VIA ELECTRONIC MAIL

February 12, 2021

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. 17 - 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 of 2020 in the offsite portion of the Former Kop-Flex Facility Site in Hanover, Maryland. 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. Overall, information presented on the hydrogeologic conditions and water quality for the impacted portion of the aquifer system are consistent with previously collected data.

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

Kind regards,

Robert E. Johnson
Director, Geological Sciences

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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. 17 – OFFSITE AREA

FORMER KOP-FLEX FACILITY SITE

October 2020 through December 2020

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 2020 THROUGH DECEMBER 2020

1.1 RESIDENTIAL WELL SAMPLING – 7932 ANDORICK DRIVE

- On September 30, 2020, EMERSUB 16 received laboratory analytical reports for water samples collected at four homes in the Andorick Acres community during July and early August 2020. For each of these homes, the sole source of potable water is a residential well on the property. Samples collected from three of the four properties did not contain detectable concentrations of site-related constituents of concern (COCs). The water sample collected in late July by the 7932 Andorick Drive homeowner had a 1,4-dioxane concentration of 5.0 micrograms per liter (µg/l), which was slightly above the comparative water quality criterion of 4.6 µg/l adopted by MDE for the former Kop-Flex facility site (Site). This water sample was collected from the replacement well (post treatment) that was installed in February 2017 and completed at a depth of 158 feet below ground surface. On October 8, 2020, WSP notified MDE of the 1,4-dioxane detection in the 7932 Andorick Drive water sample.
- Based on a review of the laboratory analytical report and lack of information regarding the method of sample collection by the homeowner, WSP recommended the collection of another sample from the residential well at 7932 Andorick Drive to confirm the 1,4-dioxane detection. MDE approved this recommendation in an email on October 9, 2020. WSP visited the property on October 21, 2020, and collected pre- and post-treatment water samples from the well using the same field sampling procedure that has been used to sample other residential wells in the area. A copy of the certified laboratory report for these samples is provided in Enclosure A. The laboratory results showed that no site-related COCs, including 1,4-dioxane, were detected in the water samples. The analytical results were communicated to MDE and the homeowner upon receipt of the laboratory report.
- Based on the October re-sampling results, MDE requested that EMERSUB 16 and WSP collect water samples for an additional two months to determine whether the 1,4-dioxane detection in the July 2020 sample collected by the homeowner was erroneous or reflected natural variability in the water quality in the portion of the aquifer screened by the residential well. The first sampling event was conducted on December 8, 2020, and involved the collection of pre- and post-treatment water samples from the well. Results for samples collected July, October, and December 2020 as well as the initial samples collected in April 2017, are summarized in Table 1. A copy of the certified laboratory report for the December 2020 sample is provided in Enclosure A. As with the October 2020 sampling event, no site-related COCs were detected

in either the pre- or post-treatment water samples in December. The December sample results were provided to the homeowner and MDE after receiving the laboratory analytical report.[1]

1.2 SEMI-ANNUAL GROUNDWATER MONITORING

— All offsite monitoring wells screened in the deep, confined portion of the Lower Patapsco aquifer and underlying Patuxent aquifer were sampled on November 23, 2020, using a disposable passive sampling device (HydraSleeve™) that had been deployed following the sampling of each well in May 2020. In addition, a sample was collected from shallow monitoring well MW-45 on the William Scotsman property screened in the unconfined portion of the Lower Patapsco aquifer, utilizing the same sampling method. At each well location, the Hydrasleeve™ sampler was carefully removed and the groundwater sample immediately collected in the appropriate lab-supplied containers. The sample retrieval depths for each well were consistent with those from previous monitoring events and are provided below.

— As part of the sampling event, WSP obtained depth to water measurements from all monitoring wells with the exception of MW-33D-235. No water level measurement was taken at this well due to a malfunction of the electronic water level meter. Depth to water measurements for the deep 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	53.02	128	118 – 128	122 – 124.5
MW-25D-130	Confined Lower Patapsco	60.50	130	120 – 130	125 – 127.5
MW-25D-192	Confined Lower Patapsco	59.50	192	182 – 192	185 – 187.5
MW-28D	Confined Lower Patapsco	92.87	210	200 – 210	205 – 207.5
MW-29D	Confined Lower Patapsco	67.75	151	141 – 151	146 – 148.5
MW-30D-273	Confined Lower Patapsco	103.09	273	263 – 273	267 – 269.5
MW-30D-413	Patuxent	142.22	413	403 –413	407 – 409.5
MW-31D	Confined Lower Patapsco	113.30	280	270 – 280	275 – 277.5
MW-32D	Confined Lower Patapsco	103.76	236	226 – 236	233 – 235.5
MW-33D-235	Confined Lower Patapsco	Not Measured	235	225 –235	230 – 232.5
MW-33D-295	Confined Lower Patapsco	130.21	295	285 – 295	290 – 292.5

[1] The second sample, which was collected on January 6, 2021, was also non-detect for site-related COCs. It will be formally addressed in Quarterly Status Report No. 18.

Well ID	Hydrologic Unit	Depth to Water (ft BGS)	Well Depth (ft BGS)	Well Screen Interval (ft BGS)	Sample Interval (ft BGS)
MW-34D	Confined Lower Patapsco/Arundel Clay	139.00	385	375 – 385	379 – 381.5
MW-35D	Confined Lower Patapsco	129.67	298	288 – 298	293 – 295.5
MW-36D	Patuxent	145.25	360	350 – 360	357 – 359.5
MW-46D	Confined Lower Patapsco	37.72	90	80 – 90	84 – 86.5

FT BGS = feet below ground surface

— A potentiometric surface contour map for the deep, confined portion of the Lower Patapsco aquifer is shown in Figure 1 using the water level data obtained during the November 2020 sampling activities. The general direction of groundwater flow in the deep, confined portion of the Lower Patapsco aquifer is to the south-southeast in the offsite area south of Maryland Route 100, which is consistent with previous measurements. As indicated by the onsite water level data, the groundwater flow direction in the deep, confined portion of the Lower Patapsco aquifer differs from the direction of flow in the shallow portion of this aquifer, which is to the north-northeast.

— The analytical results for samples collected 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 constituents of concern (COCs) detected in the November 2020 samples are shown on Figure 2.

Overall, the analytical data indicates the presence of site-related constituents just over one mile hydraulically downgradient (south-southeast) of the former Kop-Flex property in the deep, confined portion of the Lower Patapsco aquifer. It should be noted that site-related COCs were also detected in the sample from shallow portions of the Lower Patapsco aquifer obtained from well MW-46D on the Verizon property to the north of the former Kop-Flex facility, with a total COC concentration of 178.6 µg/l. This total COC concentration is consistent with the level for the May 2020 sample (183 µg/l). The concentrations of 1,1-DCE; 1,1-dichloroethane (DCA); and 1,4-dioxane exceeded their respective comparative groundwater quality criteria in the MW-46D sample.

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 (794.2 µg/l). Compared to the last two samples collected from this well, this total COC concentration is higher than the level for the second quarter (May) 2020 monitoring event (573 µg/l) but lower than the concentration detected in the fourth quarter (November) 2019 sampling round (1,094 µg/l). Further downgradient, a total concentration of site-related COCs of 116.6 µg/l was detected in the MW-25D-130 sample, which is similar to the concentrations in the sample (105.5 µg/l) from the deeper well (MW-25D-192) at this location. The concentrations of site-related COCs, particularly 1,1-dichloroethene (DCE) and 1,4-dioxane, in the MW-25D-130 sample exhibited a decreasing trend during 2018 and 2019 sampling events, and appeared to have stabilized in 2020. The results for MW-25D-192 have also shown a reduction in COC concentrations, with concentrations in recent well samples appearing to be generally consistent (Table 4). The concentrations of 1,1-DCE; 1,1-DCA; and 1,4-dioxane were above their respective comparative groundwater quality criteria in the November 2020 samples from MW-24D, MW-25D-130, and MW-25D-192.

The majority of the sampling data for the confined Lower Patapsco monitoring wells located further downgradient indicated non-detect to very low concentrations of site-related COCs (Figure 2). The main 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 near the intersection of Old Camp Meade Road and Twin Oaks Road. The groundwater sample from this well (MW-30D-273) had concentrations of 1,1-DCE (39.5 µg/l) and 1,4-dioxane (19.5 µg/l) noticeably above their respective groundwater quality criteria. In addition, the concentrations of 1,1-DCE in MW-28D sample (7.6 µg/l) and 1,4-dioxane in the sample from the deeper well at MW-33D location (6.0 µg/l) slightly exceeded their respective comparative criteria. The sample results for the remaining wells (MW-29D, MW-31D, MW-32D, MW-34D and MW-35D) were non-detect for all site-related COCs and are used to delineate both the presumed width, as well as the downgradient extent, of the plume in the confined Lower Patapsco aquifer.

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 COCs were detected in the samples from these wells, indicating constituents 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 2021 THROUGH MARCH 2021)

- Complete the second monthly sampling event for the residential well at 7932 Andorick Drive in early January, and provide the sample results to the homeowner and MDE (this has been done, per the note on p. 3).

- Prepare and submit the 2020 Offsite Groundwater Monitoring Report to MDE and the U.S. Environmental Protection Agency (EPA), Region III.

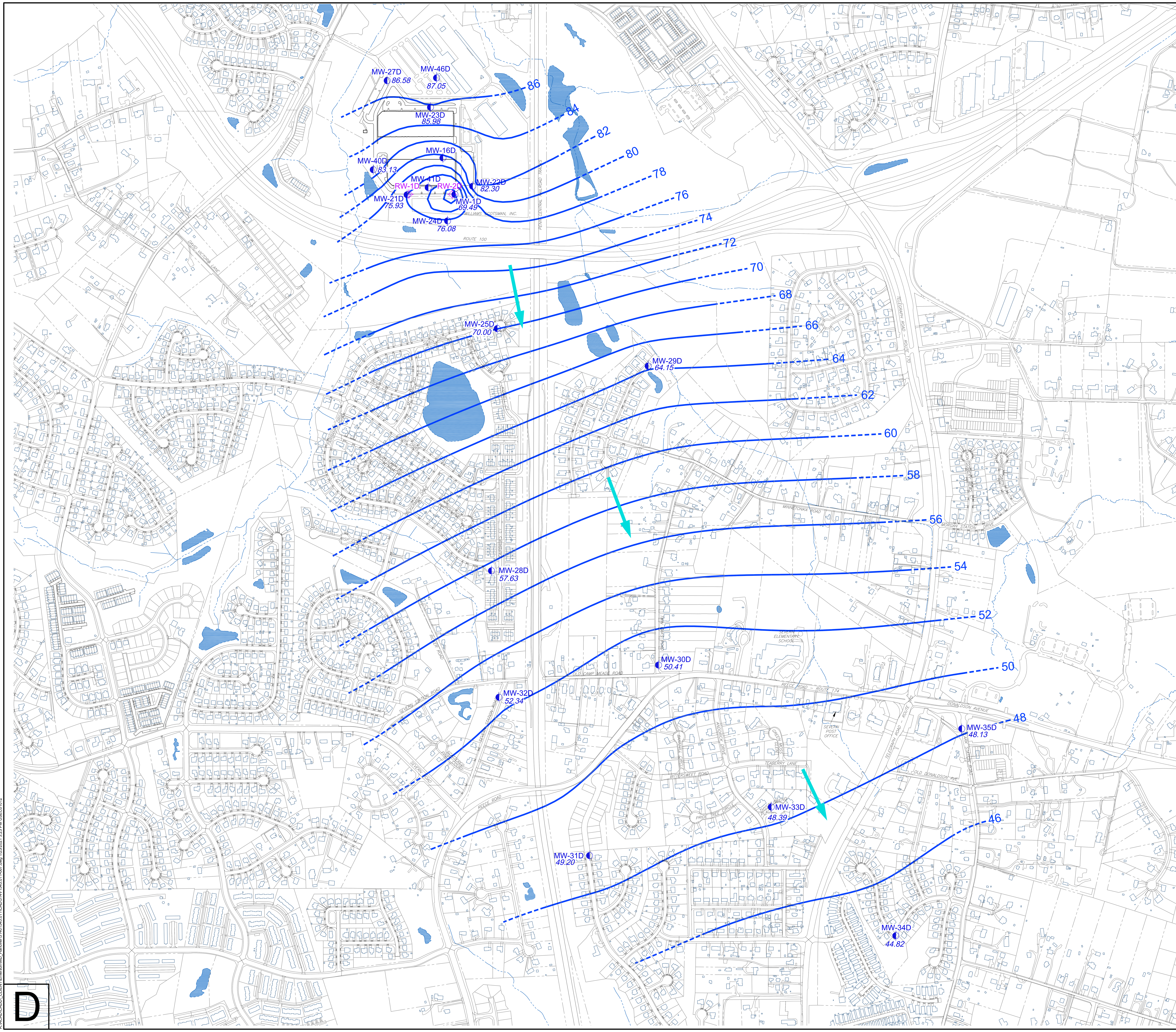
In accordance with the approved Offsite Groundwater Monitoring Plan (dated September 15, 2015), long-term monitoring to assess the concentrations of site-related COCs in the aquifer system is conducted on a semi-annual schedule. Setting aside the planned sampling of the residential well at 7932 Andorick Drive, The next groundwater monitoring event for the offsite well network will be performed during May 2021.

Given the ongoing COVID-19 pandemic, it is possible that planned field activities will need to be delayed or postponed to ensure conformance with government-issued directives and address potential health concerns raised by the public. EMERSUB 16 will coordinate Site activities with MDE and the USEPA to the extent possible to avoid any delays or disruptions regarding completion of the required field tasks.

3.0 KEY PERSONNEL/FACILITY CHANGES

There were no changes to either key project personnel or conditions relevant to the performance of the ongoing work at the site.

FIGURES



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

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REVISIONS

REV	DESCRIPTION

SEAL

DATE

DRAWN BY	EGC
CHECKED	CC 1/21/2021
APPROVED	

POTENTIOMETRIC SURFACE CONTOUR MAP DEEP CONFINED PORTION OF THE LOWER PATAPSCO AQUIFER NOVEMBER 2020

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 1

Drawing Number
314V1545.011-067

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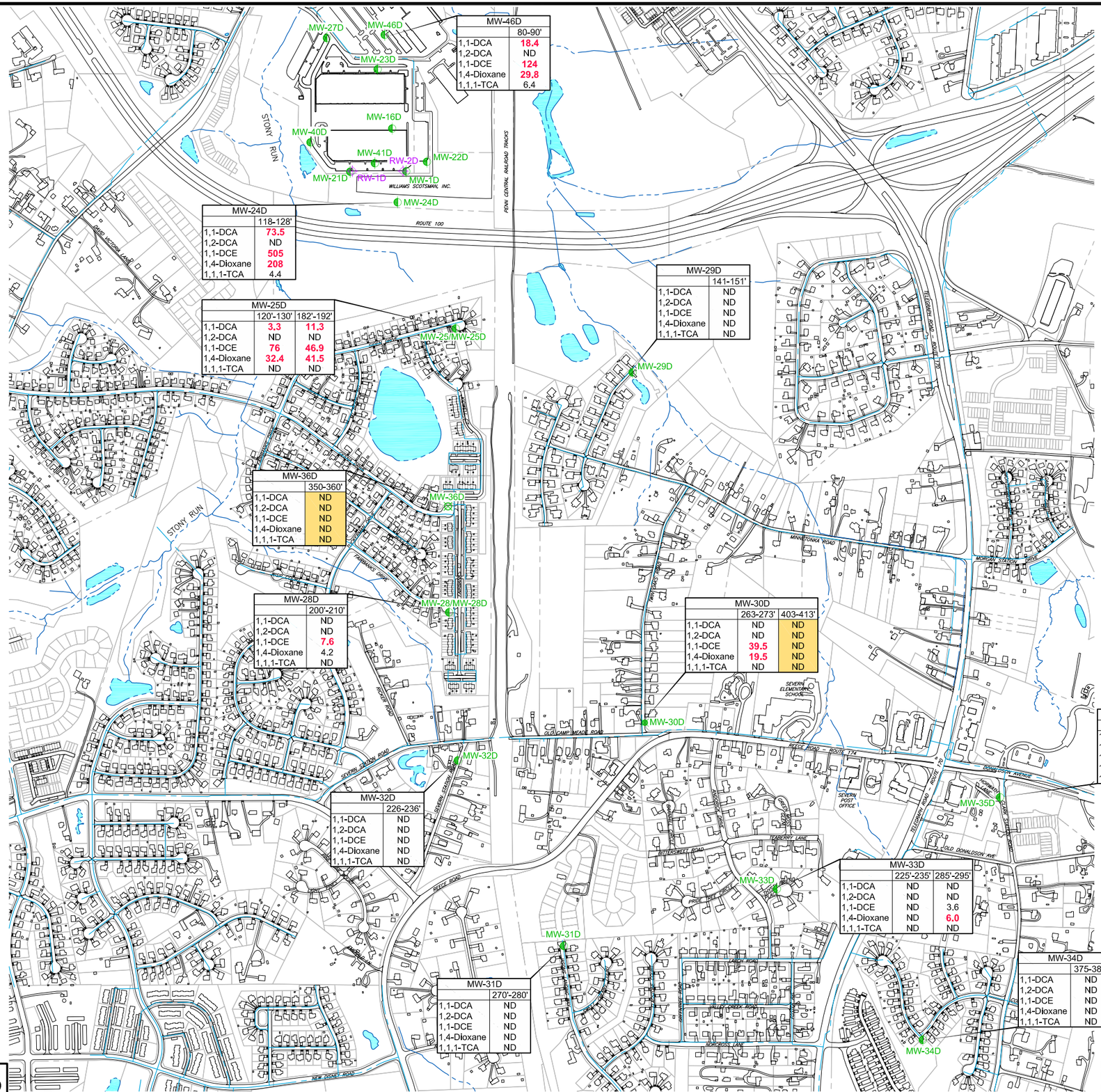

MW-46D	80-90'
1,1-DCA	18.4
1,2-DCA	ND
1,1-DCE	124
1,4-Dioxane	29.8
1,1,1-TCA	6.4

MW-24D	118-128'
1,1-DCA	73.5
1,2-DCA	ND
1,1-DCE	505
1,4-Dioxane	208
1,1,1-TCA	4.4

MW-25D	120'-130'	182'-192'
1,1-DCA	3.3	11.3
1,2-DCA	ND	ND
1,1-DCE	76	46.9
1,4-Dioxane	32.4	41.5
1,1,1-TCA	ND	ND

MW-29D	141-151'
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	ND
1,1,1-TCA	ND

MW-36D	350-360'
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	ND
1,1,1-TCA	ND

MW-28D	200'-210'
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	7.6
1,4-Dioxane	4.2
1,1,1-TCA	ND

MW-30D	263-273'	403-413'
1,1-DCA	ND	ND
1,2-DCA	ND	ND
1,1-DCE	39.5	ND
1,4-Dioxane	19.5	ND
1,1,1-TCA	ND	ND

MW-35D	288'-298'
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	ND
1,1,1-TCA	ND

MW-32D	226-236'
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	ND
1,1,1-TCA	ND

MW-33D	225'-235'	285'-295'
1,1-DCA	ND	ND
1,2-DCA	ND	ND
1,1-DCE	ND	3.6
1,4-Dioxane	ND	6.0
1,1,1-TCA	ND	ND

MW-31D	270'-280'
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	ND
1,1,1-TCA	ND

MW-34D	375-385'
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	ND
1,1,1-TCA	ND

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LEGEND

- PROPERTY LINE
- WATER MAIN
- STREAM
- WATER BODY
- CONFINED LOWER PATAPSCO AQUIFER MONITORING WELL
- PATUXENT AQUIFER MONITORING WELLS
- CONFINED LOWER PATAPSCO AQUIFER AND PATUXENT AQUIFER MONITORING WELLS
- RECOVERY WELL

MW-28D	200'-210'
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	7.6
1,4-Dioxane	4.2
1,1,1-TCA	ND

- WELL IDENTIFICATION
- SCREENED INTERVAL (FT-BGS)
- SAMPLE RESULTS IN ppb (RED INDICATES RESULTS ABOVE MDE CLEANUP STANDARDS)
- CONSTITUENTS

DCA DICHLOROETHANE
DCE DICHLOROETHENE
TCA TRICHLOROETHANE
ND NOT DETECTED

WELL SCREENED IN THE PATUXENT AQUIFER

N

0 800 1600
SCALE IN FEET

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

Drawn By: EGC
Checked: CC 1/27/2021
Approved: RG
DWG Name: 314V1545.011-072

FORMER KOP-FLEX FACILITY
HANOVER, MARYLAND
PREPARED FOR
EMERSUB 16 LLC
ST. LOUIS, MISSOURI

Figure 2

GROUNDWATER MONITORING RESULTS
LOWER PATAPSCO AQUIFER AND PATUXENT AQUIFER
OFFSITE MONITORING WELLS - NOVEMBER 2020

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
for Replacement Well
7932 Andorick Drive
Severn, Maryland

		Parameter	Acetone	2-Butanone	1,1-Dichloroethane	1,1-Dichloroethylene	1,1,1-Trichloroethane	Toluene	1,4-Dioxane
		Units	µg/L	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
		MCL	1,400 (a)	560 (a)	2.8 (a)	7	200	1,000	4.6 (b)
Address	**Sample Type**	**Date**							
7932 Andorick Drive Well Depth: 158'	Post-Treatment (c)	4/19/2017	37 (e)	18 (e)	ND	ND	ND	2.7 (e)	ND
	Post-Treatment (d)	7/27/2020	ND	ND	ND	ND	ND	ND	**5.0**
	Pre-Treatment	10/21/2020	ND	ND	ND	ND	ND	ND	ND
	Post-Treatment	10/21/2020	ND	ND	ND	ND	ND	ND	ND
	Pre-Treatment	12/8/2020	ND	ND	ND	ND	ND	ND	ND
	Post-Treatment	12/8/2020	ND	ND	ND	ND	ND	ND	ND

(a) Maryland Department of Environment Groundwater Standard (October 2018)
(b) Maryland Risk Based Action Level.
(c) Sample collected after installation of the replacement well in February 2017
(d) Sample collected by homeowner.
(e) The detected concentration of this parameter is associated with adhesive materials used to assemble the PVC piping from the newly installed replacement well to the water treatment system in the basement of the house. The presence of these constituents in glues and other adhesives can result in their detection in samples of water moving through newly installed or repaired PVC piping.

Notes:
MCL = US Environmental Protection Agency Maximum Contaminant Level
µg/L = micrograms per liter
ND = Not Detected
Bold indicates a concentration above the applicable water quality standard at the time of sampling.
Well depth indicates the bottom of the screened interval.

