	70-143		1	30	
1,4-Dichlorobenzene	ug/L	ND	100	100	103	101	103	101	70-133		2	30	
2,2-Dichloropropane	ug/L	ND	100	100	103	101	103	101	61-148		1	30	
2-Butanone (MEK)	ug/L	ND	200	200	192	197	96	98	60-139		2	30	
2-Chlorotoluene	ug/L	ND	100	100	104	104	104	104	70-144		0	30	
2-Hexanone	ug/L	ND	200	200	213	215	107	107	65-138		1	30	
4-Chlorotoluene	ug/L	ND	100	100	109	104	109	104	70-137		5	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	200	200	211	211	105	106	65-135		0	30	
Acetone	ug/L	ND	200	200	225	226	112	113	60-148		1	30	
Benzene	ug/L	ND	100	100	119	116	119	116	70-151		3	30	
Bromobenzene	ug/L	ND	100	100	103	102	103	102	70-136		1	30	
Bromochloromethane	ug/L	ND	100	100	112	114	112	114	70-141		2	30	
Bromodichloromethane	ug/L	ND	100	100	115	109	115	109	70-138		5	30	
Bromoform	ug/L	ND	100	100	97.1	103	97	103	63-130		6	30	
Bromomethane	ug/L	ND	100	100	121	124	121	124	15-152		2	30	
Carbon tetrachloride	ug/L	ND	100	100	115	115	115	115	70-143		0	30	
Chlorobenzene	ug/L	ND	100	100	105	102	105	102	70-138		3	30	
Chloroethane	ug/L	ND	100	100	140	139	140	139	52-163		1	30	
Chloroform	ug/L	ND	100	100	113	115	113	115	70-139		2	30	
Chloromethane	ug/L	ND	100	100	132	131	132	131	41-139		1	30	
cis-1,2-Dichloroethene	ug/L	ND	100	100	115	115	111	111	70-141		0	30	
cis-1,3-Dichloropropene	ug/L	ND	100	100	114	109	114	109	70-137		4	30	
Dibromochloromethane	ug/L	ND	100	100	99.2	102	99	102	70-134		3	30	
Dibromomethane	ug/L	ND	100	100	103	103	103	103	70-138		0	30	
Dichlorodifluoromethane	ug/L	ND	100	100	155	156	155	156	47-155		1	30	
Diisopropyl ether	ug/L	ND	100	100	111	112	111	112	63-144		0	30	
Ethylbenzene	ug/L	ND	100	100	109	108	109	108	66-153		0	30	
Hexachloro-1,3-butadiene	ug/L	ND	100	100	93.7	98.7	94	99	65-149		5	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2747431 2747432											
Parameter	Units	92454724018		MS	MSD	2747432		MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD
m&p-Xylene	ug/L	ND	200	200	200	217	219	108	109	69-152	1 30
Methyl-tert-butyl ether	ug/L	ND	100	100	100	108	110	108	110	54-156	2 30
Methylene Chloride	ug/L	ND	100	100	100	122	125	116	119	42-159	2 30
Naphthalene	ug/L	ND	100	100	100	101	98.6	101	99	61-148	3 30
o-Xylene	ug/L	ND	100	100	100	105	107	105	107	70-148	1 30
p-Isopropyltoluene	ug/L	ND	100	100	100	104	102	104	102	70-146	1 30
Styrene	ug/L	ND	100	100	100	106	108	106	108	70-135	2 30
Tetrachloroethene	ug/L	ND	100	100	100	100	99.1	100	99	59-143	1 30
Toluene	ug/L	ND	100	100	100	108	107	108	107	59-148	1 30
trans-1,2-Dichloroethene	ug/L	ND	100	100	100	117	115	117	115	70-146	2 30
trans-1,3-Dichloropropene	ug/L	ND	100	100	100	111	110	111	110	70-135	1 30
Trichloroethene	ug/L	6.0	100	100	100	118	122	112	116	70-147	3 30
Trichlorofluoromethane	ug/L	ND	100	100	100	121	120	121	120	70-148	1 30
Vinyl acetate	ug/L	ND	200	200	200	184	187	92	94	49-151	2 30
Vinyl chloride	ug/L	ND	100	100	100	145	143	145	143	70-156	1 30
Xylene (Total)	ug/L	ND	300	300	300	322	325	107	108	63-158	1 30
1,2-Dichloroethane-d4 (S)	%							103	107	70-130	
4-Bromofluorobenzene (S)	%							101	103	70-130	
Toluene-d8 (S)	%							101	99	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