Table 2

Historical Groundwater Elevations (2015 through 2020)
Offsite Monitoring Wells
Former Kop-Flex Facility Site
Hanover, Maryland

Well ID	Aquifer/Zone	TOC elevation	3/17/2015		6/15/2015		9/21/2015		1/4/2016		3/21/2016		12/7/2016		5/1/2017	
			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*	*Depth to Water*	*Groundwater Elevation*
MW-25S *	Unconfined LPA	130.6	12.84	117.76	12.46	118.14	14.33	116.27	13.48	117.12	12.75	117.85	14.61	115.99	14.02	116.58
MW-28S *	Unconfined LPA	150.5	25.56	124.94	25.24	125.26	25.88	124.62	25.35	125.15	25.34	125.16	26.8	123.70	27.4	123.10
MW-45	Unconfined LPA	126.7	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	13.67	113.05
MW-24D	Confined LPA	129.1	50.9	78.20	49.29	79.81	NM	-	NM	-	44.38	84.72	46.3	82.80	48.35	80.75
MW-25-130	Confined LPA	130.5	58.7	71.80	57.59	72.91	58.26	72.24	53.95	76.55	51.01	79.49	50.27	80.23	53.80	76.70
MW-25-192	Confined LPA	130.5	59.99	70.51	56.4	74.10	57.23	73.27	53.05	77.45	50.27	80.23	52.4	78.10	53.11	77.39
MW-28D	Confined LPA	150.5	93.06	57.44	89.36	61.14	90.34	60.16	84.62	65.88	80.72	69.78	83.35	67.15	82.72	67.78
MW-29D	Confined LPA	131.9	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW-30D-273	Confined LPA	153.5	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW-31D	Confined LPA	162.5	114.02	48.48	108.58	53.92	109.51	52.99	102.44	60.06	98.41	64.09	114.20	48.30	100.24	62.26
MW-32D	Confined LPA	156.1	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW-33D-235	Confined LPA	178.6	131.83	46.77	125.66	52.94	127.11	51.49	119.14	59.46	115.25	63.35	114.2	64.40	117.26	61.34
MW-33D-295	Confined LPA	178.3	131.52	46.78	125.42	52.88	126.91	51.39	118.90	59.40	114.96	63.34	131.50	46.80	117.03	61.27
MW-34D	Confined LPA	183.9	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW-35D	Confined LPA	177.8	132.01	45.79	126.28	51.52	127.89	49.91	118.96	58.84	114.34	63.46	131.91	45.89	117.28	60.52
MW-46D	Confined LPA	124.8	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW-30D-413	Patuxent	153.1	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW-36D	Patuxent	158.7	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-

Notes:
LPA = Lower Patapsco Aquifer
NM = Not Measured
TOC = Top of Casing
* Well abandoned in August 2019

Table 2

Historical Groundwater Elevations (2015 through 2020)
Offsite Monitoring Wells
Former Kop-Flex Facility Site
Hanover, Maryland

Well ID	Aquifer/Zone	TOC elevation	8/31/2017		11/14/2017		2/13/2018		5/31/2018		8/23/2018		11/8/2018	
			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*	*Depth to Water*	*Groundwater Elevation*
MW-25S *	Unconfined LPA	130.6	14.09	116.51	14.6	116.00	14.56	116.04	13.10	117.50	NM	-	11.84	118.76
MW-28S *	Unconfined LPA	150.5	27.2	123.30	27.22	123.28	27.48	123.02	27.42	123.08	NM	-	24.33	126.17
MW-45	Unconfined LPA	126.7	NM	-	NM	-	NM	-	12.98	113.74	NM	-	NM	-
MW-24D	Confined LPA	129.1	48.35	80.75	51.99	77.11	NM		50.94	78.16	NM	-	NM	-
MW-25-130	Confined LPA	130.5	61.38	69.12	58.46	72.04	58.31	72.19	58.23	72.27	59.53	70.97	58.75	71.75
MW-25-192	Confined LPA	130.5	60.36	70.14	58.71	71.79	57.49	73.01	57.40	73.10	58.69	71.81	57.63	72.87
MW-28D	Confined LPA	150.5	94.55	55.95	89.03	61.47	67.37	83.13	88.75	61.75	90.98	59.52	88.30	62.20
MW-29D	Confined LPA	131.9	NM	-	NM	-	NM	-	64.94	66.98	66.56	65.36	65.03	66.89
MW-30D-273	Confined LPA	153.5	NM	-	NM	-	NM	-	98.66	54.88	100.70	52.84	98.14	55.40
MW-31D	Confined LPA	162.5	115.67	46.83	107.21	55.29	106.29	56.21	106.80	55.70	109.95	52.55	106.27	56.23
MW-32D	Confined LPA	156.1	NM	-	NM	-	NM	-	97.90	58.24	100.65	55.49	98.97	57.17
MW-33D-235	Confined LPA	178.6	133.39	45.21	124.55	54.05	123.79	54.81	124.00	54.60	127.52	51.08	125.14	53.46
MW-33D-295	Confined LPA	178.3	133.14	45.16	124.36	53.94	123.60	54.70	123.83	54.47	127.34	50.96	125.69	52.61
MW-34D	Confined LPA	183.9	NM	-	NM	-	NM	-	132.70	51.21	136.42	47.49	131.76	52.15
MW-35D	Confined LPA	177.8	133.55	44.25	125.59	52.21	124.02	53.78	124.27	53.53	128.19	49.61	123.64	54.16
MW-46D	Confined LPA	124.8	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW-30D-413	Patuxent	153.1	NM	-	NM	-	NM	-	138.10	15.03	143.75	9.38	140.62	12.51
MW-36D	Patuxent	158.7	NM	-	NM	-	NM	-	141.75	16.96	146.32	12.39	143.85	14.86

Notes:
LPA = Lower Patapsco Aquifer
NM = Not Measured
TOC = Top of Casing
* Well abandoned in August 2019

Table 2

Historical Groundwater Elevations (2015 through 2020)
Offsite Monitoring Wells
Former Kop-Flex Facility Site
Hanover, Maryland

Well ID	Aquifer/Zone	TOC elevation	2/19/2019		5/22/2019		8/6/2019		11/20/2019		2/12/2020		5/14/2020		11/23/2020	
			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*	*Depth to Water*	*Groundwater Elevation*
MW-25S *	Unconfined LPA	130.6	11.75	118.85	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW-28S *	Unconfined LPA	150.5	23.30	127.20	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW-45	Unconfined LPA	126.7	11.98	114.74	11.75	114.97	NM	-	14.55	112.17	NM	-	NM	-	NM	-
MW-24D	Confined LPA	129.1	48.92	80.18	49.67	79.43	52.37	76.73	51.12	77.98	50.10	79.00	48.80	80.30	53.02	76.08
MW-25-130	Confined LPA	130.5	54.96	75.54	56.23	74.27	60.79	69.71	59.94	70.56	55.55	74.95	54.95	75.55	60.50	70.00
MW-25-192	Confined LPA	130.5	54.20	76.30	55.45	75.05	60.37	70.13	59.02	71.48	54.70	75.80	54.23	76.27	59.50	71.00
MW-28D	Confined LPA	150.5	84.78	65.72	86.96	63.54	94.24	56.26	91.37	59.13	85.00	65.50	84.36	66.14	92.87	57.63
MW-29D	Confined LPA	131.9	60.64	71.28	62.36	69.56	67.20	64.72	67.10	64.82	61.28	70.64	60.61	71.31	67.75	64.17
MW-30D-273	Confined LPA	153.5	93.10	60.44	95.74	57.80	104.75	48.79	101.12	52.42	93.29	60.25	92.60	60.94	103.09	50.45
MW-31D	Confined LPA	162.5	102.47	60.03	104.91	57.59	113.35	49.15	110.14	52.36	102.73	59.77	NM	-	113.30	49.20
MW-32D	Confined LPA	156.1	93.79	62.35	97.02	59.12	99.43	56.71	101.56	54.58	92.35	63.79	94.31	61.83	103.76	52.38
MW-33D-235	Confined LPA	178.6	119.35	59.25	121.72	56.88	132.76	45.84	127.87	50.73	119.72	58.88	119.10	59.50	NM	-
MW-33D-295	Confined LPA	178.3	119.10	59.20	NM	NA	131.14	47.16	127.65	50.65	119.54	58.76	118.84	59.46	130.21	48.09
MW-34D	Confined LPA	183.9	127.40	56.51	129.93	53.98	141.48	42.43	136.62	47.29	127.75	56.16	127.01	56.90	139.08	44.83
MW-35D	Confined LPA	177.8	119.18	58.62	121.65	56.15	127.51	50.29	129.89	47.91	119.68	58.12	119.06	58.74	129.67	48.13
MW-46D	Confined LPA	124.8	NM	-	35.47	89.30	38.40	86.37	37.90	86.87	36.13	88.64	35.73	89.04	37.72	87.05
MW-30D-413	Patuxent	153.1	130.73	22.40	137.25	15.88	145.27	7.86	143.64	9.49	128.12	25.01	127.25	25.88	142.22	10.91
MW-36D	Patuxent	158.7	134.83	23.88	141.30	17.41	147.65	11.06	146.75	11.96	132.11	26.60	131.08	27.63	145.25	13.46

Notes:
LPA = Lower Patapsco Aquifer
NM = Not Measured
TOC = Top of Casing
* Well abandoned in August 2019

Table 3

Offsite Monitoring Well Sample Results
Former Kop-Flex Facility Site
Hanover, Maryland
November 2020

Parameters (a)	Groundwater Quality Standards (µg/L) (b)	Well ID: / Sampling Date:	CONFINED LOWER PATAPSCO AQUIFER									
			MW-24D 11/23/20	**MW-25D-130** 23-Nov-20	**MW-25D-192** 23-Nov-20	**DUP 112320(d)** 23-Nov-20	**MW-28D** 23-Nov-20	**MW-29D** 23-Nov-20	**MW-30D-273** 23-Nov-20	**MW-31D** 23-Nov-20	**MW-32D** 23-Nov-20	**MW-33D-235** 23-Nov-20
1,1-Dichloroethane	2.8		**73.5**	**3.3**	**11.3**	**3**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5		3.3	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		**505**	**76**	**46.9**	**60.7**	**7.6**	1.0 U	**39.5**	1.0 U	1.0 U	1.0 U
1,4-Dioxane	4.6 (c)		**208**	**32.4**	**41.5**	**33.2**	4.2	2.0 U	**19.5**	2.0 U	2.0 U	2.0 U
1,1,1-Trichloroethane	200		4.4	4.9	5.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Total CVOCs & 1,4-Dioxane	-	794.2	116.6	105.5	96.9	11.8	---	59.0	---	---	---

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

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 2020

Parameters (a)	Groundwater Quality Standards (µg/L) (b)		CONFINED LOWER PATAPSCO AQUIFER				PATUXENT AQUIFER	
		Well ID:	**MW-33D-295**	**MW-34D**	**MW-35D**	**MW-46D**	**MW-30D-413**	**MW-36D**
		Sampling Date:	23-Nov-20	23-Nov-20	23-Nov-20	23-Nov-20	23-Nov-20	23-Nov-20
1,1-Dichloroethane	2.8		1.0 U	1.0 U	1.0 U	**18.4**	1.0 U	1.0 U
1,2-Dichloroethane	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	7		3.6	1.0 U	1.0 U	**124.0**	1.0 U	1.0 U
1,4-Dioxane	4.6 (c)		**6.0**	2.0 U	2.0 U	**29.8**	2.0 U	2.0 U
1,1,1-Trichloroethane	200		1.0 U	1.0 U	1.0 U	6.4	1.0 U	1.0 U
	Total CVOCs & 1,4-Dioxane		9.6	---	---	178.6	---	---

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

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)		2.8 (1)	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
MW-45	3/24/2017	1.0 U	1.9	1.0 U	2.3	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/28/2018	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/8/2020	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 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
	5/12/2020	**25**	3.3	**402**	5.0 U	**139**	25.0 U	3.7	5.0 U	3.2
	11/23/2020	**73.5**	4.0 U	**505**	4.0 U	**208**	20.0 U	4.4	4.0 U	4.0 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
	5/14/2020	**3.3**	1.0 U	**69.1**	1.0 U	**32.6**	5.0 U	1.0 U	1.0 U	1.0 U
	11/23/2020	**3.3**	1.0 U	**76.0**	1.0 U	**32.4**	5.0 U	4.9	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)		2.8 (1)	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
	5/14/2020	**12.8**	1.0 U	**58.0**	1.0 U	**41.1**	5.0 U	1.0 U	1.0 U	1.0 U
	11/23/2020	**11.3**	1.0 U	**46.9**	1.0 U	**41.5**	5.0 U	5.8	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
	5/14/2020	1.0 U	1.0 U	4.0	1.0 U	3.4	5.0 U	1.0 U	1.0 U	1.0 U
	11/23/2020	1.0 U	1.0 U	**7.6**	1.0 U	4.2	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
	5/14/2020	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
	11/23/2020	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
	5/14/2020	1.0	1.0 U	**42.7**	1.0 U	**20.9**	5.0 U	1.0 U	1.0 U	1.0 U
	11/23/2020	1.0	1.0 U	**39.5**	1.0 U	**19.5**	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)		2.8 (1)	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
	6/2/2020	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
	11/23/2020	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
	5/14/2020	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
	11/23/2020	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
	5/14/2020	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
	11/23/2020	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
	5/14/2020	1.0 U	1.0 U	4.4	1.0 U	**6.0**	5.0 U	1.0 U	1.0 U	1.0 U
	11/23/2020	1.0 U	1.0 U	3.6	1.0 U	**6.0**	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)		2.8 (1)	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
	5/14/2020	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
	11/23/2020	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	1.0 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
	5/14/2020	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
	11/23/2020	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-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
	5/12/2020	**20.7**	1.4	**98**	1.0	**63.0**	5.0 U	1.0 U	1.0 U	1.0 U
	11/23/2020	**18.4**	1.0 U	**124**	1.0 U	**29.8**	5.0 U	6.4	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
	5/14/2020	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
	11/23/2020	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
	5/14/2020	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
	11/23/2020	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

(1) MDE GW Quality Standard changed from 90 µg/L to 2.8 µg/L in October 2018

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 decommisioned in August 2019

ENCLOSURE A – LABORATORY ANALYTICAL REPORTS FOR RESIDENTIAL WELL SAMPLES (7932 ANDORICK DRIVE, SEVERN, MARYLAND)

OCTOBER 2020

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

31401545.00/05

SGS Job Number: JD15080

Sampling Date: 10/21/20

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: 49

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.

Caitlin Brice, M.S.
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)

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SGS North America Inc.

Sample Summary

WSP Environment & Energy

Job No: JD15080

Kop-Flex, Hanover, VA
Project No: 31401545.00/05

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							
JD15080-1	10/21/20	12:40	LJ	10/22/20	AQ	Ground Water	RW-7932AND-102120
JD15080-2	10/21/20	13:05	LJ	10/22/20	AQ	Ground Water	RW-7932AND-102120-F
JD15080-3	10/21/20	10:25	LJ	10/22/20	AQ	Trip Blank Water	TB-102120

Summary of Hits

Job Number: JD15080
Account: WSP Environment & Energy
Project: Kop-Flex, Hanover, VA
Collected: 10/21/20

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD15080-1	**RW-7932AND-102120**					
No hits reported in this sample.						
JD15080-2	**RW-7932AND-102120-F**					
No hits reported in this sample.						
JD15080-3	**TB-102120**					
Acetone		4.9 J	5.0	2.5	ug/l	EPA 524.2 REV 4.1
Toluene		0.18 J	0.50	0.11	ug/l	EPA 524.2 REV 4.1

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RW-7932AND-102120		
Lab Sample ID:	JD15080-1	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/22/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1B125113.D	1	10/26/20 16:21	BK	n/a	n/a	V1B6072
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
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-7932AND-102120		
Lab Sample ID:	JD15080-1	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/22/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
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	98%		70-130%
460-00-4	4-Bromofluorobenzene	97%		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-7932AND-102120		
Lab Sample ID:	JD15080-1	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/22/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
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
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-7932AND-102120		
Lab Sample ID:	JD15080-1	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/22/20
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4P40252.D	1	10/24/20 08:41	CS	10/23/20 17:00	OP30229A	E4P2136
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.095	0.048	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	89%		29-124%
321-60-8	2-Fluorobiphenyl	80%		23-122%
1718-51-0	Terphenyl-d14	70%		22-130%

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-7932AND-102120-F		
Lab Sample ID:	JD15080-2	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/22/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1B125115.D	1	10/26/20 17:23	BK	n/a	n/a	V1B6072
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
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-7932AND-102120-F		
Lab Sample ID:	JD15080-2	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/22/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
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	96%		70-130%
460-00-4	4-Bromofluorobenzene	95%		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-7932AND-102120-F		
Lab Sample ID:	JD15080-2	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/22/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
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
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-7932AND-102120-F		
Lab Sample ID:	JD15080-2	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/22/20
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4P40253.D	1	10/24/20 09:03	CS	10/23/20 17:00	OP30229A	E4P2136
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.095	0.048	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	87%		29-124%
321-60-8	2-Fluorobiphenyl	79%		23-122%
1718-51-0	Terphenyl-d14	78%		22-130%

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-102120		
Lab Sample ID:	JD15080-3	**Date Sampled:**	10/21/20
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/22/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1B125134.D	1	10/27/20 11:46	BK	n/a	n/a	V1B6073
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	4.9	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
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-102120		
Lab Sample ID:	JD15080-3	**Date Sampled:**	10/21/20
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/22/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
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	0.18	0.50	0.11	ug/l	J
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	97%		70-130%
460-00-4	4-Bromofluorobenzene	95%		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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

GW WTB

CHAIN-OF-CUSTODY RECORD

3980 7981 6653

None JD15080

Page 1 of 1

No. 009980 wsp

WSP USA Office Address	13530 Dulles Technology Dr #300 Herndon, VA 20171
Project Name	Kop-Flex
WSP USA Contact Name	Eric Johnson
Project Location	Hanover, Md
WSP USA Contact E-mail	eric.johnson @wsp.com
Project Number & Task	31401545.011/05
WSP USA Contact Phone	703-709-6500
Sampler(s) Name(s)	Lauren Johnson
Sampler(s) Signature(s)	Lauren Johnson
Laboratory Name & Location	SGS Accutest
Laboratory Project Manager	Tammy McCloskey
Requested Turn-Around-Time	☐ Standard ☐ 24 HR ☐ 48 HR ☒ 72 HR ☐ ___ HR

Requested Analyses & Preservatives: 1,4-dioxane (EPA 8270E SIM); VOCs (EPA 524.2)

	Sample Identification	Matrix	Collection Start* Date	Collection Start* Time	Collection Stop* Date	Collection Stop* Time	Number of Containers	1,4-dioxane (EPA 8270E SIM)	VOCs (EPA 524.2)	Sample Comments
1	RW-7932AND-102120	GW	—		10/21/20	12:40	5	X	X	72 HR TAT FOR ALL SAMPLES
2	RW-7932AND-102120-F	GW	—		10/21/20	13:05	5	X	X	
3	TB-102120	AQ	—		10/21/20	10:25	3		X	

Initial Assessment DBK

Label Verification ______

6942
V371
72HR

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Shipment Method	Tracking Number(s)
Lauren Johnson	10/21/20	14:55	FedEx 3980 7981 6653	10/21/20			

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Number of Packages	Custody Seal Number(s)
Fed Ex	10/22/20	10:20	[signature]				

IR-4
on ice
3.4°C
JP

*Use stop time/date for composite and/or air samples; use only start time/date for all other samples.

Matrix: AQ = Aqueous, S = Soil, SE = Sediment, A = Air, W = Wipe, B = Bulk, O = Other (detail in comments)

No bottle order

JD15080: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JD15080 **Client:** _____ **Project:** _____

Date / Time Received: 10/22/2020 10:20:00 AM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (2.9);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	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	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	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

JD15080: Chain of Custody
Page 2 of 2

MS Volatiles

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

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6072-MB	1B125104.D	1	10/26/20	BK	n/a	n/a	V1B6072

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-1, JD15080-2

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

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6072-MB	1B125104.D	1	10/26/20	BK	n/a	n/a	V1B6072

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-1, JD15080-2

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	96%	70-130%
460-00-4	4-Bromofluorobenzene	98%	70-130%

Method Blank Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6072-MB	1B125104.D	1	10/26/20	BK	n/a	n/a	V1B6072

The QC reported here applies to the following samples: **Method:**

JD15080-1, JD15080-2

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
1066-40-6	Silanol, trimethyl-	9.13	.72	ug/l	JN
	Total TIC, Volatile		.72	ug/l	J

Method Blank Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6073-MB	1B125132.D	1	10/27/20	BK	n/a	n/a	V1B6073

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-3

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

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6073-MB	1B125132.D	1	10/27/20	BK	n/a	n/a	V1B6073

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-3

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	96%	70-130%
460-00-4	4-Bromofluorobenzene	93%	70-130%

Method Blank Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6073-MB	1B125132.D	1	10/27/20	BK	n/a	n/a	V1B6073

The QC reported here applies to the following samples: **Method:**

JD15080-3

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	unknown	9.13	.71	ug/l	J
	Total TIC, Volatile		.71	ug/l	J

Blank Spike Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6072-BS	1B125103.D	1	10/26/20	BK	n/a	n/a	V1B6072

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-1, JD15080-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	20	23.0	115	70-130
78-93-3	2-Butanone	20	23.4	117	70-130
71-43-2	Benzene	5	5.6	112	70-130
108-86-1	Bromobenzene	5	5.8	116	70-130
74-97-5	Bromochloromethane	5	5.9	118	70-130
75-27-4	Bromodichloromethane	5	5.4	108	70-130
75-25-2	Bromoform	5	5.8	116	70-130
74-83-9	Bromomethane	5	4.8	96	70-130
104-51-8	n-Butylbenzene	5	6.0	120	70-130
135-98-8	sec-Butylbenzene	5	5.8	116	70-130
98-06-6	tert-Butylbenzene	5	5.6	112	70-130
75-15-0	Carbon disulfide	5	5.7	114	70-130
108-90-7	Chlorobenzene	5	5.6	112	70-130
75-00-3	Chloroethane	5	4.5	90	70-130
67-66-3	Chloroform	5	5.7	114	70-130
74-87-3	Chloromethane	5	4.4	88	70-130
95-49-8	o-Chlorotoluene	5	5.8	116	70-130
106-43-4	p-Chlorotoluene	5	5.7	114	70-130
56-23-5	Carbon tetrachloride	5	5.9	118	70-130
75-34-3	1,1-Dichloroethane	5	5.6	112	70-130
75-35-4	1,1-Dichloroethylene	5	5.6	112	70-130
563-58-6	1,1-Dichloropropene	5	5.7	114	70-130
96-12-8	1,2-Dibromo-3-chloropropane	5	5.6	112	70-130
106-93-4	1,2-Dibromoethane	5	5.7	114	70-130
107-06-2	1,2-Dichloroethane	5	5.6	112	70-130
78-87-5	1,2-Dichloropropane	5	5.5	110	70-130
142-28-9	1,3-Dichloropropane	5	5.6	112	70-130
594-20-7	2,2-Dichloropropane	5	6.0	120	70-130
124-48-1	Dibromochloromethane	5	5.5	110	70-130
74-95-3	Dibromomethane	5	5.5	110	70-130
75-71-8	Dichlorodifluoromethane	5	5.5	110	70-130
541-73-1	m-Dichlorobenzene	5	5.6	112	70-130
95-50-1	o-Dichlorobenzene	5	5.7	114	70-130
106-46-7	p-Dichlorobenzene	5	5.7	114	70-130
156-60-5	trans-1,2-Dichloroethylene	5	5.5	110	70-130
156-59-2	cis-1,2-Dichloroethylene	5	5.7	114	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6072-BS	1B125103.D	1	10/26/20	BK	n/a	n/a	V1B6072

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-1, JD15080-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	5	5.6	112	70-130
10061-02-6	trans-1,3-Dichloropropene	5	5.8	116	70-130
100-41-4	Ethylbenzene	5	5.7	114	70-130
87-68-3	Hexachlorobutadiene	5	5.8	116	70-130
591-78-6	2-Hexanone	20	25.1	126	70-130
98-82-8	Isopropylbenzene	5	5.8	116	70-130
99-87-6	p-Isopropyltoluene	5	5.9	118	70-130
75-09-2	Methylene chloride	5	5.3	106	70-130
1634-04-4	Methyl Tert Butyl Ether	5	5.5	110	70-130
108-10-1	4-Methyl-2-pentanone	20	23.9	120	70-130
91-20-3	Naphthalene	5	5.9	118	70-130
103-65-1	n-Propylbenzene	5	5.7	114	70-130
100-42-5	Styrene	5	5.9	118	70-130
630-20-6	1,1,1,2-Tetrachloroethane	5	5.5	110	70-130
71-55-6	1,1,1-Trichloroethane	5	5.7	114	70-130
79-34-5	1,1,2,2-Tetrachloroethane	5	5.6	112	70-130
79-00-5	1,1,2-Trichloroethane	5	5.6	112	70-130
87-61-6	1,2,3-Trichlorobenzene	5	5.8	116	70-130
96-18-4	1,2,3-Trichloropropane	5	5.8	116	70-130
120-82-1	1,2,4-Trichlorobenzene	5	5.8	116	70-130
95-63-6	1,2,4-Trimethylbenzene	5	5.8	116	70-130
108-67-8	1,3,5-Trimethylbenzene	5	5.8	116	70-130
127-18-4	Tetrachloroethylene	5	5.8	116	70-130
108-88-3	Toluene	5	5.7	114	70-130
79-01-6	Trichloroethylene	5	5.6	112	70-130
75-69-4	Trichlorofluoromethane	5	5.3	106	70-130
75-01-4	Vinyl chloride	5	4.8	96	70-130
	m,p-Xylene	10	11.5	115	70-130
95-47-6	o-Xylene	5	5.8	116	70-130
1330-20-7	Xylenes (total)	15	17.2	115	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2199-69-1	1,2-Dichlorobenzene-d4	103%	70-130%
460-00-4	4-Bromofluorobenzene	103%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6073-BS	1B125131.D	1	10/27/20	BK	n/a	n/a	V1B6073

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	20	19.1	96	70-130
78-93-3	2-Butanone	20	19.2	96	70-130
71-43-2	Benzene	5	4.9	98	70-130
108-86-1	Bromobenzene	5	4.7	94	70-130
74-97-5	Bromochloromethane	5	4.9	98	70-130
75-27-4	Bromodichloromethane	5	4.7	94	70-130
75-25-2	Bromoform	5	4.5	90	70-130
74-83-9	Bromomethane	5	4.7	94	70-130
104-51-8	n-Butylbenzene	5	4.7	94	70-130
135-98-8	sec-Butylbenzene	5	4.7	94	70-130
98-06-6	tert-Butylbenzene	5	4.5	90	70-130
75-15-0	Carbon disulfide	5	4.8	96	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	4.8	96	70-130
74-87-3	Chloromethane	5	4.3	86	70-130
95-49-8	o-Chlorotoluene	5	4.7	94	70-130
106-43-4	p-Chlorotoluene	5	4.6	92	70-130
56-23-5	Carbon tetrachloride	5	5.0	100	70-130
75-34-3	1,1-Dichloroethane	5	4.8	96	70-130
75-35-4	1,1-Dichloroethylene	5	4.7	94	70-130
563-58-6	1,1-Dichloropropene	5	4.8	96	70-130
96-12-8	1,2-Dibromo-3-chloropropane	5	4.7	94	70-130
106-93-4	1,2-Dibromoethane	5	4.8	96	70-130
107-06-2	1,2-Dichloroethane	5	4.8	96	70-130
78-87-5	1,2-Dichloropropane	5	4.7	94	70-130
142-28-9	1,3-Dichloropropane	5	4.7	94	70-130
594-20-7	2,2-Dichloropropane	5	5.1	102	70-130
124-48-1	Dibromochloromethane	5	4.6	92	70-130
74-95-3	Dibromomethane	5	4.8	96	70-130
75-71-8	Dichlorodifluoromethane	5	5.3	106	70-130
541-73-1	m-Dichlorobenzene	5	4.7	94	70-130
95-50-1	o-Dichlorobenzene	5	4.6	92	70-130
106-46-7	p-Dichlorobenzene	5	4.7	94	70-130
156-60-5	trans-1,2-Dichloroethylene	5	4.7	94	70-130
156-59-2	cis-1,2-Dichloroethylene	5	4.9	98	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6073-BS	1B125131.D	1	10/27/20	BK	n/a	n/a	V1B6073

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	5	4.6	92	70-130
10061-02-6	trans-1,3-Dichloropropene	5	4.8	96	70-130
100-41-4	Ethylbenzene	5	4.6	92	70-130
87-68-3	Hexachlorobutadiene	5	4.6	92	70-130
591-78-6	2-Hexanone	20	20.4	102	70-130
98-82-8	Isopropylbenzene	5	4.7	94	70-130
99-87-6	p-Isopropyltoluene	5	4.6	92	70-130
75-09-2	Methylene chloride	5	4.5	90	70-130
1634-04-4	Methyl Tert Butyl Ether	5	4.5	90	70-130
108-10-1	4-Methyl-2-pentanone	20	19.4	97	70-130
91-20-3	Naphthalene	5	4.7	94	70-130
103-65-1	n-Propylbenzene	5	4.6	92	70-130
100-42-5	Styrene	5	4.8	96	70-130
630-20-6	1,1,1,2-Tetrachloroethane	5	4.6	92	70-130
71-55-6	1,1,1-Trichloroethane	5	4.8	96	70-130
79-34-5	1,1,2,2-Tetrachloroethane	5	4.7	94	70-130
79-00-5	1,1,2-Trichloroethane	5	4.7	94	70-130
87-61-6	1,2,3-Trichlorobenzene	5	4.5	90	70-130
96-18-4	1,2,3-Trichloropropane	5	4.6	92	70-130
120-82-1	1,2,4-Trichlorobenzene	5	4.5	90	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	4.9	98	70-130
108-88-3	Toluene	5	4.7	94	70-130
79-01-6	Trichloroethylene	5	4.8	96	70-130
75-69-4	Trichlorofluoromethane	5	5.1	102	70-130
75-01-4	Vinyl chloride	5	4.6	92	70-130
	m,p-Xylene	10	9.3	93	70-130
95-47-6	o-Xylene	5	4.7	94	70-130
1330-20-7	Xylenes (total)	15	14.0	93	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2199-69-1	1,2-Dichlorobenzene-d4	103%	70-130%
460-00-4	4-Bromofluorobenzene	103%	70-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD15080-1MS	1B125116.D	1	10/26/20	BK	n/a	n/a	V1B6072
JD15080-1 [a]	1B125113.D	1	10/26/20	BK	n/a	n/a	V1B6072

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-1, JD15080-2

CAS No.	Compound	JD15080-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
67-64-1	Acetone	ND		20	20.1	101	41-142
78-93-3	2-Butanone	ND		20	21.2	106	55-129
71-43-2	Benzene	ND		5	5.2	104	53-138
108-86-1	Bromobenzene	ND		5	5.3	106	54-138
74-97-5	Bromochloromethane	ND		5	5.3	106	55-140
75-27-4	Bromodichloromethane	ND		5	5.1	102	57-147
75-25-2	Bromoform	ND		5	5.3	106	47-137
74-83-9	Bromomethane	ND		5	6.1	122	40-162
104-51-8	n-Butylbenzene	ND		5	5.5	110	45-144
135-98-8	sec-Butylbenzene	ND		5	5.5	110	46-145
98-06-6	tert-Butylbenzene	ND		5	5.3	106	48-141
75-15-0	Carbon disulfide	ND		5	5.4	108	35-127
108-90-7	Chlorobenzene	ND		5	5.2	104	54-135
75-00-3	Chloroethane	ND		5	6.3	126	38-153
67-66-3	Chloroform	ND		5	5.2	104	57-151
74-87-3	Chloromethane	ND		5	5.7	114	39-165
95-49-8	o-Chlorotoluene	ND		5	5.3	106	55-142
106-43-4	p-Chlorotoluene	ND		5	5.3	106	55-139
56-23-5	Carbon tetrachloride	ND		5	5.6	112	49-170
75-34-3	1,1-Dichloroethane	ND		5	5.2	104	55-149
75-35-4	1,1-Dichloroethylene	ND		5	5.5	110	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	5.1	102	48-141
106-93-4	1,2-Dibromoethane	ND		5	5.3	106	57-135
107-06-2	1,2-Dichloroethane	ND		5	5.1	102	59-166
78-87-5	1,2-Dichloropropane	ND		5	5.0	100	53-142
142-28-9	1,3-Dichloropropane	ND		5	5.2	104	58-143
594-20-7	2,2-Dichloropropane	ND		5	5.7	114	38-165
124-48-1	Dibromochloromethane	ND		5	5.2	104	55-138
74-95-3	Dibromomethane	ND		5	5.1	102	61-144
75-71-8	Dichlorodifluoromethane	ND		5	6.9	138	23-172
541-73-1	m-Dichlorobenzene	ND		5	5.2	104	53-138
95-50-1	o-Dichlorobenzene	ND		5	5.2	104	54-140
106-46-7	p-Dichlorobenzene	ND		5	5.3	106	53-137
156-60-5	trans-1,2-Dichloroethylene	ND		5	5.2	104	47-148
156-59-2	cis-1,2-Dichloroethylene	ND		5	5.3	106	51-146

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD15080-1MS	1B125116.D	1	10/26/20	BK	n/a	n/a	V1B6072
JD15080-1 [a]	1B125113.D	1	10/26/20	BK	n/a	n/a	V1B6072

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-1, JD15080-2

CAS No.	Compound	JD15080-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
10061-01-5	cis-1,3-Dichloropropene	ND		5	5.1	102	51-136
10061-02-6	trans-1,3-Dichloropropene	ND		5	5.2	104	54-142
100-41-4	Ethylbenzene	ND		5	5.2	104	51-138
87-68-3	Hexachlorobutadiene	ND		5	5.6	112	40-154
591-78-6	2-Hexanone	ND		20	21.8	109	53-128
98-82-8	Isopropylbenzene	ND		5	5.3	106	49-139
99-87-6	p-Isopropyltoluene	ND		5	5.4	108	45-141
75-09-2	Methylene chloride	ND		5	4.8	96	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	21.5	108	58-127
91-20-3	Naphthalene	ND		5	5.1	102	44-140
103-65-1	n-Propylbenzene	ND		5	5.3	106	50-142
100-42-5	Styrene	ND		5	5.4	108	23-130
630-20-6	1,1,1,2-Tetrachloroethane	ND		5	5.1	102	57-144
71-55-6	1,1,1-Trichloroethane	ND		5	5.4	108	52-164
79-34-5	1,1,2,2-Tetrachloroethane	ND		5	5.1	102	58-138
79-00-5	1,1,2-Trichloroethane	ND		5	5.2	104	59-139
87-61-6	1,2,3-Trichlorobenzene	ND		5	5.0	100	47-141
96-18-4	1,2,3-Trichloropropane	ND		5	5.4	108	56-148
120-82-1	1,2,4-Trichlorobenzene	ND		5	5.1	102	46-137
95-63-6	1,2,4-Trimethylbenzene	ND		5	5.2	104	41-138
108-67-8	1,3,5-Trimethylbenzene	ND		5	5.3	106	45-138
127-18-4	Tetrachloroethylene	ND		5	5.5	110	45-145
108-88-3	Toluene	ND		5	5.2	104	52-134
79-01-6	Trichloroethylene	ND		5	5.3	106	54-143
75-69-4	Trichlorofluoromethane	ND		5	6.8	136	36-167
75-01-4	Vinyl chloride	ND		5	6.2	124	35-162
	m,p-Xylene	ND		10	10.5	105	49-135
95-47-6	o-Xylene	ND		5	5.2	104	49-134
1330-20-7	Xylenes (total)	ND		15	15.7	105	50-134

CAS No.	Surrogate Recoveries	MS	JD15080-1	Limits
2199-69-1	1,2-Dichlorobenzene-d4	103%	98%	70-130%
460-00-4	4-Bromofluorobenzene	101%	97%	70-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD15080-1MS	1B125116.D	1	10/26/20	BK	n/a	n/a	V1B6072
JD15080-1 [a]	1B125113.D	1	10/26/20	BK	n/a	n/a	V1B6072

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-1, JD15080-2

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD14982-5MS	1B125140.D	1	10/27/20	BK	n/a	n/a	V1B6073
JD14982-5MSD	1B125141.D	1	10/27/20	BK	n/a	n/a	V1B6073
JD14982-5 [a]	1B125136.D	1	10/27/20	BK	n/a	n/a	V1B6073

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-3

CAS No.	Compound	JD14982-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		20	20.2	101	20	19.9	100	1	41-142/24
78-93-3	2-Butanone	ND		20	19.2	96	20	19.8	99	3	55-129/31
71-43-2	Benzene	ND		5	5.2	104	5	4.7	94	10	53-138/16
108-86-1	Bromobenzene	ND		5	5.2	104	5	4.8	96	8	54-138/17
74-97-5	Bromochloromethane	ND		5	5.2	104	5	4.7	94	10	55-140/13
75-27-4	Bromodichloromethane	ND		5	4.9	98	5	4.5	90	9	57-147/11
75-25-2	Bromoform	ND		5	5.0	100	5	4.9	98	2	47-137/13
74-83-9	Bromomethane	ND		5	5.3	106	5	5.0	100	6	40-162/27
104-51-8	n-Butylbenzene	ND		5	5.4	108	5	5.0	100	8	45-144/19
135-98-8	sec-Butylbenzene	ND		5	5.4	108	5	5.0	100	8	46-145/20
98-06-6	tert-Butylbenzene	ND		5	5.1	102	5	4.7	94	8	48-141/17
75-15-0	Carbon disulfide	ND		5	5.6	112	5	4.9	98	13	35-127/32
108-90-7	Chlorobenzene	ND		5	5.2	104	5	4.7	94	10	54-135/15
75-00-3	Chloroethane	ND		5	5.5	110	5	4.9	98	12	38-153/43
67-66-3	Chloroform	0.35	J	5	5.5	103	5	4.9	91	12	57-151/13
74-87-3	Chloromethane	ND		5	5.0	100	5	4.7	94	6	39-165/35
95-49-8	o-Chlorotoluene	ND		5	5.2	104	5	4.8	96	8	55-142/15
106-43-4	p-Chlorotoluene	ND		5	5.2	104	5	4.8	96	8	55-139/20
56-23-5	Carbon tetrachloride	0.40	J	5	6.1	114	5	5.5	102	10	49-170/24
75-34-3	1,1-Dichloroethane	ND		5	5.4	108	5	4.8	96	12	55-149/13
75-35-4	1,1-Dichloroethylene	1.2		5	6.7	110	5	6.1	98	9	42-142/20
563-58-6	1,1-Dichloropropene	ND		5	5.4	108	5	4.9	98	10	46-151/21
96-12-8	1,2-Dibromo-3-chloropropane	ND		5	4.9	98	5	5.4	108	10	48-141/27
106-93-4	1,2-Dibromoethane	ND		5	5.0	100	5	4.7	94	6	57-135/10
107-06-2	1,2-Dichloroethane	ND		5	5.2	104	5	4.7	94	10	59-166/15
78-87-5	1,2-Dichloropropane	ND		5	5.0	100	5	4.5	90	11	53-142/11
142-28-9	1,3-Dichloropropane	ND		5	5.1	102	5	4.7	94	8	58-143/13
594-20-7	2,2-Dichloropropane	ND		5	5.8	116	5	5.2	104	11	38-165/19
124-48-1	Dibromochloromethane	ND		5	4.9	98	5	4.6	92	6	55-138/15
74-95-3	Dibromomethane	ND		5	5.0	100	5	4.5	90	11* [b]	61-144/10
75-71-8	Dichlorodifluoromethane	ND		5	6.6	132	5	6.1	122	8	23-172/30
541-73-1	m-Dichlorobenzene	ND		5	5.2	104	5	4.9	98	6	53-138/17
95-50-1	o-Dichlorobenzene	ND		5	5.1	102	5	5.0	100	2	54-140/11
106-46-7	p-Dichlorobenzene	ND		5	5.2	104	5	5.0	100	4	53-137/14
156-60-5	trans-1,2-Dichloroethylene	ND		5	5.3	106	5	4.7	94	12	47-148/22
156-59-2	cis-1,2-Dichloroethylene	0.39	J	5	5.7	106	5	5.2	96	9	51-146/14

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD14982-5MS	1B125140.D	1	10/27/20	BK	n/a	n/a	V1B6073
JD14982-5MSD	1B125141.D	1	10/27/20	BK	n/a	n/a	V1B6073
JD14982-5 [a]	1B125136.D	1	10/27/20	BK	n/a	n/a	V1B6073

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-3

CAS No.	Compound	JD14982-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		5	4.8	96	5	4.4	88	9	51-136/11
10061-02-6	trans-1,3-Dichloropropene	ND		5	5.0	100	5	4.5	90	11* [b]	54-142/10
100-41-4	Ethylbenzene	ND		5	5.2	104	5	4.7	94	10	51-138/18
87-68-3	Hexachlorobutadiene	ND		5	5.5	110	5	5.1	102	8	40-154/21
591-78-6	2-Hexanone	ND		20	20.2	101	20	22.7	114	12	53-128/29
98-82-8	Isopropylbenzene	ND		5	5.2	104	5	4.7	94	10	49-139/16
99-87-6	p-Isopropyltoluene	ND		5	5.3	106	5	4.8	96	10	45-141/17
75-09-2	Methylene chloride	ND		5	4.8	96	5	4.3	86	11	54-137/14
1634-04-4	Methyl Tert Butyl Ether	ND		5	4.8	96	5	4.3	86	11* [b]	53-143/10
108-10-1	4-Methyl-2-pentanone	ND		20	20.2	101	20	21.1	106	4	58-127/32
91-20-3	Naphthalene	ND		5	4.8	96	5	5.2	104	8	44-140/14
103-65-1	n-Propylbenzene	ND		5	5.3	106	5	4.8	96	10	50-142/20
100-42-5	Styrene	ND		5	5.4	108	5	4.9	98	10	23-130/20
630-20-6	1,1,1,2-Tetrachloroethane	ND		5	5.0	100	5	4.6	92	8	57-144/11
71-55-6	1,1,1-Trichloroethane	ND		5	5.7	114	5	5.0	100	13	52-164/13
79-34-5	1,1,2,2-Tetrachloroethane	ND		5	5.0	100	5	5.3	106	6	58-138/10
79-00-5	1,1,2-Trichloroethane	ND		5	5.1	102	5	4.6	92	10	59-139/11
87-61-6	1,2,3-Trichlorobenzene	ND		5	5.0	100	5	5.0	100	0	47-141/17
96-18-4	1,2,3-Trichloropropane	ND		5	5.0	100	5	5.2	104	4	56-148/15
120-82-1	1,2,4-Trichlorobenzene	ND		5	5.0	100	5	4.9	98	2	46-137/17
95-63-6	1,2,4-Trimethylbenzene	ND		5	5.2	104	5	4.8	96	8	41-138/16
108-67-8	1,3,5-Trimethylbenzene	ND		5	5.3	106	5	4.8	96	10	45-138/16
127-18-4	Tetrachloroethylene	ND		5	5.5	110	5	5.0	100	10	45-145/19
108-88-3	Toluene	ND		5	5.2	104	5	4.7	94	10	52-134/19
79-01-6	Trichloroethylene	1.6		5	6.9	106	5	6.3	94	9	54-143/15
75-69-4	Trichlorofluoromethane	ND		5	6.3	126	5	5.9	118	7	36-167/28
75-01-4	Vinyl chloride	ND		5	5.6	112	5	5.2	104	7	35-162/30
	m,p-Xylene	ND		10	10.4	104	10	9.4	94	10	49-135/18
95-47-6	o-Xylene	ND		5	5.1	102	5	4.7	94	8	49-134/19
1330-20-7	Xylenes (total)	ND		15	15.5	103	15	14.0	93	10	50-134/18

CAS No.	Surrogate Recoveries	MS	MSD	JD14982-5	Limits
2199-69-1	1,2-Dichlorobenzene-d4	101%	101%	94%	70-130%
460-00-4	4-Bromofluorobenzene	99%	100%	92%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD14982-5MS	1B125140.D	1	10/27/20	BK	n/a	n/a	V1B6073
JD14982-5MSD	1B125141.D	1	10/27/20	BK	n/a	n/a	V1B6073
JD14982-5 [a]	1B125136.D	1	10/27/20	BK	n/a	n/a	V1B6073

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-3

(a) EPA 524.2 is not a certified method for non-potable water samples.
(b) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD15080-2DUP	1B125112.D	1	10/26/20	BK	n/a	n/a	V1B6072
JD15080-2 [a]	1B125115.D	1	10/26/20	BK	n/a	n/a	V1B6072

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-1, JD15080-2

CAS No.	Compound	JD15080-2 ug/l	Q	DUP 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: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD15080-2DUP	1B125112.D	1	10/26/20	BK	n/a	n/a	V1B6072
JD15080-2 [a]	1B125115.D	1	10/26/20	BK	n/a	n/a	V1B6072

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-1, JD15080-2

CAS No.	Compound	JD15080-2 ug/l	Q	DUP 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		0.12	J	200* [b]	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	JD15080-2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	94%	96%	70-130%
460-00-4	4-Bromofluorobenzene	94%	95%	70-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD15080-2DUP	1B125112.D	1	10/26/20	BK	n/a	n/a	V1B6072
JD15080-2 [a]	1B125115.D	1	10/26/20	BK	n/a	n/a	V1B6072

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD15080-1, JD15080-2

(a) EPA 524.2 is not a certified method for non-potable water samples.
(b) RPD acceptable due to low DUP and sample concentrations.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample:	V1B6071-BFB	**Injection Date:**	10/24/20
Lab File ID:	1B125087.D	**Injection Time:**	11:23
Instrument ID:	GCMS1B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	3538	16.5		Pass
75	30.0 - 80.0% of mass 95	9686	45.3		Pass
95	Base peak, 100% relative abundance	21389	100.0		Pass
96	5.0 - 9.0% of mass 95	1610	7.53		Pass
173	Less than 2.0% of mass 174	163	0.76	(1.10) [a]	Pass
174	50.0 - 120.0% of mass 95	14808	69.2		Pass
175	5.0 - 9.0% of mass 174	1058	4.95	(7.14) [a]	Pass
176	95.0 - 101.0% of mass 174	14110	66.0	(95.3) [a]	Pass
177	5.0 - 9.0% of mass 176	941	4.40	(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
V1B6071-IC6071	1B125088.D	10/24/20	11:54	00:31	Initial cal 0.2
V1B6071-IC6071	1B125089.D	10/24/20	12:26	01:03	Initial cal 0.5
V1B6071-IC6071	1B125090.D	10/24/20	12:57	01:34	Initial cal 1
V1B6071-IC6071	1B125091.D	10/24/20	13:28	02:05	Initial cal 2
V1B6071-IC6071	1B125092.D	10/24/20	13:59	02:36	Initial cal 5
V1B6071-ICC6071	1B125093.D	10/24/20	14:30	03:07	Initial cal 10
V1B6071-IC6071	1B125094.D	10/24/20	15:01	03:38	Initial cal 20
V1B6071-IC6071	1B125095.D	10/24/20	15:32	04:09	Initial cal 40
V1B6071-IC6071	1B125096.D	10/24/20	16:03	04:40	Initial cal 80
V1B6071-ICV6071	1B125098.D	10/24/20	17:05	05:42	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V1B6072-BFB
Lab File ID: 1B125101.D
Instrument ID: GCMS1B
Injection Date: 10/26/20
Injection Time: 09:45

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	2838	15.8		Pass
75	30.0 - 80.0% of mass 95	8416	46.8		Pass
95	Base peak, 100% relative abundance	17973	100.0		Pass
96	5.0 - 9.0% of mass 95	1295	7.21		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	12710	70.7		Pass
175	5.0 - 9.0% of mass 174	961	5.35	(7.56) [a]	Pass
176	95.0 - 101.0% of mass 174	12545	69.8	(98.7) [a]	Pass
177	5.0 - 9.0% of mass 176	732	4.07	(5.83) [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
V1B6072-CC6071	1B125102.D	10/26/20	10:20	00:35	Continuing cal 5
V1B6072-BS	1B125103.D	10/26/20	10:58	01:13	Blank Spike
V1B6072-MB	1B125104.D	10/26/20	11:29	01:44	Method Blank
ZZZZZZ	1B125105.D	10/26/20	12:01	02:16	(unrelated sample)
ZZZZZZ	1B125106.D	10/26/20	12:45	03:00	(unrelated sample)
ZZZZZZ	1B125107.D	10/26/20	13:16	03:31	(unrelated sample)
ZZZZZZ	1B125108.D	10/26/20	13:47	04:02	(unrelated sample)
JD15080-2DUP	1B125112.D	10/26/20	15:50	06:05	Duplicate
JD15080-1	1B125113.D	10/26/20	16:21	06:36	RW-7932AND-102120
ZZZZZZ	1B125114.D	10/26/20	16:52	07:07	(unrelated sample)
JD15080-2	1B125115.D	10/26/20	17:23	07:38	RW-7932AND-102120-F
JD15080-1MS	1B125116.D	10/26/20	17:55	08:10	Matrix Spike
ZZZZZZ	1B125117.D	10/26/20	18:26	08:41	(unrelated sample)
ZZZZZZ	1B125118.D	10/26/20	18:57	09:12	(unrelated sample)
ZZZZZZ	1B125119.D	10/26/20	19:28	09:43	(unrelated sample)
ZZZZZZ	1B125120.D	10/26/20	20:00	10:15	(unrelated sample)
ZZZZZZ	1B125121.D	10/26/20	20:31	10:46	(unrelated sample)
ZZZZZZ	1B125122.D	10/26/20	21:02	11:17	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V1B6073-BFB
Lab File ID: 1B125129.D
Instrument ID: GCMS1B
Injection Date: 10/27/20
Injection Time: 08:51

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	2835	17.5		Pass
75	30.0 - 80.0% of mass 95	8006	49.6		Pass
95	Base peak, 100% relative abundance	16156	100.0		Pass
96	5.0 - 9.0% of mass 95	1173	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	10850	67.2		Pass
175	5.0 - 9.0% of mass 174	827	5.12	(7.62) [a]	Pass
176	95.0 - 101.0% of mass 174	10541	65.2	(97.2) [a]	Pass
177	5.0 - 9.0% of mass 176	699	4.33	(6.63) [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
V1B6073-CC6071	1B125130.D	10/27/20	09:24	00:33	Continuing cal 10
V1B6073-BS	1B125131.D	10/27/20	10:07	01:16	Blank Spike
V1B6073-MB	1B125132.D	10/27/20	10:39	01:48	Method Blank
ZZZZZZ	1B125133.D	10/27/20	11:15	02:24	(unrelated sample)
JD15080-3	1B125134.D	10/27/20	11:46	02:55	TB-102120
ZZZZZZ	1B125135.D	10/27/20	12:17	03:26	(unrelated sample)
JD14982-5	1B125136.D	10/27/20	12:48	03:57	(used for QC only; not part of job JD15080)
ZZZZZZ	1B125137.D	10/27/20	13:20	04:29	(unrelated sample)
ZZZZZZ	1B125138.D	10/27/20	13:51	05:00	(unrelated sample)
ZZZZZZ	1B125139.D	10/27/20	14:22	05:31	(unrelated sample)
JD14982-5MS	1B125140.D	10/27/20	14:53	06:02	Matrix Spike
JD14982-5MSD	1B125141.D	10/27/20	15:24	06:33	Matrix Spike Duplicate
ZZZZZZ	1B125142.D	10/27/20	15:55	07:04	(unrelated sample)

Surrogate Recovery Summary

Job Number: JD15080
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
JD15080-1	1B125113.D	98	97
JD15080-2	1B125115.D	96	95
JD15080-3	1B125134.D	97	95
JD14982-5MS	1B125140.D	101	99
JD14982-5MSD	1B125141.D	101	100
JD15080-1MS	1B125116.D	103	101
JD15080-2DUP	1B125112.D	94	94
V1B6072-BS	1B125103.D	103	103
V1B6072-MB	1B125104.D	96	98
V1B6073-BS	1B125131.D	103	103
V1B6073-MB	1B125132.D	96	93

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

MS Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30229A-MB1	4P40243.D	1	10/24/20	CS	10/23/20	OP30229A	E4P2136

The QC reported here applies to the following samples: **Method:** SW846 8270D BY SIM

JD15080-1, JD15080-2

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	82%	29-124%
321-60-8	2-Fluorobiphenyl	72%	23-122%
1718-51-0	Terphenyl-d14	76%	22-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30229A-BS1	4P40244.D	1	10/24/20	CS	10/23/20	OP30229A	E4P2136
OP30229A-BSD	4P40245.D	1	10/24/20	CS	10/23/20	OP30229A	E4P2136

The QC reported here applies to the following samples: **Method:** SW846 8270D BY SIM

JD15080-1, JD15080-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
123-91-1	1,4-Dioxane	1	0.464	46	0.421	42	10	10-110/40

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	93%	83%	29-124%
321-60-8	2-Fluorobiphenyl	81%	71%	23-122%
1718-51-0	Terphenyl-d14	79%	78%	22-130%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample:	E4P2114-DFTPP	**Injection Date:**	09/30/20
Lab File ID:	4P39667.D	**Injection Time:**	19:59
Instrument ID:	GCMS4P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	31958	30.0		Pass
68	Less than 2.0% of mass 69	145	0.14	(0.26) [a]	Pass
69	Mass 69 relative abundance	56475	53.1		Pass
70	Less than 2.0% of mass 69	103	0.10	(0.18) [a]	Pass
127	40.0 - 60.0% of mass 198	49640	46.7		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	106402	100.0		Pass
199	5.0 - 9.0% of mass 198	7395	6.95		Pass
275	10.0 - 30.0% of mass 198	26220	24.6		Pass
365	1.0 - 100.0% of mass 198	3601	3.38		Pass
441	Present, but less than mass 443	7894	7.42	(72.5) [b]	Pass
442	40.0 - 100.0% of mass 198	56048	52.7		Pass
443	17.0 - 23.0% of mass 442	10887	10.2	(19.4) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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
E4P2114-IC2114	4P39668.D	09/30/20	20:16	00:17	Initial cal 0.01
E4P2114-IC2114	4P39669.D	09/30/20	20:37	00:38	Initial cal 0.02
E4P2114-IC2114	4P39670.D	09/30/20	20:59	01:00	Initial cal 0.05
E4P2114-IC2114	4P39671.D	09/30/20	21:21	01:22	Initial cal 0.1
E4P2114-IC2114	4P39672.D	09/30/20	21:43	01:44	Initial cal 0.2
E4P2114-IC2114	4P39673.D	09/30/20	22:05	02:06	Initial cal 0.5
E4P2114-ICC2114	4P39674.D	09/30/20	22:27	02:28	Initial cal 1
E4P2114-IC2114	4P39675.D	09/30/20	22:49	02:50	Initial cal 2.5
E4P2114-IC2114	4P39676.D	09/30/20	23:11	03:12	Initial cal 5
E4P2114-ICV2114	4P39677.D	09/30/20	23:33	03:34	Initial cal verification 1
E4P2114-ICV2114	4P39678.D	09/30/20	23:55	03:56	Initial cal verification 5

Instrument Performance Check (DFTPP)

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample:	E4P2136-DFTPP	**Injection Date:**	10/24/20
Lab File ID:	4P40237.D	**Injection Time:**	02:55
Instrument ID:	GCMS4P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	35965	31.0		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	63459	54.7		Pass
70	Less than 2.0% of mass 69	551	0.48	(0.87) [a]	Pass
127	40.0 - 60.0% of mass 198	61176	52.8		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	115915	100.0		Pass
199	5.0 - 9.0% of mass 198	7129	6.15		Pass
275	10.0 - 30.0% of mass 198	30157	26.0		Pass
365	1.0 - 100.0% of mass 198	2948	2.54		Pass
441	Present, but less than mass 443	9189	7.93	(79.1) [b]	Pass
442	40.0 - 100.0% of mass 198	63888	55.1		Pass
443	17.0 - 23.0% of mass 442	11621	10.0	(18.2) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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
E4P2136-CC2114	4P40238.D	10/24/20	03:06	00:11	Continuing cal 1
OP30207A-MB1	4P40240.D	10/24/20	04:15	01:20	Method Blank
OP30207A-BS12	4P40241.D	10/24/20	04:37	01:42	Blank Spike
OP30207A-BSD12	4P40242.D	10/24/20	04:59	02:04	Blank Spike Duplicate
OP30229A-MB1	4P40243.D	10/24/20	05:21	02:26	Method Blank
OP30229A-BS1	4P40244.D	10/24/20	05:44	02:49	Blank Spike
OP30229A-BSD	4P40245.D	10/24/20	06:06	03:11	Blank Spike Duplicate
OP30206A-MB1	4P40246.D	10/24/20	06:28	03:33	Method Blank
OP30206A-BS12	4P40247.D	10/24/20	06:50	03:55	Blank Spike
OP30206A-BSD12	4P40248.D	10/24/20	07:12	04:17	Blank Spike Duplicate
OP30160A-MB1	4P40249.D	10/24/20	07:35	04:40	Method Blank
OP30160A-BS12	4P40250.D	10/24/20	07:57	05:02	Blank Spike
OP30160A-BSD12	4P40251.D	10/24/20	08:19	05:24	Blank Spike Duplicate
JD15080-1	4P40252.D	10/24/20	08:41	05:46	RW-7932AND-102120
JD15080-2	4P40253.D	10/24/20	09:03	06:08	RW-7932AND-102120-F
ZZZZZZ	4P40254.D	10/24/20	09:26	06:31	(unrelated sample)
ZZZZZZ	4P40255.D	10/24/20	09:48	06:53	(unrelated sample)
ZZZZZZ	4P40256.D	10/24/20	10:10	07:15	(unrelated sample)
ZZZZZZ	4P40257.D	10/24/20	10:32	07:37	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample:	E4P2136-DFTPP	**Injection Date:**	10/24/20
Lab File ID:	4P40237.D	**Injection Time:**	02:55
Instrument ID:	GCMS4P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	4P40258.D	10/24/20	10:54	07:59	(unrelated sample)
ZZZZZZ	4P40259.D	10/24/20	11:16	08:21	(unrelated sample)
OP30160A-MSA	4P40260.D	10/24/20	11:38	08:43	Matrix Spike
OP30160A-MSDA	4P40261.D	10/24/20	12:00	09:05	Matrix Spike Duplicate
JD15006-1	4P40262.D	10/24/20	12:22	09:27	(used for QC only; not part of job JD15080)
ZZZZZZ	4P40263.D	10/24/20	12:44	09:49	(unrelated sample)
ZZZZZZ	4P40264.D	10/24/20	13:07	10:12	(unrelated sample)
ZZZZZZ	4P40265.D	10/24/20	13:29	10:34	(unrelated sample)
ZZZZZZ	4P40266.D	10/24/20	13:51	10:56	(unrelated sample)
ZZZZZZ	4P40267.D	10/24/20	14:13	11:18	(unrelated sample)

Surrogate Recovery Summary

Job Number: JD15080
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Method: SW846 8270D BY SIM **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
JD15080-1	4P40252.D	89	80	70
JD15080-2	4P40253.D	87	79	78
OP30229A-BS1	4P40244.D	93	81	79
OP30229A-BSD	4P40245.D	83	71	78
OP30229A-MB1	4P40243.D	82	72	76

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	29-124%
S2 = 2-Fluorobiphenyl	23-122%
S3 = Terphenyl-d14	22-130%

DECEMBER 2020

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

31401545.011/1

SGS Job Number: JD17456

Sampling Date: 12/08/20

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: 49

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.