QC Batch: 511330 Analysis Method: EPA 8260B Mod.
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92454724001, 92454724002

METHOD BLANK: 2743111 Matrix: Water

Associated Lab Samples: 92454724001, 92454724002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/22/19 18:58	
1,2-Dichloroethane-d4 (S)	%	97	50-150	11/22/19 18:58	
Toluene-d8 (S)	%	102	50-150	11/22/19 18:58	

LABORATORY CONTROL SAMPLE: 2743112

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	18.2	91	70-130	
1,2-Dichloroethane-d4 (S)	%			96	50-150	
Toluene-d8 (S)	%			104	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2743113 2743114

Parameter	Units	92454724002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	18.1	19.0	87	92	50-150	5	30	
1,2-Dichloroethane-d4 (S)	%						89	96	50-150		30	
Toluene-d8 (S)	%						87	90	50-150		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

QC Batch:	511423	Analysis Method:	EPA 8260B Mod.
QC Batch Method:	EPA 8260B Mod.	Analysis Description:	8260 MSV SIM
Associated Lab Samples:	92454724003, 92454724004, 92454724005, 92454724006, 92454724007, 92454724008, 92454724009, 92454724010, 92454724011, 92454724012, 92454724013, 92454724014, 92454724015, 92454724018		

METHOD BLANK: 2743467 Matrix: Water

Associated Lab Samples: 92454724003, 92454724004, 92454724005, 92454724006, 92454724007, 92454724008, 92454724009, 92454724010, 92454724011, 92454724012, 92454724013, 92454724014, 92454724015, 92454724018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/23/19 19:03	
1,2-Dichloroethane-d4 (S)	%	97	50-150	11/23/19 19:03	
Toluene-d8 (S)	%	108	50-150	11/23/19 19:03	

LABORATORY CONTROL SAMPLE: 2743468

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	19.9	99	70-130	
1,2-Dichloroethane-d4 (S)	%			96	50-150	
Toluene-d8 (S)	%			108	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2743469 2743470

Parameter	Units	92454724003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	20.3	19.9	99	97	50-150	2	30	
1,2-Dichloroethane-d4 (S)	%						109	103	50-150		30	
Toluene-d8 (S)	%						108	108	50-150		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

QC Batch: 511490 Analysis Method: EPA 8260B Mod.
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92454724016, 92454724017

METHOD BLANK: 2743623 Matrix: Water

Associated Lab Samples: 92454724016, 92454724017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/24/19 12:16	
1,2-Dichloroethane-d4 (S)	%	100	50-150	11/24/19 12:16	
Toluene-d8 (S)	%	94	50-150	11/24/19 12:16	

LABORATORY CONTROL SAMPLE: 2743624

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.3	101	70-130	
1,2-Dichloroethane-d4 (S)	%			102	50-150	
Toluene-d8 (S)	%			94	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2743625 2743626

Parameter	Units	92454724017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	19.8	21.8	95	105	50-150	10	30	
1,2-Dichloroethane-d4 (S)	%						109	107	50-150		30	
Toluene-d8 (S)	%						91	91	50-150		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: Former Kop Flex Offsite #1
Pace Project No.: 92454724

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Former Kop Flex Offsite #1

Pace Project No.: 92454724

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92454724001	MW-33D-295	EPA 8260B	511941		
92454724002	MW-33D-235	EPA 8260B	511941		
92454724003	MW-35D	EPA 8260B	511941		
92454724004	MW-30D-413	EPA 8260B	511941		
92454724005	MW-30D-273	EPA 8260B	511970		
92454724006	MW-29D	EPA 8260B	511941		
92454724007	MW-32D	EPA 8260B	511941		
92454724008	MW-36D	EPA 8260B	511970		
92454724009	MW-28D	EPA 8260B	511970		
92454724010	MW-31D	EPA 8260B	511970		
92454724011	MW-34D	EPA 8260B	511970		
92454724012	TRIP BLANK	EPA 8260B	511970		
92454724013	DUP 111919B	EPA 8260B	512103		
92454724014	MW-25D-130	EPA 8260B	511970		
92454724015	MW-25D-192	EPA 8260B	511970		
92454724016	MW-46D	EPA 8260B	511970		
92454724017	MW-45	EPA 8260B	512103		
92454724018	MW-24D	EPA 8260B	512363		
92454724001	MW-33D-295	EPA 8260B Mod.	511330		
92454724002	MW-33D-235	EPA 8260B Mod.	511330		
92454724003	MW-35D	EPA 8260B Mod.	511423		
92454724004	MW-30D-413	EPA 8260B Mod.	511423		
92454724005	MW-30D-273	EPA 8260B Mod.	511423		
92454724006	MW-29D	EPA 8260B Mod.	511423		
92454724007	MW-32D	EPA 8260B Mod.	511423		
92454724008	MW-36D	EPA 8260B Mod.	511423		
92454724009	MW-28D	EPA 8260B Mod.	511423		
92454724010	MW-31D	EPA 8260B Mod.	511423		
92454724011	MW-34D	EPA 8260B Mod.	511423		
92454724012	TRIP BLANK	EPA 8260B Mod.	511423		
92454724013	DUP 111919B	EPA 8260B Mod.	511423		
92454724014	MW-25D-130	EPA 8260B Mod.	511423		
92454724015	MW-25D-192	EPA 8260B Mod.	511423		
92454724016	MW-46D	EPA 8260B Mod.	511490		
92454724017	MW-45	EPA 8260B Mod.	511490		
92454724018	MW-24D	EPA 8260B Mod.	511423		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Laboratory receiving samples:

Asheville ☐
 Eden ☐
 Greenwood ☐
 Huntersville ☒
 Raleigh ☐
 Mechanicsville ☐

Sample Condition
Upon Receipt

Client Name:

WSP

Project #:

WO# : 92454724



Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other:

Custody Seal Present? ☒ Yes ☐ No
 Seals Intact? ☒ Yes ☐ No

Date/Initials Person Examining Contents: YCO 11/24/19

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Thermometer: ☒ IR Gun ID: 92T058
 Type of Ice: ☒ Wet ☐ Blue ☐ None

Biological Tissue Frozen?

☐ Yes ☐ No ☒ N/A

Cooler Temp (°C): 3.2, 1.4 Correction Factor: Add/Subtract (°C) 0.0°C

Cooler Temp Corrected (°C): 3.2, 1.4

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil ☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

		Comments/Discrepancy:
Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes ☒ No ☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	4.
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	5.
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	6.
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A	
Containers Intact?	☐ Yes ☐ No ☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes ☒ No ☐ N/A	8.
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: <u>Wt</u>		
Headspace in VOA Vials (>5-6mm)?	☐ Yes ☒ No ☐ N/A	10.
Trip Blank Present?	☒ Yes ☐ No ☐ N/A	11.
Trip Blank Custody Seals Present?	☒ Yes ☐ No ☐ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review:

Date: 11/22

Project Manager SRF Review:

Date: 11/22



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A

Client Information:

Company: WSP
Address: 13530 Dulles Technology Drive
Arlington, VA 22204

Section B
Required Project Information:

Report To: Cresco, Chris
Copy To: [blank]
Purchase Order #: [blank]

Section C
Invoice Information:

Attention: Accounts Payable
Company Name: Pace Analytical
Address: [blank]
Pace Quote: [blank]
Pace Project Manager: taylor.ezell@paceanalytical.com
Pace Profile #: 4362-1

Page: 1 of 2

Offsite #1

Requested Due Date: 1/24/14

Project Name: Former Kop-Flex Facility
Project #: 3401545-011

Regulatory Agency: [blank]
State / Location: MD

SAMPLE ID
One Character per box.
(A-Z, 0-9, -, .)

MATRIX CODE (see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED
START TIME
END TIME
DATE
TIME

SAMPLE TEMP AT COLLECTION

OF CONTAINERS
Unpreserved
H2SO4
HNO3
HCl
NaOH
Na2S2O3
Methanol
Other

Analyses Test
VOC by 8260 & 8260SIM
Trip BLANK

Requested Analysis Filtered (Y/N)

Residual Chlorine (Y/N)

MATRIX	CODE	MATRIX CODE	SAMPLE TYPE	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test	VOC by 8260 & 8260SIM	Trip BLANK	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
Drinking Water	DW																			
Water	WT																			
Waste Water	WW																			
Product	P																			
Soil/Solid	SL																			
Oil	OL																			
Wipe	WP																			
Air	AR																			
Other	OT																			
Tissue	TS																			

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION

DATE

TIME

ACCEPTED BY / AFFILIATION

DATE

TIME

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

Motivation

DATE Signed: 1/20/14

TEMP in C

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

Required Client Information:	
Company:	WGS

Section B
Required

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section C

ely.