Caitlin Brice, M.S.
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)

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SGS North America Inc.

Sample Summary

WSP Environment & Energy

Job No: JD17456

Kop-Flex, Hanover, VA
Project No: 31401545.011/1

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD17456-1	12/08/20	11:05	ML	12/09/20	AQ	Ground Water	RW-7932AND-120820
JD17456-2	12/08/20	11:30	ML	12/09/20	AQ	Ground Water	RW-7932AND-120820-F
JD17456-3	12/08/20	11:30	ML	12/09/20	AQ	Trip Blank Water	TRIP BLANK

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

Summary of Hits

Job Number: JD17456
Account: WSP Environment & Energy
Project: Kop-Flex, Hanover, VA
Collected: 12/08/20

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

JD17456-1 **RW-7932AND-120820**

No hits reported in this sample.

JD17456-2 **RW-7932AND-120820-F**

No hits reported in this sample.

JD17456-3 **TRIP BLANK**

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RW-7932AND-120820		
Lab Sample ID:	JD17456-1	**Date Sampled:**	12/08/20
Matrix:	AQ - Ground Water	**Date Received:**	12/09/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1B125789.D	1	12/18/20 14:06	BK	n/a	n/a	V1B6107
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
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-7932AND-120820		
Lab Sample ID:	JD17456-1	**Date Sampled:**	12/08/20
Matrix:	AQ - Ground Water	**Date Received:**	12/09/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
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	97%		70-130%
460-00-4	4-Bromofluorobenzene	95%		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-7932AND-120820		
Lab Sample ID:	JD17456-1	**Date Sampled:**	12/08/20
Matrix:	AQ - Ground Water	**Date Received:**	12/09/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
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
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-7932AND-120820		
Lab Sample ID:	JD17456-1	**Date Sampled:**	12/08/20
Matrix:	AQ - Ground Water	**Date Received:**	12/09/20
Method:	SW846 8270E BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M97783.D	1	12/16/20 11:29	CS	12/14/20 07:00	OP31009A	E4M4518
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		29-124%
321-60-8	2-Fluorobiphenyl	66%		23-122%
1718-51-0	Terphenyl-d14	73%		22-130%

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-7932AND-120820-F		
Lab Sample ID:	JD17456-2	**Date Sampled:**	12/08/20
Matrix:	AQ - Ground Water	**Date Received:**	12/09/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1B125716.D	1	12/15/20 00:40	BK	n/a	n/a	V1B6104
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 [b]	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 [c]	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 [b]	ND	0.50	0.080	ug/l	
67-66-3	Chloroform	ND	0.50	0.17	ug/l	
74-87-3	Chloromethane [b]	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
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-7932AND-120820-F		
Lab Sample ID:	JD17456-2	**Date Sampled:**	12/08/20
Matrix:	AQ - Ground Water	**Date Received:**	12/09/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
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 [b]	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	79%		70-130%
460-00-4	4-Bromofluorobenzene	71%		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-7932AND-120820-F		
Lab Sample ID:	JD17456-2	**Date Sampled:**	12/08/20
Matrix:	AQ - Ground Water	**Date Received:**	12/09/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
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.
(b) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
(c) This compound in blank spike is outside in house QC limits bias high.

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-7932AND-120820-F		
Lab Sample ID:	JD17456-2	**Date Sampled:**	12/08/20
Matrix:	AQ - Ground Water	**Date Received:**	12/09/20
Method:	SW846 8270E BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M97784.D	1	12/16/20 11:50	CS	12/14/20 07:00	OP31009A	E4M4518
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		29-124%
321-60-8	2-Fluorobiphenyl	67%		23-122%
1718-51-0	Terphenyl-d14	75%		22-130%

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:	TRIP BLANK		
Lab Sample ID:	JD17456-3	**Date Sampled:**	12/08/20
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/09/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	Kop-Flex, Hanover, VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1B125793.D	1	12/18/20 16:10	BK	n/a	n/a	V1B6107
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
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:	TRIP BLANK		
Lab Sample ID:	JD17456-3	**Date Sampled:**	12/08/20
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/09/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
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	97%		70-130%
460-00-4	4-Bromofluorobenzene	97%		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:	TRIP BLANK		
Lab Sample ID:	JD17456-3	**Date Sampled:**	12/08/20
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/09/20
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
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
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

WW, TB

MB-11620-22

CHAIN-OF-CUSTODY RECORD

3127 8179 5188

Page 1 of 1

No. 10576 wsp

WSP USA Office Address: 13530 DULLES TECHNOLOGY DR. STE 300 HERNDON VA 20171

Project Name: KOPFLEX

WSP USA Contact Name: MOLLY LONG

Project Location: Hanover, MD

WSP USA Contact E-mail: MOLLY.LONG@wsp.com

Project Number & Task: 31401545.011/1

WSP USA Contact Phone: 703 709 6500

Sampler(s) Name(s): MOLLY LONG

Sampler(s) Signature(s): [signature]

Laboratory Name & Location: SGS ACCUTEST

Laboratory Project Manager: TAMMY M. JD17456

Requested Turn-Around-Time: ☒ Standard ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ ___ HR

Requested Analyses & Preservatives: VOC 524.2; 1,4-DIOXANE - USEPA 8270E ↳ with SIMS

Sample Identification	Matrix	Collection Start* Date	Collection Start* Time	Number of Containers	VOC 524.2	1,4-DIOXANE - USEPA 8270E ↳ with SIMS		Sample Comments
RW-793AND-120820	AQ	12/8/20	11 05	5	X	X	1	
RW-793AND-120820-F	AQ	12/8/20	11 30	5	X	X	2	E42
TRIP BLANK	Lab provided			2	X		3	V750

Initial Assessment MK 3A
Label Verification

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Shipment Method	Tracking Number(s)
[signature]	12/8/20	1700				fed ex	3127 8179 5188
Relinquished By (Signature)	**Date**	**Time**	**Received By (Signature)**	**Date**	**Time**	**Number of Packages**	**Custody Seal Number(s)**
Fx	12/9/20	11:30				1	13243

*Use stop time/date for composite and/or air samples; use only start time/date for all other samples.

Matrix: AQ = Aqueous, S = Soil, SE = Sediment, A = Air, W = Wipe, B = Bulk, O = Other (detail in comments)

2.4 CF

JD17456: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JD17456 **Client:** WSP **Project:** KOP-FLEX, HANOVER, VA

Date / Time Received: 12/9/2020 11:30:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (2.4);

Cooler Temps (Corrected) °C: Cooler 1: (1.9);

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: 212820 pH 12+: 203117A Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JD17456: Chain of Custody
Page 2 of 2

MS Volatiles

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

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6104-MB	1B125702.D	1	12/14/20	BK	n/a	n/a	V1B6104

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-2

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

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6104-MB	1B125702.D	1	12/14/20	BK	n/a	n/a	V1B6104

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-2

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	80%	70-130%
460-00-4	4-Bromofluorobenzene	75%	70-130%

Method Blank Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6104-MB	1B125702.D	1	12/14/20	BK	n/a	n/a	V1B6104

The QC reported here applies to the following samples: **Method:**

JD17456-2

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

Method Blank Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6107-MB	1B125787.D	1	12/18/20	BK	n/a	n/a	V1B6107

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-1, JD17456-3

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

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6107-MB	1B125787.D	1	12/18/20	BK	n/a	n/a	V1B6107

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-1, JD17456-3

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	97%	70-130%
460-00-4	4-Bromofluorobenzene	97%	70-130%

Blank Spike Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6104-BS	1B125701.D	1	12/14/20	BK	n/a	n/a	V1B6104

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	20	27.2	136* [a]	70-130
78-93-3	2-Butanone	20	21.7	109	70-130
71-43-2	Benzene	5	5.4	108	70-130
108-86-1	Bromobenzene	5	4.7	94	70-130
74-97-5	Bromochloromethane	5	5.5	110	70-130
75-27-4	Bromodichloromethane	5	5.4	108	70-130
75-25-2	Bromoform	5	4.8	96	70-130
74-83-9	Bromomethane	5	6.6	132* [a]	70-130
104-51-8	n-Butylbenzene	5	4.4	88	70-130
135-98-8	sec-Butylbenzene	5	4.6	92	70-130
98-06-6	tert-Butylbenzene	5	4.3	86	70-130
75-15-0	Carbon disulfide	5	5.0	100	70-130
108-90-7	Chlorobenzene	5	4.9	98	70-130
75-00-3	Chloroethane	5	7.2	144* [a]	70-130
67-66-3	Chloroform	5	5.5	110	70-130
74-87-3	Chloromethane	5	7.0	140* [a]	70-130
95-49-8	o-Chlorotoluene	5	4.6	92	70-130
106-43-4	p-Chlorotoluene	5	4.6	92	70-130
56-23-5	Carbon tetrachloride	5	5.6	112	70-130
75-34-3	1,1-Dichloroethane	5	5.6	112	70-130
75-35-4	1,1-Dichloroethylene	5	5.6	112	70-130
563-58-6	1,1-Dichloropropene	5	5.2	104	70-130
96-12-8	1,2-Dibromo-3-chloropropane	5	4.7	94	70-130
106-93-4	1,2-Dibromoethane	5	5.3	106	70-130
107-06-2	1,2-Dichloroethane	5	6.1	122	70-130
78-87-5	1,2-Dichloropropane	5	5.2	104	70-130
142-28-9	1,3-Dichloropropane	5	5.3	106	70-130
594-20-7	2,2-Dichloropropane	5	6.0	120	70-130
124-48-1	Dibromochloromethane	5	5.1	102	70-130
74-95-3	Dibromomethane	5	5.6	112	70-130
75-71-8	Dichlorodifluoromethane	5	6.3	126	70-130
541-73-1	m-Dichlorobenzene	5	4.6	92	70-130
95-50-1	o-Dichlorobenzene	5	4.6	92	70-130
106-46-7	p-Dichlorobenzene	5	4.7	94	70-130
156-60-5	trans-1,2-Dichloroethylene	5	5.0	100	70-130
156-59-2	cis-1,2-Dichloroethylene	5	5.3	106	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6104-BS	1B125701.D	1	12/14/20	BK	n/a	n/a	V1B6104

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-2

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	5.2	104	70-130
100-41-4	Ethylbenzene	5	4.8	96	70-130
87-68-3	Hexachlorobutadiene	5	3.9	78	70-130
591-78-6	2-Hexanone	20	21.5	108	70-130
98-82-8	Isopropylbenzene	5	4.6	92	70-130
99-87-6	p-Isopropyltoluene	5	4.4	88	70-130
75-09-2	Methylene chloride	5	5.0	100	70-130
1634-04-4	Methyl Tert Butyl Ether	5	4.7	94	70-130
108-10-1	4-Methyl-2-pentanone	20	22.2	111	70-130
91-20-3	Naphthalene	5	3.9	78	70-130
103-65-1	n-Propylbenzene	5	4.6	92	70-130
100-42-5	Styrene	5	4.7	94	70-130
630-20-6	1,1,1,2-Tetrachloroethane	5	5.0	100	70-130
71-55-6	1,1,1-Trichloroethane	5	5.4	108	70-130
79-34-5	1,1,2,2-Tetrachloroethane	5	5.2	104	70-130
79-00-5	1,1,2-Trichloroethane	5	5.3	106	70-130
87-61-6	1,2,3-Trichlorobenzene	5	4.0	80	70-130
96-18-4	1,2,3-Trichloropropane	5	5.2	104	70-130
120-82-1	1,2,4-Trichlorobenzene	5	3.9	78	70-130
95-63-6	1,2,4-Trimethylbenzene	5	4.5	90	70-130
108-67-8	1,3,5-Trimethylbenzene	5	4.5	90	70-130
127-18-4	Tetrachloroethylene	5	5.0	100	70-130
108-88-3	Toluene	5	4.7	94	70-130
79-01-6	Trichloroethylene	5	5.2	104	70-130
75-69-4	Trichlorofluoromethane	5	6.1	122	70-130
75-01-4	Vinyl chloride	5	7.0	140* [a]	70-130
	m,p-Xylene	10	9.3	93	70-130
95-47-6	o-Xylene	5	4.6	92	70-130
1330-20-7	Xylenes (total)	15	14.0	93	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2199-69-1	1,2-Dichlorobenzene-d4	89%	70-130%
460-00-4	4-Bromofluorobenzene	87%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6104-BS	1B125701.D	1	12/14/20	BK	n/a	n/a	V1B6104

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-2

(a) High percent recovery and no associated positive reported in the QC batch.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6107-BS	1B125786.D	1	12/18/20	BK	n/a	n/a	V1B6107

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-1, JD17456-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	20	22.1	111	70-130
78-93-3	2-Butanone	20	23.7	119	70-130
71-43-2	Benzene	5	5.7	114	70-130
108-86-1	Bromobenzene	5	6.1	122	70-130
74-97-5	Bromochloromethane	5	5.9	118	70-130
75-27-4	Bromodichloromethane	5	5.9	118	70-130
75-25-2	Bromoform	5	6.3	126	70-130
74-83-9	Bromomethane	5	4.9	98	70-130
104-51-8	n-Butylbenzene	5	5.9	118	70-130
135-98-8	sec-Butylbenzene	5	5.9	118	70-130
98-06-6	tert-Butylbenzene	5	5.8	116	70-130
75-15-0	Carbon disulfide	5	5.6	112	70-130
108-90-7	Chlorobenzene	5	5.9	118	70-130
75-00-3	Chloroethane	5	5.0	100	70-130
67-66-3	Chloroform	5	5.6	112	70-130
74-87-3	Chloromethane	5	4.6	92	70-130
95-49-8	o-Chlorotoluene	5	5.9	118	70-130
106-43-4	p-Chlorotoluene	5	5.8	116	70-130
56-23-5	Carbon tetrachloride	5	6.3	126	70-130
75-34-3	1,1-Dichloroethane	5	5.6	112	70-130
75-35-4	1,1-Dichloroethylene	5	5.7	114	70-130
563-58-6	1,1-Dichloropropene	5	5.9	118	70-130
96-12-8	1,2-Dibromo-3-chloropropane	5	5.9	118	70-130
106-93-4	1,2-Dibromoethane	5	5.8	116	70-130
107-06-2	1,2-Dichloroethane	5	5.9	118	70-130
78-87-5	1,2-Dichloropropane	5	5.7	114	70-130
142-28-9	1,3-Dichloropropane	5	5.8	116	70-130
594-20-7	2,2-Dichloropropane	5	5.8	116	70-130
124-48-1	Dibromochloromethane	5	6.0	120	70-130
74-95-3	Dibromomethane	5	5.9	118	70-130
75-71-8	Dichlorodifluoromethane	5	6.0	120	70-130
541-73-1	m-Dichlorobenzene	5	5.9	118	70-130
95-50-1	o-Dichlorobenzene	5	5.9	118	70-130
106-46-7	p-Dichlorobenzene	5	5.9	118	70-130
156-60-5	trans-1,2-Dichloroethylene	5	5.7	114	70-130
156-59-2	cis-1,2-Dichloroethylene	5	5.7	114	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B6107-BS	1B125786.D	1	12/18/20	BK	n/a	n/a	V1B6107

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-1, JD17456-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	5	5.8	116	70-130
10061-02-6	trans-1,3-Dichloropropene	5	5.9	118	70-130
100-41-4	Ethylbenzene	5	5.8	116	70-130
87-68-3	Hexachlorobutadiene	5	6.2	124	70-130
591-78-6	2-Hexanone	20	24.3	122	70-130
98-82-8	Isopropylbenzene	5	5.8	116	70-130
99-87-6	p-Isopropyltoluene	5	5.9	118	70-130
75-09-2	Methylene chloride	5	5.6	112	70-130
1634-04-4	Methyl Tert Butyl Ether	5	5.8	116	70-130
108-10-1	4-Methyl-2-pentanone	20	23.6	118	70-130
91-20-3	Naphthalene	5	6.1	122	70-130
103-65-1	n-Propylbenzene	5	5.9	118	70-130
100-42-5	Styrene	5	5.9	118	70-130
630-20-6	1,1,1,2-Tetrachloroethane	5	6.1	122	70-130
71-55-6	1,1,1-Trichloroethane	5	6.0	120	70-130
79-34-5	1,1,2,2-Tetrachloroethane	5	5.9	118	70-130
79-00-5	1,1,2-Trichloroethane	5	5.9	118	70-130
87-61-6	1,2,3-Trichlorobenzene	5	6.1	122	70-130
96-18-4	1,2,3-Trichloropropane	5	6.2	124	70-130
120-82-1	1,2,4-Trichlorobenzene	5	6.1	122	70-130
95-63-6	1,2,4-Trimethylbenzene	5	5.8	116	70-130
108-67-8	1,3,5-Trimethylbenzene	5	5.8	116	70-130
127-18-4	Tetrachloroethylene	5	6.0	120	70-130
108-88-3	Toluene	5	5.8	116	70-130
79-01-6	Trichloroethylene	5	5.9	118	70-130
75-69-4	Trichlorofluoromethane	5	4.8	96	70-130
75-01-4	Vinyl chloride	5	5.0	100	70-130
	m,p-Xylene	10	11.7	117	70-130
95-47-6	o-Xylene	5	5.9	118	70-130
1330-20-7	Xylenes (total)	15	17.6	117	70-130

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

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD17556-17MS	1B125708.D	1	12/14/20	BK	n/a	n/a	V1B6104
JD17556-17	1B125704.D	1	12/14/20	BK	n/a	n/a	V1B6104

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-2

CAS No.	Compound	JD17556-17 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
67-64-1	Acetone	ND		20	25.5	128	41-142
78-93-3	2-Butanone	ND		20	22.3	112	55-129
71-43-2	Benzene	ND		5	5.5	110	53-138
108-86-1	Bromobenzene	ND		5	4.8	96	54-138
74-97-5	Bromochloromethane	ND		5	5.3	106	55-140
75-27-4	Bromodichloromethane	ND		5	5.6	112	57-147
75-25-2	Bromoform	ND		5	5.1	102	47-137
74-83-9	Bromomethane	ND		5	7.1	142	40-162
104-51-8	n-Butylbenzene	ND		5	4.6	92	45-144
135-98-8	sec-Butylbenzene	ND		5	4.8	96	46-145
98-06-6	tert-Butylbenzene	ND		5	4.4	88	48-141
75-15-0	Carbon disulfide	ND		5	5.7	114	35-127
108-90-7	Chlorobenzene	ND		5	5.1	102	54-135
75-00-3	Chloroethane	ND		5	7.0	140	38-153
67-66-3	Chloroform	0.46	J	5	6.1	113	57-151
74-87-3	Chloromethane	ND		5	7.6	152	39-165
95-49-8	o-Chlorotoluene	ND		5	4.7	94	55-142
106-43-4	p-Chlorotoluene	ND		5	4.8	96	55-139
56-23-5	Carbon tetrachloride	ND		5	6.0	120	49-170
75-34-3	1,1-Dichloroethane	ND		5	5.7	114	55-149
75-35-4	1,1-Dichloroethylene	ND		5	6.1	122	42-142
563-58-6	1,1-Dichloropropene	ND		5	5.5	110	46-151
96-12-8	1,2-Dibromo-3-chloropropane	ND		5	4.8	96	48-141
106-93-4	1,2-Dibromoethane	ND		5	5.5	110	57-135
107-06-2	1,2-Dichloroethane	ND		5	6.1	122	59-166
78-87-5	1,2-Dichloropropane	ND		5	5.3	106	53-142
142-28-9	1,3-Dichloropropane	ND		5	5.5	110	58-143
594-20-7	2,2-Dichloropropane	ND		5	6.1	122	38-165
124-48-1	Dibromochloromethane	ND		5	5.4	108	55-138
74-95-3	Dibromomethane	ND		5	5.7	114	61-144
75-71-8	Dichlorodifluoromethane	ND		5	6.7	134	23-172
541-73-1	m-Dichlorobenzene	ND		5	4.8	96	53-138
95-50-1	o-Dichlorobenzene	ND		5	4.8	96	54-140
106-46-7	p-Dichlorobenzene	ND		5	4.8	96	53-137
156-60-5	trans-1,2-Dichloroethylene	ND		5	5.3	106	47-148
156-59-2	cis-1,2-Dichloroethylene	ND		5	5.4	108	51-146

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD17556-17MS	1B125708.D	1	12/14/20	BK	n/a	n/a	V1B6104
JD17556-17	1B125704.D	1	12/14/20	BK	n/a	n/a	V1B6104

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-2

CAS No.	Compound	JD17556-17 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
10061-01-5	cis-1,3-Dichloropropene	ND		5	4.8	96	51-136
10061-02-6	trans-1,3-Dichloropropene	ND		5	5.3	106	54-142
100-41-4	Ethylbenzene	ND		5	5.0	100	51-138
87-68-3	Hexachlorobutadiene	ND		5	4.0	80	40-154
591-78-6	2-Hexanone	ND		20	22.9	115	53-128
98-82-8	Isopropylbenzene	ND		5	4.7	94	49-139
99-87-6	p-Isopropyltoluene	ND		5	4.6	92	45-141
75-09-2	Methylene chloride	ND		5	5.1	102	54-137
1634-04-4	Methyl Tert Butyl Ether	1.0		5	5.6	92	53-143
108-10-1	4-Methyl-2-pentanone	ND		20	23.8	119	58-127
91-20-3	Naphthalene	ND		5	3.7	74	44-140
103-65-1	n-Propylbenzene	ND		5	4.9	98	50-142
100-42-5	Styrene	ND		5	4.8	96	23-130
630-20-6	1,1,1,2-Tetrachloroethane	ND		5	5.1	102	57-144
71-55-6	1,1,1-Trichloroethane	ND		5	5.7	114	52-164
79-34-5	1,1,2,2-Tetrachloroethane	ND		5	5.7	114	58-138
79-00-5	1,1,2-Trichloroethane	ND		5	5.6	112	59-139
87-61-6	1,2,3-Trichlorobenzene	ND		5	3.8	76	47-141
96-18-4	1,2,3-Trichloropropane	ND		5	5.7	114	56-148
120-82-1	1,2,4-Trichlorobenzene	ND		5	3.7	74	46-137
95-63-6	1,2,4-Trimethylbenzene	ND		5	4.7	94	41-138
108-67-8	1,3,5-Trimethylbenzene	ND		5	4.7	94	45-138
127-18-4	Tetrachloroethylene	ND		5	5.1	102	45-145
108-88-3	Toluene	ND		5	4.9	98	52-134
79-01-6	Trichloroethylene	ND		5	5.4	108	54-143
75-69-4	Trichlorofluoromethane	ND		5	6.8	136	36-167
75-01-4	Vinyl chloride	ND		5	7.9	158	35-162
	m,p-Xylene	ND		10	9.7	97	49-135
95-47-6	o-Xylene	ND		5	4.8	96	49-134
1330-20-7	Xylenes (total)	ND		15	14.5	97	50-134

CAS No.	Surrogate Recoveries	MS	JD17556-17	Limits
2199-69-1	1,2-Dichlorobenzene-d4	91%	79%	70-130%
460-00-4	4-Bromofluorobenzene	85%	73%	70-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD17556-18DUP	1B125709.D	1	12/14/20	BK	n/a	n/a	V1B6104
JD17556-18	1B125705.D	1	12/14/20	BK	n/a	n/a	V1B6104

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-2

CAS No.	Compound	JD17556-18 ug/l	Q	DUP 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: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD17556-18DUP	1B125709.D	1	12/14/20	BK	n/a	n/a	V1B6104
JD17556-18	1B125705.D	1	12/14/20	BK	n/a	n/a	V1B6104

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JD17456-2

CAS No.	Compound	JD17556-18 ug/l	Q	DUP 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	8.5		9.2		8	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	JD17556-18	Limits
2199-69-1	1,2-Dichlorobenzene-d4	78%	76%	70-130%
460-00-4	4-Bromofluorobenzene	73%	71%	70-130%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V1B6071-BFB
Lab File ID: 1B125087.D
Instrument ID: GCMS1B
Injection Date: 10/24/20
Injection Time: 11:23

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	3538	16.5		Pass
75	30.0 - 80.0% of mass 95	9686	45.3		Pass
95	Base peak, 100% relative abundance	21389	100.0		Pass
96	5.0 - 9.0% of mass 95	1610	7.53		Pass
173	Less than 2.0% of mass 174	163	0.76	(1.10) [a]	Pass
174	50.0 - 120.0% of mass 95	14808	69.2		Pass
175	5.0 - 9.0% of mass 174	1058	4.95	(7.14) [a]	Pass
176	95.0 - 101.0% of mass 174	14110	66.0	(95.3) [a]	Pass
177	5.0 - 9.0% of mass 176	941	4.40	(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
V1B6071-IC6071	1B125088.D	10/24/20	11:54	00:31	Initial cal 0.2
V1B6071-IC6071	1B125089.D	10/24/20	12:26	01:03	Initial cal 0.5
V1B6071-IC6071	1B125090.D	10/24/20	12:57	01:34	Initial cal 1
V1B6071-IC6071	1B125091.D	10/24/20	13:28	02:05	Initial cal 2
V1B6071-IC6071	1B125092.D	10/24/20	13:59	02:36	Initial cal 5
V1B6071-ICC6071	1B125093.D	10/24/20	14:30	03:07	Initial cal 10
V1B6071-IC6071	1B125094.D	10/24/20	15:01	03:38	Initial cal 20
V1B6071-IC6071	1B125095.D	10/24/20	15:32	04:09	Initial cal 40
V1B6071-IC6071	1B125096.D	10/24/20	16:03	04:40	Initial cal 80
V1B6071-ICV6071	1B125098.D	10/24/20	17:05	05:42	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: V1B6104-BFB
Lab File ID: 1B125699.D
Instrument ID: GCMS1B
Injection Date: 12/14/20
Injection Time: 15:21

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	3231	21.1		Pass
75	30.0 - 80.0% of mass 95	8134	53.1		Pass
95	Base peak, 100% relative abundance	15316	100.0		Pass
96	5.0 - 9.0% of mass 95	1051	6.86		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	10559	68.9		Pass
175	5.0 - 9.0% of mass 174	788	5.14	(7.46) [a]	Pass
176	95.0 - 101.0% of mass 174	10101	66.0	(95.7) [a]	Pass
177	5.0 - 9.0% of mass 176	699	4.56	(6.92) [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
V1B6104-CC6071	1B125700.D	12/14/20	16:05	00:44	Continuing cal 5
V1B6104-BS	1B125701.D	12/14/20	16:36	01:15	Blank Spike
V1B6104-MB	1B125702.D	12/14/20	17:25	02:04	Method Blank
ZZZZZZ	1B125703.D	12/14/20	17:56	02:35	(unrelated sample)
JD17556-17	1B125704.D	12/14/20	18:27	03:06	(used for QC only; not part of job JD17456)
JD17556-18	1B125705.D	12/14/20	18:58	03:37	(used for QC only; not part of job JD17456)
ZZZZZZ	1B125706.D	12/14/20	19:30	04:09	(unrelated sample)
ZZZZZZ	1B125707.D	12/14/20	20:01	04:40	(unrelated sample)
JD17556-17MS	1B125708.D	12/14/20	20:32	05:11	Matrix Spike
JD17556-18DUP	1B125709.D	12/14/20	21:03	05:42	Duplicate
ZZZZZZ	1B125710.D	12/14/20	21:34	06:13	(unrelated sample)
ZZZZZZ	1B125713.D	12/14/20	23:07	07:46	(unrelated sample)
JD17456-2	1B125716.D	12/15/20	00:40	09:19	RW-7932AND-120820-F
ZZZZZZ	1B125717.D	12/15/20	01:11	09:50	(unrelated sample)
ZZZZZZ	1B125718.D	12/15/20	01:42	10:21	(unrelated sample)
ZZZZZZ	1B125719.D	12/15/20	02:13	10:52	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample:	V1B6106-BFB	**Injection Date:**	12/17/20
Lab File ID:	1B125768.D	**Injection Time:**	16:34
Instrument ID:	GCMS1B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	3383	21.2		Pass
75	30.0 - 80.0% of mass 95	8531	53.3		Pass
95	Base peak, 100% relative abundance	15994	100.0		Pass
96	5.0 - 9.0% of mass 95	1056	6.60		Pass
173	Less than 2.0% of mass 174	69	0.43	(0.53) [a]	Pass
174	50.0 - 120.0% of mass 95	13129	82.1		Pass
175	5.0 - 9.0% of mass 174	912	5.70	(6.95) [a]	Pass
176	95.0 - 101.0% of mass 174	12701	79.4	(96.7) [a]	Pass
177	5.0 - 9.0% of mass 176	830	5.19	(6.53) [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
V1B6106-IC6106	1B125769.D	12/17/20	17:06	00:32	Initial cal 0.2
V1B6106-IC6106	1B125770.D	12/17/20	17:38	01:04	Initial cal 0.5
V1B6106-IC6106	1B125771.D	12/17/20	18:09	01:35	Initial cal 1
V1B6106-IC6106	1B125772.D	12/17/20	18:40	02:06	Initial cal 2
V1B6106-IC6106	1B125773.D	12/17/20	19:11	02:37	Initial cal 5
V1B6106-ICC6106	1B125774.D	12/17/20	19:43	03:09	Initial cal 10
V1B6106-IC6106	1B125775.D	12/17/20	20:14	03:40	Initial cal 20
V1B6106-IC6106	1B125776.D	12/17/20	20:45	04:11	Initial cal 40
V1B6106-IC6106	1B125777.D	12/17/20	21:16	04:42	Initial cal 80
V1B6106-ICV6106	1B125780.D	12/17/20	22:50	06:16	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample:	V1B6106-BFB2	**Injection Date:**	12/18/20
Lab File ID:	1B125782.D	**Injection Time:**	10:23
Instrument ID:	GCMS1B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	3647	21.1		Pass
75	30.0 - 80.0% of mass 95	9037	52.3		Pass
95	Base peak, 100% relative abundance	17274	100.0		Pass
96	5.0 - 9.0% of mass 95	1338	7.75		Pass
173	Less than 2.0% of mass 174	71	0.41	(0.51) [a]	Pass
174	50.0 - 120.0% of mass 95	13898	80.5		Pass
175	5.0 - 9.0% of mass 174	960	5.56	(6.91) [a]	Pass
176	95.0 - 101.0% of mass 174	13367	77.4	(96.2) [a]	Pass
177	5.0 - 9.0% of mass 176	916	5.30	(6.85) [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
V1B6106-ICV6106	1B125783.D	12/18/20	10:55	00:32	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample:	V1B6107-BFB	**Injection Date:**	12/18/20
Lab File ID:	1B125784.D	**Injection Time:**	11:26
Instrument ID:	GCMS1B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	3469	19.2		Pass
75	30.0 - 80.0% of mass 95	9272	51.3		Pass
95	Base peak, 100% relative abundance	18073	100.0		Pass
96	5.0 - 9.0% of mass 95	1258	6.96		Pass
173	Less than 2.0% of mass 174	59	0.33	(0.38) [a]	Pass
174	50.0 - 120.0% of mass 95	15439	85.4		Pass
175	5.0 - 9.0% of mass 174	1149	6.36	(7.44) [a]	Pass
176	95.0 - 101.0% of mass 174	15049	83.3	(97.5) [a]	Pass
177	5.0 - 9.0% of mass 176	1013	5.61	(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
V1B6107-CC6106	1B125785.D	12/18/20	11:59	00:33	Continuing cal 5
V1B6107-BS	1B125786.D	12/18/20	12:32	01:06	Blank Spike
V1B6107-MB	1B125787.D	12/18/20	13:03	01:37	Method Blank
ZZZZZZ	1B125788.D	12/18/20	13:35	02:09	(unrelated sample)
JD17456-1	1B125789.D	12/18/20	14:06	02:40	RW-7932AND-120820
ZZZZZZ	1B125791.D	12/18/20	15:08	03:42	(unrelated sample)
ZZZZZZ	1B125792.D	12/18/20	15:39	04:13	(unrelated sample)
JD17456-3	1B125793.D	12/18/20	16:10	04:44	TRIP BLANK

Surrogate Recovery Summary

Job Number: JD17456
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
JD17456-1	1B125789.D	97	95
JD17456-2	1B125716.D	79	71
JD17456-3	1B125793.D	97	97
JD17556-17MS	1B125708.D	91	85
JD17556-18DUP	1B125709.D	78	73
V1B6104-BS	1B125701.D	89	87
V1B6104-MB	1B125702.D	80	75
V1B6107-BS	1B125786.D	104	101
V1B6107-MB	1B125787.D	97	97

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

MS Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31009A-MB1	4M97748.D	1	12/15/20	HSS	12/14/20	OP31009A	E4M4517

The QC reported here applies to the following samples: **Method:** SW846 8270E BY SIM

JD17456-1, JD17456-2

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	82%	29-124%
321-60-8	2-Fluorobiphenyl	69%	23-122%
1718-51-0	Terphenyl-d14	80%	22-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31009A-BS12	4M97749.D	1	12/15/20	HSS	12/14/20	OP31009A	E4M4517
OP31009A-BSD12	4M97750.D	1	12/15/20	HSS	12/14/20	OP31009A	E4M4517

The QC reported here applies to the following samples: **Method:** SW846 8270E BY SIM

JD17456-1, JD17456-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
123-91-1	1,4-Dioxane	1	0.583	58	0.665	67	13	10-110/40

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	76%	85%	29-124%
321-60-8	2-Fluorobiphenyl	64%	71%	23-122%
1718-51-0	Terphenyl-d14	73%	81%	22-130%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample:	E4M4480-DFTPP	**Injection Date:**	11/13/20
Lab File ID:	4M96903.D	**Injection Time:**	16:00
Instrument ID:	GCMS4M		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	22323	33.8		Pass
68	Less than 2.0% of mass 69	358	0.54	(1.39) [a]	Pass
69	Mass 69 relative abundance	25766	39.0		Pass
70	Less than 2.0% of mass 69	104	0.16	(0.40) [a]	Pass
127	40.0 - 60.0% of mass 198	34067	51.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	66016	100.0		Pass
199	5.0 - 9.0% of mass 198	4274	6.47		Pass
275	10.0 - 30.0% of mass 198	16086	24.4		Pass
365	1.0 - 100.0% of mass 198	2072	3.14		Pass
441	Present, but less than mass 443	7347	11.1	(73.3) [b]	Pass
442	40.0 - 100.0% of mass 198	52189	79.1		Pass
443	17.0 - 23.0% of mass 442	10022	15.2	(19.2) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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
E4M4480-IC4480	4M96904.D	11/13/20	16:14	00:14	Initial cal 5
E4M4480-IC4480	4M96905.D	11/13/20	16:35	00:35	Initial cal 2.5
E4M4480-ICC4480	4M96906.D	11/13/20	16:55	00:55	Initial cal 1
E4M4480-IC4480	4M96907.D	11/13/20	17:16	01:16	Initial cal 0.5
E4M4480-IC4480	4M96908.D	11/13/20	17:36	01:36	Initial cal 0.2
E4M4480-IC4480	4M96909.D	11/13/20	17:57	01:57	Initial cal 0.1
E4M4480-IC4480	4M96910.D	11/13/20	18:18	02:18	Initial cal 0.05
E4M4480-IC4480	4M96911.D	11/13/20	18:38	02:38	Initial cal 0.02
E4M4480-IC4480	4M96912.D	11/13/20	18:59	02:59	Initial cal 0.01
E4M4480-ICV4480	4M96913.D	11/13/20	19:19	03:19	Initial cal verification 1

Instrument Performance Check (DFTPP)

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: E4M4517-DFTPP
Lab File ID: 4M97723.D
Instrument ID: GCMS4M
Injection Date: 12/15/20
Injection Time: 11:51

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	34241	36.3		Pass
68	Less than 2.0% of mass 69	838	0.89	(1.93) [a]	Pass
69	Mass 69 relative abundance	43376	46.0		Pass
70	Less than 2.0% of mass 69	208	0.22	(0.48) [a]	Pass
127	40.0 - 60.0% of mass 198	50445	53.5		Pass
197	Less than 1.0% of mass 198	603	0.64		Pass
198	Base peak, 100% relative abundance	94355	100.0		Pass
199	5.0 - 9.0% of mass 198	6224	6.60		Pass
275	10.0 - 30.0% of mass 198	23254	24.6		Pass
365	1.0 - 100.0% of mass 198	3122	3.31		Pass
441	Present, but less than mass 443	10109	10.7	(76.0) [b]	Pass
442	40.0 - 100.0% of mass 198	71488	75.8		Pass
443	17.0 - 23.0% of mass 442	13305	14.1	(18.6) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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
E4M4517-CC4480	4M97724.D	12/15/20	12:04	00:13	Continuing cal 1
OP31008-MB1	4M97726.D	12/15/20	12:50	00:59	Method Blank
OP31008-BS1	4M97727.D	12/15/20	13:13	01:22	Blank Spike
ZZZZZZ	4M97733.D	12/15/20	15:30	03:39	(unrelated sample)
ZZZZZZ	4M97738.D	12/15/20	17:25	05:34	(unrelated sample)
ZZZZZZ	4M97739.D	12/15/20	17:48	05:57	(unrelated sample)
ZZZZZZ	4M97740.D	12/15/20	18:11	06:20	(unrelated sample)
ZZZZZZ	4M97741.D	12/15/20	18:37	06:46	(unrelated sample)
ZZZZZZ	4M97742.D	12/15/20	19:32	07:41	(unrelated sample)
ZZZZZZ	4M97743.D	12/15/20	19:56	08:05	(unrelated sample)
ZZZZZZ	4M97744.D	12/15/20	20:20	08:29	(unrelated sample)
ZZZZZZ	4M97745.D	12/15/20	20:43	08:52	(unrelated sample)
ZZZZZZ	4M97746.D	12/15/20	21:05	09:14	(unrelated sample)
OP31008-BSD	4M97747.D	12/15/20	21:28	09:37	Blank Spike Duplicate
OP31009A-MB1	4M97748.D	12/15/20	21:50	09:59	Method Blank
OP31009A-BS12	4M97749.D	12/15/20	22:13	10:22	Blank Spike
OP31009A-BSD12	4M97750.D	12/15/20	22:36	10:45	Blank Spike Duplicate
ZZZZZZ	4M97751.D	12/15/20	22:58	11:07	(unrelated sample)
ZZZZZZ	4M97752.D	12/15/20	23:21	11:30	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample:	E4M4517-DFTPP	**Injection Date:**	12/15/20
Lab File ID:	4M97723.D	**Injection Time:**	11:51
Instrument ID:	GCMS4M		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	4M97753.D	12/15/20	23:45	11:54	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample: E4M4518-DFTPP
Lab File ID: 4M97759.D
Instrument ID: GCMS4M
Injection Date: 12/16/20
Injection Time: 03:37

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	35386	36.5		Pass
68	Less than 2.0% of mass 69	657	0.68	(1.47) [a]	Pass
69	Mass 69 relative abundance	44789	46.2		Pass
70	Less than 2.0% of mass 69	309	0.32	(0.69) [a]	Pass
127	40.0 - 60.0% of mass 198	51707	53.4		Pass
197	Less than 1.0% of mass 198	386	0.40		Pass
198	Base peak, 100% relative abundance	96883	100.0		Pass
199	5.0 - 9.0% of mass 198	6539	6.75		Pass
275	10.0 - 30.0% of mass 198	22507	23.2		Pass
365	1.0 - 100.0% of mass 198	3217	3.32		Pass
441	Present, but less than mass 443	10759	11.1	(77.4) [b]	Pass
442	40.0 - 100.0% of mass 198	71184	73.5		Pass
443	17.0 - 23.0% of mass 442	13906	14.4	(19.5) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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
E4M4518-CC4480	4M97760.D	12/16/20	03:48	00:11	Continuing cal 0.5
OP31011A-MB1	4M97762.D	12/16/20	04:43	01:06	Method Blank
OP31011A-BS12	4M97763.D	12/16/20	05:04	01:27	Blank Spike
OP31011A-BSD12	4M97764.D	12/16/20	05:25	01:48	Blank Spike Duplicate
ZZZZZZ	4M97765.D	12/16/20	05:47	02:10	(unrelated sample)
ZZZZZZ	4M97766.D	12/16/20	06:08	02:31	(unrelated sample)
ZZZZZZ	4M97767.D	12/16/20	06:28	02:51	(unrelated sample)
ZZZZZZ	4M97768.D	12/16/20	06:49	03:12	(unrelated sample)
ZZZZZZ	4M97769.D	12/16/20	07:10	03:33	(unrelated sample)
ZZZZZZ	4M97770.D	12/16/20	07:32	03:55	(unrelated sample)
ZZZZZZ	4M97771.D	12/16/20	07:53	04:16	(unrelated sample)
ZZZZZZ	4M97772.D	12/16/20	08:14	04:37	(unrelated sample)
ZZZZZZ	4M97773.D	12/16/20	08:36	04:59	(unrelated sample)
ZZZZZZ	4M97774.D	12/16/20	08:58	05:21	(unrelated sample)
ZZZZZZ	4M97775.D	12/16/20	09:19	05:42	(unrelated sample)
ZZZZZZ	4M97776.D	12/16/20	09:40	06:03	(unrelated sample)
ZZZZZZ	4M97777.D	12/16/20	10:02	06:25	(unrelated sample)
ZZZZZZ	4M97778.D	12/16/20	10:23	06:46	(unrelated sample)
ZZZZZZ	4M97779.D	12/16/20	10:46	07:09	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Sample:	E4M4518-DFTPP	**Injection Date:**	12/16/20
Lab File ID:	4M97759.D	**Injection Time:**	03:37
Instrument ID:	GCMS4M		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	4M97780.D	12/16/20	11:07	07:30	(unrelated sample)
JD17456-1	4M97783.D	12/16/20	11:29	07:52	RW-7932AND-120820
JD17456-2	4M97784.D	12/16/20	11:50	08:13	RW-7932AND-120820-F
ZZZZZZ	4M97785.D	12/16/20	12:11	08:34	(unrelated sample)
ZZZZZZ	4M97786.D	12/16/20	12:33	08:56	(unrelated sample)
ZZZZZZ	4M97787.D	12/16/20	12:55	09:18	(unrelated sample)
ZZZZZZ	4M97788.D	12/16/20	13:16	09:39	(unrelated sample)
ZZZZZZ	4M97781.D	12/16/20	13:58	10:21	(unrelated sample)
ZZZZZZ	4M97782.D	12/16/20	14:20	10:43	(unrelated sample)

Surrogate Recovery Summary

Job Number: JD17456
Account: ESCVAR WSP Environment & Energy
Project: Kop-Flex, Hanover, VA

Method: SW846 8270E BY SIM **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
JD17456-1	4M97783.D	81	66	73
JD17456-2	4M97784.D	80	67	75
OP31009A-BS12	4M97749.D	76	64	73
OP31009A-BSD12	4M97750.D	85	71	81
OP31009A-MB1	4M97748.D	82	69	80

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	29-124%
S2 = 2-Fluorobiphenyl	23-122%
S3 = Terphenyl-d14	22-130%

ENCLOSURE B – LABORATORY ANALYTICAL REPORT FOR OFFSITE GROUNDWATER MONITORING WELL SAMPLES (NOVEMBER 2020)

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

December 03, 2020

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

RE: Project: Kop Flex
Pace Project No.: 92507939

Dear Eric Johnson:

Enclosed are the analytical results for sample(s) received by the laboratory between November 24, 2020 and November 25, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

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

Sincerely,

Bonnie Vang
bonnie.vang@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Molly Long, WSP
Pam Robertson, WSP USA

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: Kop Flex
Pace Project No.: 92507939

Pace Analytical Services Charlotte
9800 Kincey 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

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: Kop Flex
Pace Project No.: 92507939

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92507939001	**DUP-112320**	Water	11/23/20 12:00	11/24/20 11:00
92507939002	**MW-24D**	Water	11/23/20 09:45	11/24/20 11:00
92507939003	**MW-35D**	Water	11/23/20 10:25	11/24/20 11:00
92507939004	**MW-34D**	Water	11/23/20 10:45	11/24/20 11:00
92507939005	**MW-29D**	Water	11/23/20 11:25	11/24/20 11:00
92507939006	**MW-30D-273**	Water	11/23/20 11:50	11/24/20 11:00
92507939007	**MW-30D-413**	Water	11/23/20 12:00	11/24/20 11:00
92507939008	**MW-33D-295**	Water	11/23/20 12:20	11/24/20 11:00
92507939009	**MW-33D-235**	Water	11/23/20 12:25	11/24/20 11:00
92507939010	**MW-32D**	Water	11/23/20 14:15	11/24/20 11:00
92507939011	**MW-28D**	Water	11/23/20 14:35	11/24/20 11:00
92507939012	**MW-25D-130**	Water	11/23/20 15:00	11/24/20 11:00
92507939013	**MW-25D-190 MS/MSD**	Water	11/23/20 16:00	11/24/20 11:00
92507939014	**MW-31D**	Water	11/23/20 12:55	11/25/20 11:42
92507939015	**MW-36D**	Water	11/23/20 14:55	11/25/20 11:42
92507939016	**MW-46D**	Water	11/23/20 16:40	11/25/20 11:42
92507939017	**TRIP BLANK**	Water	11/23/20 16:40	11/25/20 11:42

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: Kop Flex
Pace Project No.: 92507939

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92507939001	DUP-112320	EPA 8260D	SAS	63	PASI-C
		EPA 8260D Mod.	LMB	3	PASI-C
92507939002	MW-24D	EPA 8260D	SAS	63	PASI-C
		EPA 8260D Mod.	LMB	3	PASI-C
92507939003	MW-35D	EPA 8260D	SAS	63	PASI-C
		EPA 8260D Mod.	LMB	3	PASI-C
92507939004	MW-34D	EPA 8260D	SAS	63	PASI-C
		EPA 8260D Mod.	LMB	3	PASI-C
92507939005	MW-29D	EPA 8260D	SAS	63	PASI-C
		EPA 8260D Mod.	LMB	3	PASI-C
92507939006	MW-30D-273	EPA 8260D	SAS	63	PASI-C
		EPA 8260D Mod.	LMB	3	PASI-C
92507939007	MW-30D-413	EPA 8260D	SAS	63	PASI-C
		EPA 8260D Mod.	LMB	3	PASI-C
92507939008	MW-33D-295	EPA 8260D	SAS	63	PASI-C
		EPA 8260D Mod.	LMB	3	PASI-C
92507939009	MW-33D-235	EPA 8260D	CL	63	PASI-C
		EPA 8260D Mod.	CL	3	PASI-C
92507939010	MW-32D	EPA 8260D	CL	63	PASI-C
		EPA 8260D Mod.	LMB	3	PASI-C
92507939011	MW-28D	EPA 8260D	CL	63	PASI-C
		EPA 8260D Mod.	LMB	3	PASI-C
92507939012	MW-25D-130	EPA 8260D	CL	63	PASI-C
		EPA 8260D Mod.	LMB	3	PASI-C
92507939013	MW-25D-190 MS/MSD	EPA 8260D	SAS	63	PASI-C
		EPA 8260D Mod.	LMB	3	PASI-C
92507939014	MW-31D	EPA 8260D	CL	63	PASI-C
		EPA 8260D Mod.	CL	3	PASI-C
92507939015	MW-36D	EPA 8260D	CL	63	PASI-C
		EPA 8260D Mod.	CL	3	PASI-C
92507939016	MW-46D	EPA 8260D	CL	63	PASI-C
		EPA 8260D Mod.	CL	3	PASI-C
92507939017	TRIP BLANK	EPA 8260D	CL	63	PASI-C
		EPA 8260D Mod.	CL	3	PASI-C