Project Information:		Invoice Information:	
WSP	Report To: Cresci, Chris	Attention:	Page: 2 of 2 Regulatory Agency
Address: 13530 Dulles Technology Drive	Copy To:	Company Name:	
Suite 300, Herndon, VA 20171		Address:	
Email:		Pace Quote:	
Phone:		Pace Project Manager:	
Requested Due Date: Standard TAT	Purchase Order #:		
	Project Name: Former Kop-Flex Facility		
	Project #: 3140505-01		

[illegible]

Laboratory receiving samples:

Asheville ☐
 Eden ☐
 Greenwood ☐
 Huntersville ☒
 Raleigh ☐
 Mechanicsville ☐

Sample Condition
Upon Receipt

Client Name:

WSP

Project #:

WO# : 92454724



92454724

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other:

Custody Seal Present? ☒ Yes ☐ No
 Seals Intact? ☒ Yes ☐ No

Date/Initials Person Examining Contents: YCO 11/24/19

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen?

☐ Yes ☐ No ☒ N/A

Thermometer:

☒ IR Gun ID: 92T058

Type of ice: ☒ Wet ☐ Blue ☐ None

Cooler Temp (°C): 3.2, 1.4 Correction Factor: Add/Subtract (°C) 0.0°C

Cooler Temp Corrected (°C): 3.2, 1.4

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil ☒ N/A, water sample

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

			Comments/Discrepancy:
Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.	
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	2.	
Short Hold Time Analysis (<72 hr.)?	☐ Yes ☒ No ☐ N/A	3.	
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	4.	
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	5.	
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	6.	
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A		
Containers Intact?	☒ Yes ☐ No ☐ N/A	7.	
Dissolved analysis: Samples Field Filtered?	☐ Yes ☒ No ☐ N/A	8.	
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	9.	
-Includes Date/Time/ID/Analysis Matrix: <u>Wt</u>			
Headspace in VOA Vials (>5-6mm)?	☐ Yes ☒ No ☐ N/A	10.	
Trip Blank Present?	☒ Yes ☐ No ☐ N/A	11.	
Trip Blank Custody Seals Present?	☒ Yes ☐ No ☐ N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review:

TC
RD

Date: 11/22

Project Manager SRF Review:

Date: 11/22



CHAIN-OF-CUSTODY / Analytical Request Document

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

OFFSITE #1

Section A

Required Client Information:

Company: WSP
Address: 13530 Dulles Technology Drive
Suite 300, Herndon, VA 20171
Phone: 703 739 6500
Fax: 703 739 6500
Email: info@wsp.com
Requested Due Date: Standard TAT

Section B

Required Project Information:

Report To: Cresco, Chris
Copy To:
Purchase Order #:
Project Name: Former Kop-Flex Facility
Project #: 3401545.011

Section C

Invoice Information:

Attention: Accounts payable@wsp.com
Company Name: accounts payable@wsp.com
Address:
Pace Quote:
Pace Project Manager: taylor.ezell@pacelabs.com
Pace Profile #: 4362-1

Page: 1 of 2

Regulatory Agency

State / Location

MD

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 /, -) Sample IDs must be unique	MATRIX Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analyses Test	Y/N	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
				DATE	TIME			START	END	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3			Methanol	Other	VOC by 8260 & 8260SIM	Trip BLANK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

ADDITIONAL COMMENTS

MW-35D 11/20/19 1400

Accepted by: [Signature] DATE: 11/24/19 TIME: 932

TEMP in C 5.2
Received on Ice (Y/N) Y
Custody Sealed Cooler (Y/N) Y
Samples Intact (Y/N) Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed: 11/20/19

CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed.

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

Section A

Required Client Information:

Company: WSP

Address. 13530 Dulles Technology Drive
Suite 300, Herndon, VA 20171

Email:

Phone:	Fax:
--------	------

Requested Due Date: Standard TAT

[illegible]

Section B

Required Project Information:

Report To:	Cresci, Chris
Copy To:	

Copy To:

Purchase Order # _____

Purchase Order #:	Former Koo-Elov Eos114
Project Name:	

Project #: 3140545.01

Section C

Invoice Information:

Attention:	
Company Name:	

Address:

Pace Quote:

Page Project Manager:	taylor.ezell@pacelabs.com
Page Profile #:	4363 1

4302-1

Regulatory Agency

Page : 2 Of 2

Document Revised: February 7, 2018

MO# : 92454724

samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg
 ***Bottom half of box is to list number of bottle

[illegible]

pH Adjustment Log for Preserved Samples

Note: Whenever there is a discrepancy affecting North Carolina comp Out of hold, incorrect preservative, out of temp, incorrect containers.

[illegible]

Project #

[illegible]

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina components, the following information should be provided: Out of hold, incorrect preservative, out of temp, incorrect containers.