PASI-C = Pace Analytical Services - Charlotte

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: DUP-112320 **Lab ID: 92507939001** Collected: 11/23/20 12:00 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		11/25/20 17:12	67-64-1	
Benzene	ND	ug/L	1.0	1		11/25/20 17:12	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/25/20 17:12	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/25/20 17:12	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/25/20 17:12	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/25/20 17:12	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/25/20 17:12	74-83-9	IK
2-Butanone (MEK)	ND	ug/L	5.0	1		11/25/20 17:12	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/25/20 17:12	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/25/20 17:12	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/25/20 17:12	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/25/20 17:12	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/25/20 17:12	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/25/20 17:12	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/25/20 17:12	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/25/20 17:12	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/25/20 17:12	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/25/20 17:12	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/25/20 17:12	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/25/20 17:12	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/25/20 17:12	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/25/20 17:12	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/25/20 17:12	75-71-8	
1,1-Dichloroethane	**3.0**	ug/L	1.0	1		11/25/20 17:12	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/25/20 17:12	107-06-2	
1,1-Dichloroethene	**60.7**	ug/L	1.0	1		11/25/20 17:12	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/25/20 17:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/25/20 17:12	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/25/20 17:12	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/25/20 17:12	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/25/20 17:12	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/25/20 17:12	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/25/20 17:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/25/20 17:12	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/25/20 17:12	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/25/20 17:12	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/25/20 17:12	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/25/20 17:12	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/25/20 17:12	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		11/25/20 17:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/25/20 17:12	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/25/20 17:12	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/25/20 17:12	91-20-3	
Styrene	ND	ug/L	1.0	1		11/25/20 17:12	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/25/20 17:12	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/25/20 17:12	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: DUP-112320 **Lab ID: 92507939001** Collected: 11/23/20 12:00 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/25/20 17:12	127-18-4	
Toluene	ND	ug/L	1.0	1		11/25/20 17:12	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/25/20 17:12	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/25/20 17:12	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/25/20 17:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/25/20 17:12	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/25/20 17:12	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/25/20 17:12	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/25/20 17:12	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/25/20 17:12	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/25/20 17:12	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/25/20 17:12	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/25/20 17:12	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/25/20 17:12	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		11/25/20 17:12	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		11/25/20 17:12	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		11/25/20 17:12	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	**33.2**	ug/L	2.0	1		11/24/20 21:12	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		11/24/20 21:12	17060-07-0	
Toluene-d8 (S)	92	%	66-133	1		11/24/20 21:12	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-24D **Lab ID: 92507939002** Collected: 11/23/20 09:45 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	100	4		12/01/20 21:15	67-64-1	
Benzene	ND	ug/L	4.0	4		12/01/20 21:15	71-43-2	
Bromobenzene	ND	ug/L	4.0	4		12/01/20 21:15	108-86-1	
Bromochloromethane	ND	ug/L	4.0	4		12/01/20 21:15	74-97-5	
Bromodichloromethane	ND	ug/L	4.0	4		12/01/20 21:15	75-27-4	
Bromoform	ND	ug/L	4.0	4		12/01/20 21:15	75-25-2	
Bromomethane	ND	ug/L	8.0	4		12/01/20 21:15	74-83-9	v2
2-Butanone (MEK)	ND	ug/L	20.0	4		12/01/20 21:15	78-93-3	
Carbon tetrachloride	ND	ug/L	4.0	4		12/01/20 21:15	56-23-5	
Chlorobenzene	ND	ug/L	4.0	4		12/01/20 21:15	108-90-7	
Chloroethane	ND	ug/L	4.0	4		12/01/20 21:15	75-00-3	
Chloroform	ND	ug/L	20.0	4		12/01/20 21:15	67-66-3	
Chloromethane	ND	ug/L	4.0	4		12/01/20 21:15	74-87-3	
2-Chlorotoluene	ND	ug/L	4.0	4		12/01/20 21:15	95-49-8	
4-Chlorotoluene	ND	ug/L	4.0	4		12/01/20 21:15	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	20.0	4		12/01/20 21:15	96-12-8	
Dibromochloromethane	ND	ug/L	4.0	4		12/01/20 21:15	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	4.0	4		12/01/20 21:15	106-93-4	
Dibromomethane	ND	ug/L	4.0	4		12/01/20 21:15	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	4.0	4		12/01/20 21:15	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	4.0	4		12/01/20 21:15	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	4.0	4		12/01/20 21:15	106-46-7	
Dichlorodifluoromethane	ND	ug/L	4.0	4		12/01/20 21:15	75-71-8	
1,1-Dichloroethane	**73.5**	ug/L	4.0	4		12/01/20 21:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	4.0	4		12/01/20 21:15	107-06-2	
1,1-Dichloroethene	**505**	ug/L	4.0	4		12/01/20 21:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	4.0	4		12/01/20 21:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	4.0	4		12/01/20 21:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	4		12/01/20 21:15	78-87-5	
1,3-Dichloropropane	ND	ug/L	4.0	4		12/01/20 21:15	142-28-9	
2,2-Dichloropropane	ND	ug/L	4.0	4		12/01/20 21:15	594-20-7	
1,1-Dichloropropene	ND	ug/L	4.0	4		12/01/20 21:15	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	4.0	4		12/01/20 21:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	4		12/01/20 21:15	10061-02-6	
Diisopropyl ether	ND	ug/L	4.0	4		12/01/20 21:15	108-20-3	
Ethylbenzene	ND	ug/L	4.0	4		12/01/20 21:15	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	4.0	4		12/01/20 21:15	87-68-3	
2-Hexanone	ND	ug/L	20.0	4		12/01/20 21:15	591-78-6	
p-Isopropyltoluene	ND	ug/L	4.0	4		12/01/20 21:15	99-87-6	
Methylene Chloride	ND	ug/L	20.0	4		12/01/20 21:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	20.0	4		12/01/20 21:15	108-10-1	v2
Methyl-tert-butyl ether	ND	ug/L	4.0	4		12/01/20 21:15	1634-04-4	
Naphthalene	ND	ug/L	4.0	4		12/01/20 21:15	91-20-3	
Styrene	ND	ug/L	4.0	4		12/01/20 21:15	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	4.0	4		12/01/20 21:15	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	4.0	4		12/01/20 21:15	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-24D **Lab ID: 92507939002** Collected: 11/23/20 09:45 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	4.0	4		12/01/20 21:15	127-18-4	
Toluene	ND	ug/L	4.0	4		12/01/20 21:15	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	4.0	4		12/01/20 21:15	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	4.0	4		12/01/20 21:15	120-82-1	
1,1,1-Trichloroethane	**4.4**	ug/L	4.0	4		12/01/20 21:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	4.0	4		12/01/20 21:15	79-00-5	
Trichloroethene	ND	ug/L	4.0	4		12/01/20 21:15	79-01-6	
Trichlorofluoromethane	ND	ug/L	4.0	4		12/01/20 21:15	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	4		12/01/20 21:15	96-18-4	
Vinyl acetate	ND	ug/L	8.0	4		12/01/20 21:15	108-05-4	
Vinyl chloride	ND	ug/L	4.0	4		12/01/20 21:15	75-01-4	
Xylene (Total)	ND	ug/L	4.0	4		12/01/20 21:15	1330-20-7	
m&p-Xylene	ND	ug/L	8.0	4		12/01/20 21:15	179601-23-1	
o-Xylene	ND	ug/L	4.0	4		12/01/20 21:15	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	4		12/01/20 21:15	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	4		12/01/20 21:15	17060-07-0	
Toluene-d8 (S)	106	%	70-130	4		12/01/20 21:15	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	**208**	ug/L	5.0	2.5		11/25/20 07:49	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	70-130	2.5		11/25/20 07:49	17060-07-0	
Toluene-d8 (S)	95	%	66-133	2.5		11/25/20 07:49	2037-26-5	

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-35D **Lab ID: 92507939003** Collected: 11/23/20 10:25 Received: 11/24/20 11:00 Matrix: Water

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-35D **Lab ID: 92507939003** Collected: 11/23/20 10:25 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/25/20 15:43	127-18-4	
Toluene	ND	ug/L	1.0	1		11/25/20 15:43	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/25/20 15:43	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/25/20 15:43	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/25/20 15:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/25/20 15:43	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/25/20 15:43	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/25/20 15:43	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/25/20 15:43	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/25/20 15:43	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/25/20 15:43	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/25/20 15:43	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/25/20 15:43	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/25/20 15:43	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		11/25/20 15:43	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		11/25/20 15:43	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		11/25/20 15:43	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/24/20 21:31	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		11/24/20 21:31	17060-07-0	
Toluene-d8 (S)	92	%	66-133	1		11/24/20 21:31	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-34D **Lab ID: 92507939004** Collected: 11/23/20 10:45 Received: 11/24/20 11:00 Matrix: Water

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-34D **Lab ID: 92507939004** Collected: 11/23/20 10:45 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/25/20 16:01	127-18-4	
Toluene	ND	ug/L	1.0	1		11/25/20 16:01	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/25/20 16:01	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/25/20 16:01	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/25/20 16:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/25/20 16:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/25/20 16:01	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/25/20 16:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/25/20 16:01	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/25/20 16:01	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/25/20 16:01	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/25/20 16:01	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/25/20 16:01	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/25/20 16:01	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		11/25/20 16:01	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		11/25/20 16:01	17060-07-0	
Toluene-d8 (S)	102	%	70-130	1		11/25/20 16:01	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/24/20 21:50	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		11/24/20 21:50	17060-07-0	
Toluene-d8 (S)	92	%	66-133	1		11/24/20 21:50	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-29D **Lab ID: 92507939005** Collected: 11/23/20 11:25 Received: 11/24/20 11:00 Matrix: Water

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-29D **Lab ID: 92507939005** Collected: 11/23/20 11:25 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/25/20 16:19	127-18-4	
Toluene	ND	ug/L	1.0	1		11/25/20 16:19	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/25/20 16:19	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/25/20 16:19	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/25/20 16:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/25/20 16:19	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/25/20 16:19	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/25/20 16:19	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/25/20 16:19	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/25/20 16:19	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/25/20 16:19	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/25/20 16:19	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/25/20 16:19	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/25/20 16:19	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		11/25/20 16:19	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		11/25/20 16:19	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		11/25/20 16:19	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/24/20 22:09	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		11/24/20 22:09	17060-07-0	
Toluene-d8 (S)	92	%	66-133	1		11/24/20 22:09	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-30D-273 **Lab ID: 92507939006** Collected: 11/23/20 11:50 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		11/25/20 18:41	67-64-1	
Benzene	ND	ug/L	1.0	1		11/25/20 18:41	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/25/20 18:41	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/25/20 18:41	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/25/20 18:41	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/25/20 18:41	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/25/20 18:41	74-83-9	IK
2-Butanone (MEK)	ND	ug/L	5.0	1		11/25/20 18:41	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/25/20 18:41	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/25/20 18:41	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/25/20 18:41	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/25/20 18:41	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/25/20 18:41	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/25/20 18:41	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/25/20 18:41	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/25/20 18:41	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/25/20 18:41	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/25/20 18:41	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/25/20 18:41	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/25/20 18:41	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/25/20 18:41	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/25/20 18:41	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/25/20 18:41	75-71-8	
1,1-Dichloroethane	**1.0**	ug/L	1.0	1		11/25/20 18:41	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/25/20 18:41	107-06-2	
1,1-Dichloroethene	**39.5**	ug/L	1.0	1		11/25/20 18:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/25/20 18:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/25/20 18:41	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/25/20 18:41	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/25/20 18:41	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/25/20 18:41	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/25/20 18:41	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/25/20 18:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/25/20 18:41	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/25/20 18:41	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/25/20 18:41	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/25/20 18:41	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/25/20 18:41	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/25/20 18:41	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		11/25/20 18:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/25/20 18:41	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/25/20 18:41	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/25/20 18:41	91-20-3	
Styrene	ND	ug/L	1.0	1		11/25/20 18:41	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/25/20 18:41	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/25/20 18:41	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-30D-273 **Lab ID: 92507939006** Collected: 11/23/20 11:50 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/25/20 18:41	127-18-4	
Toluene	ND	ug/L	1.0	1		11/25/20 18:41	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/25/20 18:41	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/25/20 18:41	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/25/20 18:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/25/20 18:41	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/25/20 18:41	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/25/20 18:41	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/25/20 18:41	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/25/20 18:41	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/25/20 18:41	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/25/20 18:41	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/25/20 18:41	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/25/20 18:41	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		11/25/20 18:41	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		11/25/20 18:41	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		11/25/20 18:41	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	**19.5**	ug/L	2.0	1		11/24/20 22:28	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		11/24/20 22:28	17060-07-0	
Toluene-d8 (S)	93	%	66-133	1		11/24/20 22:28	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-30D-413 **Lab ID: 92507939007** Collected: 11/23/20 12:00 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		11/25/20 16:54	67-64-1	
Benzene	ND	ug/L	1.0	1		11/25/20 16:54	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/25/20 16:54	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/25/20 16:54	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/25/20 16:54	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/25/20 16:54	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/25/20 16:54	74-83-9	IK
2-Butanone (MEK)	ND	ug/L	5.0	1		11/25/20 16:54	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/25/20 16:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/25/20 16:54	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/25/20 16:54	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/25/20 16:54	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/25/20 16:54	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/25/20 16:54	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/25/20 16:54	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/25/20 16:54	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/25/20 16:54	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/25/20 16:54	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/25/20 16:54	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/25/20 16:54	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/25/20 16:54	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/25/20 16:54	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/25/20 16:54	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/25/20 16:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/25/20 16:54	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/25/20 16:54	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/25/20 16:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/25/20 16:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/25/20 16:54	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/25/20 16:54	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/25/20 16:54	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/25/20 16:54	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/25/20 16:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/25/20 16:54	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/25/20 16:54	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/25/20 16:54	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/25/20 16:54	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/25/20 16:54	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/25/20 16:54	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		11/25/20 16:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/25/20 16:54	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/25/20 16:54	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/25/20 16:54	91-20-3	
Styrene	ND	ug/L	1.0	1		11/25/20 16:54	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/25/20 16:54	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/25/20 16:54	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-30D-413 **Lab ID: 92507939007** Collected: 11/23/20 12:00 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/25/20 16:54	127-18-4	
Toluene	ND	ug/L	1.0	1		11/25/20 16:54	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/25/20 16:54	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/25/20 16:54	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/25/20 16:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/25/20 16:54	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/25/20 16:54	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/25/20 16:54	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/25/20 16:54	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/25/20 16:54	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/25/20 16:54	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/25/20 16:54	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/25/20 16:54	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/25/20 16:54	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		11/25/20 16:54	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		11/25/20 16:54	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		11/25/20 16:54	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/24/20 22:48	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		11/24/20 22:48	17060-07-0	
Toluene-d8 (S)	91	%	66-133	1		11/24/20 22:48	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-33D-295 **Lab ID: 92507939008** Collected: 11/23/20 12:20 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		12/01/20 16:50	67-64-1	
Benzene	ND	ug/L	1.0	1		12/01/20 16:50	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		12/01/20 16:50	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		12/01/20 16:50	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		12/01/20 16:50	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/01/20 16:50	75-25-2	
Bromomethane	ND	ug/L	2.0	1		12/01/20 16:50	74-83-9	v2
2-Butanone (MEK)	ND	ug/L	5.0	1		12/01/20 16:50	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		12/01/20 16:50	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/01/20 16:50	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/01/20 16:50	75-00-3	
Chloroform	ND	ug/L	5.0	1		12/01/20 16:50	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/01/20 16:50	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		12/01/20 16:50	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		12/01/20 16:50	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		12/01/20 16:50	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		12/01/20 16:50	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		12/01/20 16:50	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		12/01/20 16:50	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/01/20 16:50	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/01/20 16:50	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/01/20 16:50	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		12/01/20 16:50	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/01/20 16:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/01/20 16:50	107-06-2	
1,1-Dichloroethene	**3.6**	ug/L	1.0	1		12/01/20 16:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/01/20 16:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/01/20 16:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/01/20 16:50	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		12/01/20 16:50	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		12/01/20 16:50	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		12/01/20 16:50	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/01/20 16:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/01/20 16:50	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		12/01/20 16:50	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		12/01/20 16:50	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		12/01/20 16:50	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		12/01/20 16:50	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		12/01/20 16:50	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		12/01/20 16:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		12/01/20 16:50	108-10-1	v2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		12/01/20 16:50	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		12/01/20 16:50	91-20-3	
Styrene	ND	ug/L	1.0	1		12/01/20 16:50	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		12/01/20 16:50	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/01/20 16:50	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-33D-295 **Lab ID: 92507939008** Collected: 11/23/20 12:20 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		12/01/20 16:50	127-18-4	
Toluene	ND	ug/L	1.0	1		12/01/20 16:50	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		12/01/20 16:50	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		12/01/20 16:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/01/20 16:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/01/20 16:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		12/01/20 16:50	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		12/01/20 16:50	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		12/01/20 16:50	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		12/01/20 16:50	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		12/01/20 16:50	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		12/01/20 16:50	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		12/01/20 16:50	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/01/20 16:50	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		12/01/20 16:50	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		12/01/20 16:50	17060-07-0	
Toluene-d8 (S)	105	%	70-130	1		12/01/20 16:50	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	**6.0**	ug/L	2.0	1		11/25/20 01:03	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		11/25/20 01:03	17060-07-0	
Toluene-d8 (S)	93	%	66-133	1		11/25/20 01:03	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-33D-235 **Lab ID: 92507939009** Collected: 11/23/20 12:25 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		11/26/20 01:18	67-64-1	
Benzene	ND	ug/L	1.0	1		11/26/20 01:18	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/26/20 01:18	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/26/20 01:18	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/26/20 01:18	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/26/20 01:18	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/26/20 01:18	74-83-9	v2
2-Butanone (MEK)	ND	ug/L	5.0	1		11/26/20 01:18	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/26/20 01:18	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/26/20 01:18	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/26/20 01:18	75-00-3	IK,v3
Chloroform	ND	ug/L	5.0	1		11/26/20 01:18	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/26/20 01:18	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 01:18	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 01:18	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/26/20 01:18	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/26/20 01:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/26/20 01:18	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/26/20 01:18	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:18	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/26/20 01:18	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/26/20 01:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/26/20 01:18	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/26/20 01:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 01:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 01:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 01:18	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/26/20 01:18	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 01:18	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/26/20 01:18	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 01:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 01:18	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/26/20 01:18	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/26/20 01:18	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/26/20 01:18	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/26/20 01:18	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/26/20 01:18	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		11/26/20 01:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/26/20 01:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/26/20 01:18	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/26/20 01:18	91-20-3	
Styrene	ND	ug/L	1.0	1		11/26/20 01:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 01:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 01:18	79-34-5	M1,R1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-33D-235 **Lab ID: 92507939009** Collected: 11/23/20 12:25 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/26/20 01:18	127-18-4	
Toluene	ND	ug/L	1.0	1		11/26/20 01:18	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:18	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:18	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/26/20 01:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/26/20 01:18	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/26/20 01:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/26/20 01:18	75-69-4	v1
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/26/20 01:18	96-18-4	R1
Vinyl acetate	ND	ug/L	2.0	1		11/26/20 01:18	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/26/20 01:18	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/26/20 01:18	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/26/20 01:18	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/26/20 01:18	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		11/26/20 01:18	460-00-4	
1,2-Dichloroethane-d4 (S)	120	%	70-130	1		11/26/20 01:18	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		11/26/20 01:18	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/25/20 18:36	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%	70-130	1		11/25/20 18:36	17060-07-0	
Toluene-d8 (S)	93	%	66-133	1		11/25/20 18:36	2037-26-5	

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(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-32D **Lab ID: 92507939010** Collected: 11/23/20 14:15 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		11/26/20 02:31	67-64-1	
Benzene	ND	ug/L	1.0	1		11/26/20 02:31	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/26/20 02:31	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/26/20 02:31	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/26/20 02:31	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/26/20 02:31	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/26/20 02:31	74-83-9	v2
2-Butanone (MEK)	ND	ug/L	5.0	1		11/26/20 02:31	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/26/20 02:31	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/26/20 02:31	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/26/20 02:31	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/26/20 02:31	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/26/20 02:31	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 02:31	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 02:31	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/26/20 02:31	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/26/20 02:31	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/26/20 02:31	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/26/20 02:31	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 02:31	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 02:31	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 02:31	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/26/20 02:31	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/26/20 02:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/26/20 02:31	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/26/20 02:31	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 02:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 02:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 02:31	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/26/20 02:31	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 02:31	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/26/20 02:31	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 02:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 02:31	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/26/20 02:31	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/26/20 02:31	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/26/20 02:31	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/26/20 02:31	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/26/20 02:31	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		11/26/20 02:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/26/20 02:31	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/26/20 02:31	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/26/20 02:31	91-20-3	
Styrene	ND	ug/L	1.0	1		11/26/20 02:31	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 02:31	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 02:31	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-32D **Lab ID: 92507939010** Collected: 11/23/20 14:15 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/26/20 02:31	127-18-4	
Toluene	ND	ug/L	1.0	1		11/26/20 02:31	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 02:31	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 02:31	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/26/20 02:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/26/20 02:31	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/26/20 02:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/26/20 02:31	75-69-4	v1
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/26/20 02:31	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/26/20 02:31	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/26/20 02:31	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/26/20 02:31	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/26/20 02:31	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/26/20 02:31	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		11/26/20 02:31	460-00-4	
1,2-Dichloroethane-d4 (S)	123	%	70-130	1		11/26/20 02:31	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		11/26/20 02:31	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/24/20 23:07	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		11/24/20 23:07	17060-07-0	
Toluene-d8 (S)	93	%	66-133	1		11/24/20 23:07	2037-26-5	

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(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-28D **Lab ID: 92507939011** Collected: 11/23/20 14:35 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		11/26/20 02:13	67-64-1	
Benzene	ND	ug/L	1.0	1		11/26/20 02:13	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/26/20 02:13	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/26/20 02:13	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/26/20 02:13	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/26/20 02:13	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/26/20 02:13	74-83-9	v2
2-Butanone (MEK)	ND	ug/L	5.0	1		11/26/20 02:13	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/26/20 02:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/26/20 02:13	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/26/20 02:13	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/26/20 02:13	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/26/20 02:13	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 02:13	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 02:13	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/26/20 02:13	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/26/20 02:13	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/26/20 02:13	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/26/20 02:13	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 02:13	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 02:13	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 02:13	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/26/20 02:13	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/26/20 02:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/26/20 02:13	107-06-2	
1,1-Dichloroethene	**7.6**	ug/L	1.0	1		11/26/20 02:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 02:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 02:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 02:13	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/26/20 02:13	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 02:13	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/26/20 02:13	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 02:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 02:13	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/26/20 02:13	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/26/20 02:13	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/26/20 02:13	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/26/20 02:13	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/26/20 02:13	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		11/26/20 02:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/26/20 02:13	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/26/20 02:13	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/26/20 02:13	91-20-3	
Styrene	ND	ug/L	1.0	1		11/26/20 02:13	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 02:13	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 02:13	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-28D **Lab ID: 92507939011** Collected: 11/23/20 14:35 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/26/20 02:13	127-18-4	
Toluene	ND	ug/L	1.0	1		11/26/20 02:13	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 02:13	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 02:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/26/20 02:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/26/20 02:13	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/26/20 02:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/26/20 02:13	75-69-4	v1
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/26/20 02:13	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/26/20 02:13	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/26/20 02:13	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/26/20 02:13	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/26/20 02:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/26/20 02:13	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		11/26/20 02:13	460-00-4	
1,2-Dichloroethane-d4 (S)	125	%	70-130	1		11/26/20 02:13	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		11/26/20 02:13	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	**4.2**	ug/L	2.0	1		11/24/20 23:26	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		11/24/20 23:26	17060-07-0	
Toluene-d8 (S)	91	%	66-133	1		11/24/20 23:26	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-25D-130 **Lab ID: 92507939012** Collected: 11/23/20 15:00 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		11/26/20 04:20	67-64-1	
Benzene	ND	ug/L	1.0	1		11/26/20 04:20	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/26/20 04:20	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/26/20 04:20	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/26/20 04:20	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/26/20 04:20	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/26/20 04:20	74-83-9	v2
2-Butanone (MEK)	ND	ug/L	5.0	1		11/26/20 04:20	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/26/20 04:20	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/26/20 04:20	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/26/20 04:20	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/26/20 04:20	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/26/20 04:20	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 04:20	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 04:20	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/26/20 04:20	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/26/20 04:20	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/26/20 04:20	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/26/20 04:20	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 04:20	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 04:20	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 04:20	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/26/20 04:20	75-71-8	
1,1-Dichloroethane	**3.3**	ug/L	1.0	1		11/26/20 04:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/26/20 04:20	107-06-2	
1,1-Dichloroethene	**76.0**	ug/L	1.0	1		11/26/20 04:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 04:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 04:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 04:20	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/26/20 04:20	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 04:20	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/26/20 04:20	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 04:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 04:20	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/26/20 04:20	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/26/20 04:20	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/26/20 04:20	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/26/20 04:20	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/26/20 04:20	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		11/26/20 04:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/26/20 04:20	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/26/20 04:20	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/26/20 04:20	91-20-3	
Styrene	ND	ug/L	1.0	1		11/26/20 04:20	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 04:20	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 04:20	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-25D-130 **Lab ID: 92507939012** Collected: 11/23/20 15:00 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/26/20 04:20	127-18-4	
Toluene	ND	ug/L	1.0	1		11/26/20 04:20	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 04:20	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 04:20	120-82-1	
1,1,1-Trichloroethane	**4.9**	ug/L	1.0	1		11/26/20 04:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/26/20 04:20	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/26/20 04:20	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/26/20 04:20	75-69-4	v1
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/26/20 04:20	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/26/20 04:20	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/26/20 04:20	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/26/20 04:20	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/26/20 04:20	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/26/20 04:20	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		11/26/20 04:20	460-00-4	
1,2-Dichloroethane-d4 (S)	121	%	70-130	1		11/26/20 04:20	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		11/26/20 04:20	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	**32.4**	ug/L	2.0	1		11/24/20 23:45	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		11/24/20 23:45	17060-07-0	
Toluene-d8 (S)	92	%	66-133	1		11/24/20 23:45	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-25D-190 MS/MSD **Lab ID: 92507939013** Collected: 11/23/20 16:00 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		12/01/20 19:46	67-64-1	
Benzene	ND	ug/L	1.0	1		12/01/20 19:46	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		12/01/20 19:46	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		12/01/20 19:46	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		12/01/20 19:46	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/01/20 19:46	75-25-2	
Bromomethane	ND	ug/L	2.0	1		12/01/20 19:46	74-83-9	v2
2-Butanone (MEK)	ND	ug/L	5.0	1		12/01/20 19:46	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		12/01/20 19:46	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/01/20 19:46	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/01/20 19:46	75-00-3	
Chloroform	ND	ug/L	5.0	1		12/01/20 19:46	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/01/20 19:46	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		12/01/20 19:46	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		12/01/20 19:46	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		12/01/20 19:46	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		12/01/20 19:46	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		12/01/20 19:46	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		12/01/20 19:46	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/01/20 19:46	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/01/20 19:46	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/01/20 19:46	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		12/01/20 19:46	75-71-8	
1,1-Dichloroethane	**11.3**	ug/L	1.0	1		12/01/20 19:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/01/20 19:46	107-06-2	
1,1-Dichloroethene	**46.9**	ug/L	1.0	1		12/01/20 19:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/01/20 19:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/01/20 19:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/01/20 19:46	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		12/01/20 19:46	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		12/01/20 19:46	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		12/01/20 19:46	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/01/20 19:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/01/20 19:46	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		12/01/20 19:46	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		12/01/20 19:46	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		12/01/20 19:46	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		12/01/20 19:46	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		12/01/20 19:46	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		12/01/20 19:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		12/01/20 19:46	108-10-1	v2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		12/01/20 19:46	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		12/01/20 19:46	91-20-3	
Styrene	ND	ug/L	1.0	1		12/01/20 19:46	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		12/01/20 19:46	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/01/20 19:46	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-25D-190 MS/MSD **Lab ID: 92507939013** Collected: 11/23/20 16:00 Received: 11/24/20 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		12/01/20 19:46	127-18-4	
Toluene	ND	ug/L	1.0	1		12/01/20 19:46	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		12/01/20 19:46	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		12/01/20 19:46	120-82-1	
1,1,1-Trichloroethane	**5.8**	ug/L	1.0	1		12/01/20 19:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/01/20 19:46	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		12/01/20 19:46	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		12/01/20 19:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		12/01/20 19:46	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		12/01/20 19:46	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		12/01/20 19:46	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		12/01/20 19:46	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		12/01/20 19:46	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/01/20 19:46	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		12/01/20 19:46	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		12/01/20 19:46	17060-07-0	
Toluene-d8 (S)	104	%	70-130	1		12/01/20 19:46	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	**41.5**	ug/L	2.0	1		11/25/20 00:05	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		11/25/20 00:05	17060-07-0	
Toluene-d8 (S)	92	%	66-133	1		11/25/20 00:05	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-31D **Lab ID: 92507939014** Collected: 11/23/20 12:55 Received: 11/25/20 11:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		11/26/20 01:36	67-64-1	
Benzene	ND	ug/L	1.0	1		11/26/20 01:36	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/26/20 01:36	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/26/20 01:36	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/26/20 01:36	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/26/20 01:36	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/26/20 01:36	74-83-9	v2
2-Butanone (MEK)	ND	ug/L	5.0	1		11/26/20 01:36	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/26/20 01:36	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/26/20 01:36	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/26/20 01:36	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/26/20 01:36	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/26/20 01:36	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 01:36	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 01:36	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/26/20 01:36	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/26/20 01:36	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/26/20 01:36	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/26/20 01:36	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:36	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:36	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:36	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/26/20 01:36	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/26/20 01:36	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/26/20 01:36	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/26/20 01:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 01:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 01:36	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 01:36	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/26/20 01:36	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 01:36	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/26/20 01:36	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 01:36	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 01:36	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/26/20 01:36	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/26/20 01:36	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/26/20 01:36	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/26/20 01:36	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/26/20 01:36	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		11/26/20 01:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/26/20 01:36	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/26/20 01:36	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/26/20 01:36	91-20-3	
Styrene	ND	ug/L	1.0	1		11/26/20 01:36	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 01:36	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 01:36	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-31D **Lab ID: 92507939014** Collected: 11/23/20 12:55 Received: 11/25/20 11:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/26/20 01:36	127-18-4	
Toluene	ND	ug/L	1.0	1		11/26/20 01:36	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:36	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:36	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/26/20 01:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/26/20 01:36	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/26/20 01:36	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/26/20 01:36	75-69-4	v1
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/26/20 01:36	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/26/20 01:36	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/26/20 01:36	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/26/20 01:36	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/26/20 01:36	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/26/20 01:36	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		11/26/20 01:36	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	70-130	1		11/26/20 01:36	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		11/26/20 01:36	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/25/20 18:55	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		11/25/20 18:55	17060-07-0	
Toluene-d8 (S)	91	%	66-133	1		11/25/20 18:55	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-36D **Lab ID: 92507939015** Collected: 11/23/20 14:55 Received: 11/25/20 11:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		11/26/20 01:54	67-64-1	
Benzene	ND	ug/L	1.0	1		11/26/20 01:54	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/26/20 01:54	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/26/20 01:54	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/26/20 01:54	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/26/20 01:54	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/26/20 01:54	74-83-9	v2
2-Butanone (MEK)	ND	ug/L	5.0	1		11/26/20 01:54	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/26/20 01:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/26/20 01:54	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/26/20 01:54	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/26/20 01:54	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/26/20 01:54	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 01:54	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 01:54	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/26/20 01:54	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/26/20 01:54	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/26/20 01:54	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/26/20 01:54	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:54	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:54	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:54	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/26/20 01:54	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/26/20 01:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/26/20 01:54	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/26/20 01:54	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 01:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 01:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 01:54	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/26/20 01:54	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 01:54	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/26/20 01:54	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 01:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 01:54	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/26/20 01:54	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/26/20 01:54	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/26/20 01:54	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/26/20 01:54	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/26/20 01:54	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		11/26/20 01:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/26/20 01:54	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/26/20 01:54	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/26/20 01:54	91-20-3	
Styrene	ND	ug/L	1.0	1		11/26/20 01:54	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 01:54	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 01:54	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-36D **Lab ID: 92507939015** Collected: 11/23/20 14:55 Received: 11/25/20 11:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/26/20 01:54	127-18-4	
Toluene	ND	ug/L	1.0	1		11/26/20 01:54	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:54	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 01:54	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/26/20 01:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/26/20 01:54	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/26/20 01:54	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/26/20 01:54	75-69-4	v1
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/26/20 01:54	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/26/20 01:54	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/26/20 01:54	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/26/20 01:54	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/26/20 01:54	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/26/20 01:54	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		11/26/20 01:54	460-00-4	
1,2-Dichloroethane-d4 (S)	122	%	70-130	1		11/26/20 01:54	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		11/26/20 01:54	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/25/20 19:14	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		11/25/20 19:14	17060-07-0	
Toluene-d8 (S)	94	%	66-133	1		11/25/20 19:14	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-46D **Lab ID: 92507939016** Collected: 11/23/20 16:40 Received: 11/25/20 11:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		11/26/20 03:44	67-64-1	
Benzene	ND	ug/L	1.0	1		11/26/20 03:44	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/26/20 03:44	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/26/20 03:44	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/26/20 03:44	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/26/20 03:44	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/26/20 03:44	74-83-9	v2
2-Butanone (MEK)	ND	ug/L	5.0	1		11/26/20 03:44	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/26/20 03:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/26/20 03:44	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/26/20 03:44	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/26/20 03:44	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/26/20 03:44	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 03:44	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 03:44	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/26/20 03:44	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/26/20 03:44	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/26/20 03:44	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/26/20 03:44	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 03:44	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 03:44	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 03:44	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/26/20 03:44	75-71-8	
1,1-Dichloroethane	**18.4**	ug/L	1.0	1		11/26/20 03:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/26/20 03:44	107-06-2	
1,1-Dichloroethene	**124**	ug/L	1.0	1		11/26/20 03:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 03:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 03:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 03:44	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/26/20 03:44	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 03:44	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/26/20 03:44	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 03:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 03:44	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/26/20 03:44	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/26/20 03:44	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/26/20 03:44	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/26/20 03:44	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/26/20 03:44	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		11/26/20 03:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/26/20 03:44	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/26/20 03:44	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/26/20 03:44	91-20-3	
Styrene	ND	ug/L	1.0	1		11/26/20 03:44	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 03:44	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 03:44	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: MW-46D **Lab ID: 92507939016** Collected: 11/23/20 16:40 Received: 11/25/20 11:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/26/20 03:44	127-18-4	
Toluene	ND	ug/L	1.0	1		11/26/20 03:44	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 03:44	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 03:44	120-82-1	
1,1,1-Trichloroethane	**6.4**	ug/L	1.0	1		11/26/20 03:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/26/20 03:44	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/26/20 03:44	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/26/20 03:44	75-69-4	v1
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/26/20 03:44	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/26/20 03:44	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/26/20 03:44	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/26/20 03:44	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/26/20 03:44	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/26/20 03:44	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		11/26/20 03:44	460-00-4	
1,2-Dichloroethane-d4 (S)	122	%	70-130	1		11/26/20 03:44	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		11/26/20 03:44	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	**29.8**	ug/L	2.0	1		11/25/20 21:30	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		11/25/20 21:30	17060-07-0	
Toluene-d8 (S)	94	%	66-133	1		11/25/20 21:30	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: TRIP BLANK **Lab ID: 92507939017** Collected: 11/23/20 16:40 Received: 11/25/20 11:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Acetone	ND	ug/L	25.0	1		11/26/20 00:59	67-64-1	
Benzene	ND	ug/L	1.0	1		11/26/20 00:59	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/26/20 00:59	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/26/20 00:59	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/26/20 00:59	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/26/20 00:59	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/26/20 00:59	74-83-9	v2
2-Butanone (MEK)	ND	ug/L	5.0	1		11/26/20 00:59	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/26/20 00:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/26/20 00:59	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/26/20 00:59	75-00-3	
Chloroform	ND	ug/L	5.0	1		11/26/20 00:59	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/26/20 00:59	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 00:59	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/26/20 00:59	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/26/20 00:59	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/26/20 00:59	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/26/20 00:59	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/26/20 00:59	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 00:59	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 00:59	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/26/20 00:59	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/26/20 00:59	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/26/20 00:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/26/20 00:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/26/20 00:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 00:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/26/20 00:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 00:59	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/26/20 00:59	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/26/20 00:59	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/26/20 00:59	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 00:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/26/20 00:59	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/26/20 00:59	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/26/20 00:59	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/26/20 00:59	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/26/20 00:59	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/26/20 00:59	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		11/26/20 00:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/26/20 00:59	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/26/20 00:59	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/26/20 00:59	91-20-3	
Styrene	ND	ug/L	1.0	1		11/26/20 00:59	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 00:59	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/26/20 00:59	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kop Flex
Pace Project No.: 92507939

Sample: TRIP BLANK **Lab ID: 92507939017** Collected: 11/23/20 16:40 Received: 11/25/20 11:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
Tetrachloroethene	ND	ug/L	1.0	1		11/26/20 00:59	127-18-4	
Toluene	ND	ug/L	1.0	1		11/26/20 00:59	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 00:59	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/26/20 00:59	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/26/20 00:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/26/20 00:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/26/20 00:59	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/26/20 00:59	75-69-4	v1
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/26/20 00:59	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/26/20 00:59	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/26/20 00:59	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/26/20 00:59	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/26/20 00:59	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/26/20 00:59	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		11/26/20 00:59	460-00-4	
1,2-Dichloroethane-d4 (S)	120	%	70-130	1		11/26/20 00:59	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		11/26/20 00:59	2037-26-5	
8260D MSV SIM	Analytical Method: EPA 8260D Mod. Pace Analytical Services - Charlotte							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/25/20 18:16	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	92	%	70-130	1		11/25/20 18:16	17060-07-0	
Toluene-d8 (S)	94	%	66-133	1		11/25/20 18:16	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

QC Batch: 582948 | Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D | Analysis Description: 8260D MSV Low Level
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92507939001, 92507939003, 92507939004, 92507939005, 92507939006, 92507939007

METHOD BLANK: 3082529 Matrix: Water
Associated Lab Samples: 92507939001, 92507939003, 92507939004, 92507939005, 92507939006, 92507939007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/25/20 12:10	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/25/20 12:10	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/25/20 12:10	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/25/20 12:10	
1,1-Dichloroethane	ug/L	ND	1.0	11/25/20 12:10	
1,1-Dichloroethene	ug/L	ND	1.0	11/25/20 12:10	
1,1-Dichloropropene	ug/L	ND	1.0	11/25/20 12:10	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/25/20 12:10	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/25/20 12:10	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/25/20 12:10	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	11/25/20 12:10	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/25/20 12:10	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/25/20 12:10	
1,2-Dichloroethane	ug/L	ND	1.0	11/25/20 12:10	
1,2-Dichloropropane	ug/L	ND	1.0	11/25/20 12:10	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/25/20 12:10	
1,3-Dichloropropane	ug/L	ND	1.0	11/25/20 12:10	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/25/20 12:10	
2,2-Dichloropropane	ug/L	ND	1.0	11/25/20 12:10	
2-Butanone (MEK)	ug/L	ND	5.0	11/25/20 12:10	
2-Chlorotoluene	ug/L	ND	1.0	11/25/20 12:10	
2-Hexanone	ug/L	ND	5.0	11/25/20 12:10	
4-Chlorotoluene	ug/L	ND	1.0	11/25/20 12:10	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/25/20 12:10	
Acetone	ug/L	ND	25.0	11/25/20 12:10	
Benzene	ug/L	ND	1.0	11/25/20 12:10	
Bromobenzene	ug/L	ND	1.0	11/25/20 12:10	
Bromochloromethane	ug/L	ND	1.0	11/25/20 12:10	
Bromodichloromethane	ug/L	ND	1.0	11/25/20 12:10	
Bromoform	ug/L	ND	1.0	11/25/20 12:10	
Bromomethane	ug/L	ND	2.0	11/25/20 12:10	IK
Carbon tetrachloride	ug/L	ND	1.0	11/25/20 12:10	
Chlorobenzene	ug/L	ND	1.0	11/25/20 12:10	
Chloroethane	ug/L	ND	1.0	11/25/20 12:10	
Chloroform	ug/L	ND	5.0	11/25/20 12:10	
Chloromethane	ug/L	ND	1.0	11/25/20 12:10	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/25/20 12:10	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/25/20 12:10	
Dibromochloromethane	ug/L	ND	1.0	11/25/20 12:10	
Dibromomethane	ug/L	ND	1.0	11/25/20 12:10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

METHOD BLANK: 3082529 Matrix: Water
Associated Lab Samples: 92507939001, 92507939003, 92507939004, 92507939005, 92507939006, 92507939007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	ND	1.0	11/25/20 12:10	
Diisopropyl ether	ug/L	ND	1.0	11/25/20 12:10	
Ethylbenzene	ug/L	ND	1.0	11/25/20 12:10	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/25/20 12:10	
m&p-Xylene	ug/L	ND	2.0	11/25/20 12:10	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/25/20 12:10	
Methylene Chloride	ug/L	ND	5.0	11/25/20 12:10	
Naphthalene	ug/L	ND	1.0	11/25/20 12:10	
o-Xylene	ug/L	ND	1.0	11/25/20 12:10	
p-Isopropyltoluene	ug/L	ND	1.0	11/25/20 12:10	
Styrene	ug/L	ND	1.0	11/25/20 12:10	
Tetrachloroethene	ug/L	ND	1.0	11/25/20 12:10	
Toluene	ug/L	ND	1.0	11/25/20 12:10	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/25/20 12:10	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/25/20 12:10	
Trichloroethene	ug/L	ND	1.0	11/25/20 12:10	
Trichlorofluoromethane	ug/L	ND	1.0	11/25/20 12:10	
Vinyl acetate	ug/L	ND	2.0	11/25/20 12:10	
Vinyl chloride	ug/L	ND	1.0	11/25/20 12:10	
Xylene (Total)	ug/L	ND	1.0	11/25/20 12:10	
1,2-Dichloroethane-d4 (S)	%	96	70-130	11/25/20 12:10	
4-Bromofluorobenzene (S)	%	101	70-130	11/25/20 12:10	
Toluene-d8 (S)	%	100	70-130	11/25/20 12:10	

LABORATORY CONTROL SAMPLE: 3082530

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	48.0	96	70-130	
1,1,1-Trichloroethane	ug/L	50	47.8	96	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	46.5	93	70-130	
1,1,2-Trichloroethane	ug/L	50	43.6	87	70-130	
1,1-Dichloroethane	ug/L	50	48.5	97	70-130	
1,1-Dichloroethene	ug/L	50	50.9	102	70-132	
1,1-Dichloropropene	ug/L	50	49.9	100	70-131	
1,2,3-Trichlorobenzene	ug/L	50	48.9	98	70-134	
1,2,3-Trichloropropane	ug/L	50	47.8	96	70-130	
1,2,4-Trichlorobenzene	ug/L	50	50.9	102	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	48.0	96	70-132	
1,2-Dibromoethane (EDB)	ug/L	50	48.0	96	70-130	
1,2-Dichlorobenzene	ug/L	50	49.6	99	70-130	
1,2-Dichloroethane	ug/L	50	45.5	91	70-130	
1,2-Dichloropropane	ug/L	50	48.1	96	70-130	
1,3-Dichlorobenzene	ug/L	50	46.7	93	70-130	
1,3-Dichloropropane	ug/L	50	50.9	102	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

LABORATORY CONTROL SAMPLE: 3082530

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	50	48.2	96	70-130	
2,2-Dichloropropane	ug/L	50	55.4	111	70-130	
2-Butanone (MEK)	ug/L	100	93.4	93	70-133	
2-Chlorotoluene	ug/L	50	47.6	95	70-130	
2-Hexanone	ug/L	100	88.1	88	70-130	
4-Chlorotoluene	ug/L	50	46.8	94	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	87.8	88	70-130	
Acetone	ug/L	100	94.7	95	70-144	
Benzene	ug/L	50	47.6	95	70-130	
Bromobenzene	ug/L	50	47.5	95	70-130	
Bromochloromethane	ug/L	50	48.1	96	70-130	
Bromodichloromethane	ug/L	50	43.6	87	70-130	
Bromoform	ug/L	50	49.1	98	70-131	
Bromomethane	ug/L	50	54.5	109	30-177	IK
Carbon tetrachloride	ug/L	50	48.3	97	70-130	
Chlorobenzene	ug/L	50	47.2	94	70-130	
Chloroethane	ug/L	50	42.9	86	46-131	
Chloroform	ug/L	50	48.9	98	70-130	
Chloromethane	ug/L	50	50.2	100	49-130	
cis-1,2-Dichloroethene	ug/L	50	47.5	95	70-130	
cis-1,3-Dichloropropene	ug/L	50	49.5	99	70-130	
Dibromochloromethane	ug/L	50	51.3	103	70-130	
Dibromomethane	ug/L	50	46.5	93	70-130	
Dichlorodifluoromethane	ug/L	50	48.0	96	52-134	
Diisopropyl ether	ug/L	50	45.3	91	70-131	
Ethylbenzene	ug/L	50	47.2	94	70-130	
Hexachloro-1,3-butadiene	ug/L	50	50.6	101	70-131	
m&p-Xylene	ug/L	100	93.8	94	70-130	
Methyl-tert-butyl ether	ug/L	50	46.4	93	70-130	
Methylene Chloride	ug/L	50	45.9	92	68-130	
Naphthalene	ug/L	50	48.3	97	70-133	
o-Xylene	ug/L	50	47.1	94	70-130	
p-Isopropyltoluene	ug/L	50	48.8	98	70-130	
Styrene	ug/L	50	46.6	93	70-130	
Tetrachloroethene	ug/L	50	47.2	94	70-130	
Toluene	ug/L	50	45.9	92	70-130	
trans-1,2-Dichloroethene	ug/L	50	50.0	100	70-130	
trans-1,3-Dichloropropene	ug/L	50	50.6	101	70-130	
Trichloroethene	ug/L	50	49.0	98	70-130	
Trichlorofluoromethane	ug/L	50	48.2	96	61-130	
Vinyl acetate	ug/L	100	119	119	70-140	
Vinyl chloride	ug/L	50	48.0	96	59-142	
Xylene (Total)	ug/L	150	141	94	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			98	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3082531 3082532

Parameter	Units	92507532001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	20.8	24.1	104	120	70-135	14	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	21.0	25.4	105	127	70-148	19	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	20.8	24.3	104	122	70-131	16	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	20.1	24.3	100	122	70-136	19	30	
1,1-Dichloroethane	ug/L	ND	20	20	22.9	26.7	114	134	70-147	16	30	
1,1-Dichloroethene	ug/L	ND	20	20	23.1	26.7	116	134	70-158	14	30	
1,1-Dichloropropene	ug/L	ND	20	20	23.1	27.2	115	136	70-149	16	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	20.8	22.6	104	113	68-140	9	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	20.5	25.5	102	128	67-137	22	30	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	22.0	24.2	110	121	70-139	10	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	19.6	23.6	98	118	69-136	18	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	21.5	26.1	108	130	70-137	19	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	21.3	23.7	106	118	70-133	11	30	
1,2-Dichloroethane	ug/L	ND	20	20	20.8	24.6	104	123	67-138	17	30	
1,2-Dichloropropane	ug/L	ND	20	20	22.3	26.9	112	135	70-138	19	30	
1,3-Dichlorobenzene	ug/L	ND	20	20	20.4	22.2	102	111	70-133	8	30	
1,3-Dichloropropane	ug/L	ND	20	20	24.0	27.9	120	139	70-136	15	30	M1
1,4-Dichlorobenzene	ug/L	ND	20	20	20.8	22.9	104	115	70-133	10	30	
2,2-Dichloropropane	ug/L	ND	20	20	23.8	28.5	119	143	52-155	18	30	
2-Butanone (MEK)	ug/L	ND	40	40	39.9	44.6	100	112	61-147	11	30	
2-Chlorotoluene	ug/L	ND	20	20	21.2	22.3	106	111	70-141	5	30	
2-Hexanone	ug/L	ND	40	40	37.6	43.9	94	110	67-139	15	30	
4-Chlorotoluene	ug/L	ND	20	20	20.5	22.2	103	111	70-135	8	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	40	38.9	44.2	97	111	67-136	13	30	
Acetone	ug/L	ND	40	40	42.6	41.4	106	103	55-159	3	30	
Benzene	ug/L	ND	20	20	23.2	26.3	116	132	67-150	13	30	
Bromobenzene	ug/L	ND	20	20	20.8	22.4	104	112	70-134	7	30	
Bromochloromethane	ug/L	ND	20	20	23.1	26.5	115	133	70-146	14	30	
Bromodichloromethane	ug/L	ND	20	20	20.2	23.2	101	116	70-138	14	30	
Bromoform	ug/L	ND	20	20	19.5	24.6	97	123	57-138	23	30	
Bromomethane	ug/L	ND	20	20	29.5	35.1	147	176	10-200	17	30	IK
Carbon tetrachloride	ug/L	ND	20	20	21.4	26.0	107	130	70-147	20	30	
Chlorobenzene	ug/L	ND	20	20	21.4	24.8	107	124	70-137	15	30	
Chloroethane	ug/L	ND	20	20	22.8	36.2	114	181	51-166	45	30	M1,R1
Chloroform	ug/L	ND	20	20	22.2	26.2	111	131	70-144	16	30	
Chloromethane	ug/L	ND	20	20	22.6	337	113	1680	24-161	175	30	E,M1, R1
cis-1,2-Dichloroethene	ug/L	ND	20	20	22.3	25.5	112	128	67-148	13	30	
cis-1,3-Dichloropropene	ug/L	ND	20	20	23.4	21.5	117	108	70-142	9	30	
Dibromochloromethane	ug/L	ND	20	20	21.9	27.0	109	135	68-138	21	30	
Dibromomethane	ug/L	ND	20	20	21.4	25.1	107	126	70-134	16	30	
Dichlorodifluoromethane	ug/L	ND	20	20	20.9	25.8	104	129	43-155	21	30	
Diisopropyl ether	ug/L	ND	20	20	20.4	23.3	102	116	65-146	13	30	
Ethylbenzene	ug/L	ND	20	20	20.8	24.2	104	121	68-143	15	30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3082531 3082532

Parameter	Units	92507532001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Hexachloro-1,3-butadiene	ug/L	ND	20	20	21.2	23.7	106	119	62-151	11	30	
m&p-Xylene	ug/L	ND	40	40	41.1	47.3	103	118	53-157	14	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	20.9	24.1	104	121	59-156	15	30	
Methylene Chloride	ug/L	ND	20	20	21.5	24.7	107	124	64-148	14	30	
Naphthalene	ug/L	ND	20	20	20.9	22.5	104	112	57-150	7	30	
o-Xylene	ug/L	ND	20	20	20.7	23.8	103	119	68-143	14	30	
p-Isopropyltoluene	ug/L	ND	20	20	20.4	23.6	102	118	70-141	14	30	
Styrene	ug/L	ND	20	20	21.2	24.3	106	122	70-136	13	30	
Tetrachloroethene	ug/L	ND	20	20	20.0	23.4	100	117	70-139	16	30	
Toluene	ug/L	ND	20	20	21.6	24.5	108	122	47-157	12	30	
trans-1,2-Dichloroethene	ug/L	ND	20	20	22.7	26.7	114	133	70-149	16	30	
trans-1,3-Dichloropropene	ug/L	ND	20	20	22.3	24.5	111	123	70-138	10	30	
Trichloroethene	ug/L	ND	20	20	22.0	25.7	110	128	70-149	15	30	
Trichlorofluoromethane	ug/L	ND	20	20	21.4	24.4	107	122	61-154	13	30	
Vinyl acetate	ug/L	ND	40	40	52.6	62.3	132	156	48-156	17	30	
Vinyl chloride	ug/L	ND	20	20	20.7	23.8	103	119	55-172	14	30	
Xylene (Total)	ug/L	ND	60	60	61.8	71.1	103	119	66-145	14	30	
1,2-Dichloroethane-d4 (S)	%						96	99	70-130			
4-Bromofluorobenzene (S)	%						100	101	70-130			
Toluene-d8 (S)	%						100	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

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

QC Batch: 583045 Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D Analysis Description: 8260D MSV Low Level
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92507939009, 92507939010, 92507939011, 92507939012, 92507939014, 92507939015, 92507939016, 92507939017

METHOD BLANK: 3083148 Matrix: Water
Associated Lab Samples: 92507939009, 92507939010, 92507939011, 92507939012, 92507939014, 92507939015, 92507939016, 92507939017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/26/20 00:23	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/26/20 00:23	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/26/20 00:23	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/26/20 00:23	
1,1-Dichloroethane	ug/L	ND	1.0	11/26/20 00:23	
1,1-Dichloroethene	ug/L	ND	1.0	11/26/20 00:23	
1,1-Dichloropropene	ug/L	ND	1.0	11/26/20 00:23	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/26/20 00:23	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/26/20 00:23	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/26/20 00:23	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	11/26/20 00:23	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/26/20 00:23	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/26/20 00:23	
1,2-Dichloroethane	ug/L	ND	1.0	11/26/20 00:23	
1,2-Dichloropropane	ug/L	ND	1.0	11/26/20 00:23	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/26/20 00:23	
1,3-Dichloropropane	ug/L	ND	1.0	11/26/20 00:23	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/26/20 00:23	
2,2-Dichloropropane	ug/L	ND	1.0	11/26/20 00:23	
2-Butanone (MEK)	ug/L	ND	5.0	11/26/20 00:23	
2-Chlorotoluene	ug/L	ND	1.0	11/26/20 00:23	
2-Hexanone	ug/L	ND	5.0	11/26/20 00:23	
4-Chlorotoluene	ug/L	ND	1.0	11/26/20 00:23	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/26/20 00:23	
Acetone	ug/L	ND	25.0	11/26/20 00:23	
Benzene	ug/L	ND	1.0	11/26/20 00:23	
Bromobenzene	ug/L	ND	1.0	11/26/20 00:23	
Bromochloromethane	ug/L	ND	1.0	11/26/20 00:23	
Bromodichloromethane	ug/L	ND	1.0	11/26/20 00:23	
Bromoform	ug/L	ND	1.0	11/26/20 00:23	
Bromomethane	ug/L	ND	2.0	11/26/20 00:23	v2
Carbon tetrachloride	ug/L	ND	1.0	11/26/20 00:23	
Chlorobenzene	ug/L	ND	1.0	11/26/20 00:23	
Chloroethane	ug/L	ND	1.0	11/26/20 00:23	
Chloroform	ug/L	ND	5.0	11/26/20 00:23	
Chloromethane	ug/L	ND	1.0	11/26/20 00:23	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/26/20 00:23	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/26/20 00:23	
Dibromochloromethane	ug/L	ND	1.0	11/26/20 00:23	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

METHOD BLANK: 3083148 Matrix: Water

Associated Lab Samples: 92507939009, 92507939010, 92507939011, 92507939012, 92507939014, 92507939015, 92507939016, 92507939017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/L	ND	1.0	11/26/20 00:23	
Dichlorodifluoromethane	ug/L	ND	1.0	11/26/20 00:23	
Diisopropyl ether	ug/L	ND	1.0	11/26/20 00:23	
Ethylbenzene	ug/L	ND	1.0	11/26/20 00:23	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/26/20 00:23	
m&p-Xylene	ug/L	ND	2.0	11/26/20 00:23	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/26/20 00:23	
Methylene Chloride	ug/L	ND	5.0	11/26/20 00:23	
Naphthalene	ug/L	ND	1.0	11/26/20 00:23	
o-Xylene	ug/L	ND	1.0	11/26/20 00:23	
p-Isopropyltoluene	ug/L	ND	1.0	11/26/20 00:23	
Styrene	ug/L	ND	1.0	11/26/20 00:23	
Tetrachloroethene	ug/L	ND	1.0	11/26/20 00:23	
Toluene	ug/L	ND	1.0	11/26/20 00:23	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/26/20 00:23	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/26/20 00:23	
Trichloroethene	ug/L	ND	1.0	11/26/20 00:23	
Trichlorofluoromethane	ug/L	ND	1.0	11/26/20 00:23	v1
Vinyl acetate	ug/L	ND	2.0	11/26/20 00:23	
Vinyl chloride	ug/L	ND	1.0	11/26/20 00:23	
Xylene (Total)	ug/L	ND	1.0	11/26/20 00:23	
1,2-Dichloroethane-d4 (S)	%	118	70-130	11/26/20 00:23	
4-Bromofluorobenzene (S)	%	100	70-130	11/26/20 00:23	
Toluene-d8 (S)	%	103	70-130	11/26/20 00:23	

LABORATORY CONTROL SAMPLE: 3083149

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	55.9	112	70-130	
1,1,1-Trichloroethane	ug/L	50	60.4	121	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	51.8	104	70-130	
1,1,2-Trichloroethane	ug/L	50	53.9	108	70-130	
1,1-Dichloroethane	ug/L	50	54.5	109	70-130	
1,1-Dichloroethene	ug/L	50	62.3	125	70-132	
1,1-Dichloropropene	ug/L	50	53.4	107	70-131	
1,2,3-Trichlorobenzene	ug/L	50	57.4	115	70-134	
1,2,3-Trichloropropane	ug/L	50	53.8	108	70-130	
1,2,4-Trichlorobenzene	ug/L	50	56.7	113	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	55.9	112	70-132	
1,2-Dibromoethane (EDB)	ug/L	50	53.9	108	70-130	
1,2-Dichlorobenzene	ug/L	50	51.1	102	70-130	
1,2-Dichloroethane	ug/L	50	59.8	120	70-130	
1,2-Dichloropropane	ug/L	50	49.8	100	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

LABORATORY CONTROL SAMPLE: 3083149

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichlorobenzene	ug/L	50	50.5	101	70-130	
1,3-Dichloropropane	ug/L	50	51.7	103	70-130	
1,4-Dichlorobenzene	ug/L	50	50.2	100	70-130	
2,2-Dichloropropane	ug/L	50	59.1	118	70-130	
2-Butanone (MEK)	ug/L	100	115	115	70-133	
2-Chlorotoluene	ug/L	50	50.2	100	70-130	
2-Hexanone	ug/L	100	116	116	70-130	
4-Chlorotoluene	ug/L	50	48.6	97	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	112	70-130	
Acetone	ug/L	100	130	130	70-144	
Benzene	ug/L	50	50.5	101	70-130	
Bromobenzene	ug/L	50	50.7	101	70-130	
Bromochloromethane	ug/L	50	51.6	103	70-130	
Bromodichloromethane	ug/L	50	51.7	103	70-130	
Bromoform	ug/L	50	54.6	109	70-131	
Bromomethane	ug/L	50	47.4	95	30-177	v3
Carbon tetrachloride	ug/L	50	62.9	126	70-130	
Chlorobenzene	ug/L	50	50.6	101	70-130	
Chloroethane	ug/L	50	54.3	109	46-131	
Chloroform	ug/L	50	52.3	105	70-130	
Chloromethane	ug/L	50	42.7	85	49-130	
cis-1,2-Dichloroethene	ug/L	50	53.4	107	70-130	
cis-1,3-Dichloropropene	ug/L	50	55.0	110	70-130	
Dibromochloromethane	ug/L	50	56.2	112	70-130	
Dibromomethane	ug/L	50	55.6	111	70-130	
Dichlorodifluoromethane	ug/L	50	56.0	112	52-134	
Diisopropyl ether	ug/L	50	50.1	100	70-131	
Ethylbenzene	ug/L	50	50.7	101	70-130	
Hexachloro-1,3-butadiene	ug/L	50	57.7	115	70-131	
m&p-Xylene	ug/L	100	105	105	70-130	
Methyl-tert-butyl ether	ug/L	50	54.1	108	70-130	
Methylene Chloride	ug/L	50	51.7	103	68-130	
Naphthalene	ug/L	50	56.7	113	70-133	
o-Xylene	ug/L	50	50.2	100	70-130	
p-Isopropyltoluene	ug/L	50	49.9	100	70-130	
Styrene	ug/L	50	51.8	104	70-130	
Tetrachloroethene	ug/L	50	52.6	105	70-130	
Toluene	ug/L	50	51.6	103	70-130	
trans-1,2-Dichloroethene	ug/L	50	56.0	112	70-130	
trans-1,3-Dichloropropene	ug/L	50	55.8	112	70-130	
Trichloroethene	ug/L	50	56.1	112	70-130	
Trichlorofluoromethane	ug/L	50	61.5	123	61-130	v1
Vinyl acetate	ug/L	100	123	123	70-140	
Vinyl chloride	ug/L	50	49.8	100	59-142	
Xylene (Total)	ug/L	150	155	103	70-130	
1,2-Dichloroethane-d4 (S)	%			116	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

LABORATORY CONTROL SAMPLE: 3083149

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3083150 3083151

Parameter	Units	92507939009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	19.7	20.9	98	105	70-135	6	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	22.5	22.6	113	113	70-148	0	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	15.7	27.0	78	135	70-131	53	30	M1,R1
1,1,2-Trichloroethane	ug/L	ND	20	20	26.7	21.5	134	107	70-136	22	30	
1,1-Dichloroethane	ug/L	ND	20	20	21.3	21.4	107	107	70-147	1	30	
1,1-Dichloroethene	ug/L	ND	20	20	21.0	21.3	105	107	70-158	1	30	
1,1-Dichloropropene	ug/L	ND	20	20	21.3	21.7	107	109	70-149	2	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	18.1	17.7	90	89	68-140	2	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	15.7	26.3	78	132	67-137	51	30	R1
1,2,4-Trichlorobenzene	ug/L	ND	20	20	17.9	17.5	89	88	70-139	2	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	22.4	21.1	112	105	69-136	6	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	21.1	21.8	106	109	70-137	3	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	20.0	19.2	100	96	70-133	4	30	
1,2-Dichloroethane	ug/L	ND	20	20	20.3	21.2	102	106	67-138	4	30	
1,2-Dichloropropane	ug/L	ND	20	20	26.4	20.9	132	105	70-138	23	30	
1,3-Dichlorobenzene	ug/L	ND	20	20	19.5	21.4	97	107	70-133	9	30	
1,3-Dichloropropane	ug/L	ND	20	20	21.4	21.7	107	109	70-136	1	30	
1,4-Dichlorobenzene	ug/L	ND	20	20	19.8	21.2	99	106	70-133	7	30	
2,2-Dichloropropane	ug/L	ND	20	20	14.6	15.1	73	75	52-155	3	30	
2-Butanone (MEK)	ug/L	ND	40	40	44.6	44.3	111	111	61-147	1	30	
2-Chlorotoluene	ug/L	ND	20	20	20.7	26.5	104	132	70-141	24	30	
2-Hexanone	ug/L	ND	40	40	40.7	40.6	102	101	67-139	0	30	
4-Chlorotoluene	ug/L	ND	20	20	19.6	23.8	98	119	70-135	19	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	40	51.2	41.4	128	103	67-136	21	30	
Acetone	ug/L	ND	40	40	46.4	46.0	116	115	55-159	1	30	
Benzene	ug/L	ND	20	20	20.9	22.4	105	112	67-150	7	30	
Bromobenzene	ug/L	ND	20	20	21.8	25.6	109	128	70-134	16	30	
Bromochloromethane	ug/L	ND	20	20	22.4	22.4	112	112	70-146	0	30	
Bromodichloromethane	ug/L	ND	20	20	23.7	20.3	118	102	70-138	15	30	
Bromoform	ug/L	ND	20	20	18.5	19.6	92	98	57-138	6	30	
Bromomethane	ug/L	ND	20	20	23.7	23.8	119	119	10-200	0	30	
Carbon tetrachloride	ug/L	ND	20	20	21.8	24.2	109	121	70-147	11	30	
Chlorobenzene	ug/L	ND	20	20	21.1	21.3	106	107	70-137	1	30	
Chloroethane	ug/L	ND	20	20	20.0	21.0	100	105	51-166	5	30	IK,v3
Chloroform	ug/L	ND	20	20	22.4	23.2	112	116	70-144	3	30	
Chloromethane	ug/L	ND	20	20	19.4	19.8	97	99	24-161	2	30	
cis-1,2-Dichloroethene	ug/L	ND	20	20	21.2	22.2	106	111	67-148	5	30	
cis-1,3-Dichloropropene	ug/L	ND	20	20	23.7	20.1	119	100	70-142	17	30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3083150 3083151

Parameter	Units	92507939009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibromochloromethane	ug/L	ND	20	20	21.5	22.8	107	114	68-138	6	30	
Dibromomethane	ug/L	ND	20	20	23.7	20.0	118	100	70-134	17	30	
Dichlorodifluoromethane	ug/L	ND	20	20	14.7	15.2	74	76	43-155	3	30	
Diisopropyl ether	ug/L	ND	20	20	19.8	19.9	99	100	65-146	1	30	
Ethylbenzene	ug/L	ND	20	20	20.0	20.7	100	103	68-143	3	30	
Hexachloro-1,3-butadiene	ug/L	ND	20	20	17.2	16.3	86	81	62-151	6	30	
m&p-Xylene	ug/L	ND	40	40	40.4	42.0	101	105	53-157	4	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	19.6	19.8	98	99	59-156	1	30	
Methylene Chloride	ug/L	ND	20	20	20.6	20.3	103	102	64-148	1	30	
Naphthalene	ug/L	ND	20	20	20.2	19.7	101	98	57-150	2	30	
o-Xylene	ug/L	ND	20	20	21.5	22.0	107	110	68-143	2	30	
p-Isopropyltoluene	ug/L	ND	20	20	19.2	21.5	96	107	70-141	11	30	
Styrene	ug/L	ND	20	20	20.8	21.4	104	107	70-136	3	30	
Tetrachloroethene	ug/L	ND	20	20	19.0	19.7	95	98	70-139	4	30	
Toluene	ug/L	ND	20	20	26.5	21.8	132	109	47-157	19	30	
trans-1,2-Dichloroethene	ug/L	ND	20	20	19.8	20.5	99	102	70-149	3	30	
trans-1,3-Dichloropropene	ug/L	ND	20	20	24.5	21.0	123	105	70-138	15	30	
Trichloroethene	ug/L	ND	20	20	20.8	22.2	104	111	70-149	7	30	
Trichlorofluoromethane	ug/L	ND	20	20	20.3	20.3	101	102	61-154	0	30	
Vinyl acetate	ug/L	ND	40	40	28.1	27.6	70	69	48-156	2	30	
Vinyl chloride	ug/L	ND	20	20	19.4	19.4	97	97	55-172	0	30	
Xylene (Total)	ug/L	ND	60	60	61.9	63.9	103	107	66-145	3	30	
1,2-Dichloroethane-d4 (S)	%						102	103	70-130			
4-Bromofluorobenzene (S)	%						87	107	70-130			
Toluene-d8 (S)	%						125	101	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

QC Batch: 583280
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92507939002, 92507939008, 92507939013

METHOD BLANK: 3084190 Matrix: Water
Associated Lab Samples: 92507939002, 92507939008, 92507939013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	12/01/20 14:48	
1,1,1-Trichloroethane	ug/L	ND	1.0	12/01/20 14:48	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	12/01/20 14:48	
1,1,2-Trichloroethane	ug/L	ND	1.0	12/01/20 14:48	
1,1-Dichloroethane	ug/L	ND	1.0	12/01/20 14:48	
1,1-Dichloroethene	ug/L	ND	1.0	12/01/20 14:48	
1,1-Dichloropropene	ug/L	ND	1.0	12/01/20 14:48	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	12/01/20 14:48	
1,2,3-Trichloropropane	ug/L	ND	1.0	12/01/20 14:48	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	12/01/20 14:48	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	12/01/20 14:48	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	12/01/20 14:48	
1,2-Dichlorobenzene	ug/L	ND	1.0	12/01/20 14:48	
1,2-Dichloroethane	ug/L	ND	1.0	12/01/20 14:48	
1,2-Dichloropropane	ug/L	ND	1.0	12/01/20 14:48	
1,3-Dichlorobenzene	ug/L	ND	1.0	12/01/20 14:48	
1,3-Dichloropropane	ug/L	ND	1.0	12/01/20 14:48	
1,4-Dichlorobenzene	ug/L	ND	1.0	12/01/20 14:48	
2,2-Dichloropropane	ug/L	ND	1.0	12/01/20 14:48	
2-Butanone (MEK)	ug/L	ND	5.0	12/01/20 14:48	
2-Chlorotoluene	ug/L	ND	1.0	12/01/20 14:48	
2-Hexanone	ug/L	ND	5.0	12/01/20 14:48	
4-Chlorotoluene	ug/L	ND	1.0	12/01/20 14:48	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	12/01/20 14:48	v2
Acetone	ug/L	ND	25.0	12/01/20 14:48	
Benzene	ug/L	ND	1.0	12/01/20 14:48	
Bromobenzene	ug/L	ND	1.0	12/01/20 14:48	
Bromochloromethane	ug/L	ND	1.0	12/01/20 14:48	
Bromodichloromethane	ug/L	ND	1.0	12/01/20 14:48	
Bromoform	ug/L	ND	1.0	12/01/20 14:48	
Bromomethane	ug/L	ND	2.0	12/01/20 14:48	v2
Carbon tetrachloride	ug/L	ND	1.0	12/01/20 14:48	
Chlorobenzene	ug/L	ND	1.0	12/01/20 14:48	
Chloroethane	ug/L	ND	1.0	12/01/20 14:48	
Chloroform	ug/L	ND	5.0	12/01/20 14:48	
Chloromethane	ug/L	ND	1.0	12/01/20 14:48	
cis-1,2-Dichloroethene	ug/L	ND	1.0	12/01/20 14:48	
cis-1,3-Dichloropropene	ug/L	ND	1.0	12/01/20 14:48	
Dibromochloromethane	ug/L	ND	1.0	12/01/20 14:48	
Dibromomethane	ug/L	ND	1.0	12/01/20 14:48	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

METHOD BLANK: 3084190 Matrix: Water
Associated Lab Samples: 92507939002, 92507939008, 92507939013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	ND	1.0	12/01/20 14:48	
Diisopropyl ether	ug/L	ND	1.0	12/01/20 14:48	
Ethylbenzene	ug/L	ND	1.0	12/01/20 14:48	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	12/01/20 14:48	
m&p-Xylene	ug/L	ND	2.0	12/01/20 14:48	
Methyl-tert-butyl ether	ug/L	ND	1.0	12/01/20 14:48	
Methylene Chloride	ug/L	ND	5.0	12/01/20 14:48	
Naphthalene	ug/L	ND	1.0	12/01/20 14:48	
o-Xylene	ug/L	ND	1.0	12/01/20 14:48	
p-Isopropyltoluene	ug/L	ND	1.0	12/01/20 14:48	
Styrene	ug/L	ND	1.0	12/01/20 14:48	
Tetrachloroethene	ug/L	ND	1.0	12/01/20 14:48	
Toluene	ug/L	ND	1.0	12/01/20 14:48	
trans-1,2-Dichloroethene	ug/L	ND	1.0	12/01/20 14:48	
trans-1,3-Dichloropropene	ug/L	ND	1.0	12/01/20 14:48	
Trichloroethene	ug/L	ND	1.0	12/01/20 14:48	
Trichlorofluoromethane	ug/L	ND	1.0	12/01/20 14:48	
Vinyl acetate	ug/L	ND	2.0	12/01/20 14:48	
Vinyl chloride	ug/L	ND	1.0	12/01/20 14:48	
Xylene (Total)	ug/L	ND	1.0	12/01/20 14:48	
1,2-Dichloroethane-d4 (S)	%	94	70-130	12/01/20 14:48	
4-Bromofluorobenzene (S)	%	98	70-130	12/01/20 14:48	
Toluene-d8 (S)	%	105	70-130	12/01/20 14:48	

LABORATORY CONTROL SAMPLE: 3084191

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	52.0	104	70-130	
1,1,1-Trichloroethane	ug/L	50	43.5	87	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	47.6	95	70-130	
1,1,2-Trichloroethane	ug/L	50	44.6	89	70-130	
1,1-Dichloroethane	ug/L	50	42.6	85	70-130	
1,1-Dichloroethene	ug/L	50	44.2	88	70-132	
1,1-Dichloropropene	ug/L	50	45.6	91	70-131	
1,2,3-Trichlorobenzene	ug/L	50	53.2	106	70-134	
1,2,3-Trichloropropane	ug/L	50	51.0	102	70-130	
1,2,4-Trichlorobenzene	ug/L	50	54.2	108	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	50.9	102	70-132	
1,2-Dibromoethane (EDB)	ug/L	50	54.0	108	70-130	
1,2-Dichlorobenzene	ug/L	50	53.4	107	70-130	
1,2-Dichloroethane	ug/L	50	40.2	80	70-130	
1,2-Dichloropropane	ug/L	50	46.2	92	70-130	
1,3-Dichlorobenzene	ug/L	50	54.0	108	70-130	
1,3-Dichloropropane	ug/L	50	54.3	109	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

LABORATORY CONTROL SAMPLE: 3084191

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	50	53.7	107	70-130	
2,2-Dichloropropane	ug/L	50	43.0	86	70-130	
2-Butanone (MEK)	ug/L	100	82.3	82	70-133	
2-Chlorotoluene	ug/L	50	53.2	106	70-130	
2-Hexanone	ug/L	100	88.0	88	70-130	
4-Chlorotoluene	ug/L	50	53.2	106	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	74.4	74	70-130	v3
Acetone	ug/L	100	86.8	87	70-144	
Benzene	ug/L	50	45.2	90	70-130	
Bromobenzene	ug/L	50	53.2	106	70-130	
Bromochloromethane	ug/L	50	44.6	89	70-130	
Bromodichloromethane	ug/L	50	43.1	86	70-130	
Bromoform	ug/L	50	48.2	96	70-131	
Bromomethane	ug/L	50	37.2	74	30-177	v3
Carbon tetrachloride	ug/L	50	43.5	87	70-130	
Chlorobenzene	ug/L	50	51.5	103	70-130	
Chloroethane	ug/L	50	38.7	77	46-131	
Chloroform	ug/L	50	42.1	84	70-130	
Chloromethane	ug/L	50	39.0	78	49-130	
cis-1,2-Dichloroethene	ug/L	50	41.3	83	70-130	
cis-1,3-Dichloropropene	ug/L	50	47.6	95	70-130	
Dibromochloromethane	ug/L	50	56.0	112	70-130	
Dibromomethane	ug/L	50	44.7	89	70-130	
Dichlorodifluoromethane	ug/L	50	41.4	83	52-134	
Diisopropyl ether	ug/L	50	41.3	83	70-131	
Ethylbenzene	ug/L	50	50.4	101	70-130	
Hexachloro-1,3-butadiene	ug/L	50	56.2	112	70-131	
m&p-Xylene	ug/L	100	104	104	70-130	
Methyl-tert-butyl ether	ug/L	50	44.2	88	70-130	
Methylene Chloride	ug/L	50	39.0	78	68-130	
Naphthalene	ug/L	50	53.6	107	70-133	
o-Xylene	ug/L	50	53.1	106	70-130	
p-Isopropyltoluene	ug/L	50	54.3	109	70-130	
Styrene	ug/L	50	54.1	108	70-130	
Tetrachloroethene	ug/L	50	51.5	103	70-130	
Toluene	ug/L	50	42.2	84	70-130	
trans-1,2-Dichloroethene	ug/L	50	43.0	86	70-130	
trans-1,3-Dichloropropene	ug/L	50	45.1	90	70-130	
Trichloroethene	ug/L	50	47.3	95	70-130	
Trichlorofluoromethane	ug/L	50	43.9	88	61-130	
Vinyl acetate	ug/L	100	104	104	70-140	
Vinyl chloride	ug/L	50	39.6	79	59-142	
Xylene (Total)	ug/L	150	157	105	70-130	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			93	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3084192 3084193

Parameter	Units	92507939013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	21.1	21.2	105	106	70-135	1	30	
1,1,1-Trichloroethane	ug/L	5.8	20	20	29.6	29.5	119	118	70-148	1	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.9	19.8	99	99	70-131	0	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	20.1	21.2	100	106	70-136	5	30	
1,1-Dichloroethane	ug/L	11.3	20	20	32.5	32.9	106	108	70-147	1	30	
1,1-Dichloroethene	ug/L	46.9	20	20	66.1	68.9	96	110	70-158	4	30	
1,1-Dichloropropene	ug/L	ND	20	20	22.8	22.1	114	110	70-149	3	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	19.7	21.6	99	108	68-140	9	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	20.1	19.9	101	99	67-137	1	30	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	20.1	21.7	101	109	70-139	8	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	23.2	21.6	116	108	69-136	7	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	20.8	20.8	104	104	70-137	0	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	20.9	20.7	105	103	70-133	1	30	
1,2-Dichloroethane	ug/L	ND	20	20	20.5	20.3	100	99	67-138	1	30	
1,2-Dichloropropane	ug/L	ND	20	20	21.5	21.5	107	107	70-138	0	30	
1,3-Dichlorobenzene	ug/L	ND	20	20	20.2	20.7	101	104	70-133	2	30	
1,3-Dichloropropane	ug/L	ND	20	20	21.5	21.1	108	105	70-136	2	30	
1,4-Dichlorobenzene	ug/L	ND	20	20	21.1	20.9	106	104	70-133	1	30	
2,2-Dichloropropane	ug/L	ND	20	20	24.3	23.8	121	119	52-155	2	30	
2-Butanone (MEK)	ug/L	ND	40	40	42.0	40.8	105	102	61-147	3	30	
2-Chlorotoluene	ug/L	ND	20	20	20.7	20.9	103	105	70-141	1	30	
2-Hexanone	ug/L	ND	40	40	41.6	40.5	104	101	67-139	3	30	
4-Chlorotoluene	ug/L	ND	20	20	20.7	20.7	103	104	70-135	0	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	40	39.4	39.1	98	98	67-136	1	30	
Acetone	ug/L	ND	40	40	41.6	40.6	104	101	55-159	2	30	
Benzene	ug/L	ND	20	20	21.1	21.4	106	107	67-150	1	30	
Bromobenzene	ug/L	ND	20	20	21.5	21.0	107	105	70-134	2	30	
Bromochloromethane	ug/L	ND	20	20	21.6	20.9	108	104	70-146	3	30	
Bromodichloromethane	ug/L	ND	20	20	19.6	19.7	98	99	70-138	0	30	
Bromoform	ug/L	ND	20	20	18.7	18.9	94	94	57-138	1	30	
Bromomethane	ug/L	ND	20	20	17.0	17.4	85	87	10-200	3	30	
Carbon tetrachloride	ug/L	ND	20	20	21.9	23.0	110	115	70-147	5	30	
Chlorobenzene	ug/L	ND	20	20	20.2	20.3	101	102	70-137	1	30	
Chloroethane	ug/L	ND	20	20	20.9	20.2	105	101	51-166	4	30	
Chloroform	ug/L	ND	20	20	21.6	21.0	108	105	70-144	3	30	
Chloromethane	ug/L	ND	20	20	17.6	17.0	88	85	24-161	3	30	
cis-1,2-Dichloroethene	ug/L	ND	20	20	20.5	20.6	102	103	67-148	0	30	
cis-1,3-Dichloropropene	ug/L	ND	20	20	21.2	21.5	106	107	70-142	1	30	
Dibromochloromethane	ug/L	ND	20	20	20.5	20.6	103	103	68-138	0	30	
Dibromomethane	ug/L	ND	20	20	20.3	20.9	101	105	70-134	3	30	
Dichlorodifluoromethane	ug/L	ND	20	20	16.7	16.7	83	83	43-155	0	30	
Diisopropyl ether	ug/L	ND	20	20	18.9	18.7	95	94	65-146	1	30	
Ethylbenzene	ug/L	ND	20	20	19.9	20.5	99	103	68-143	3	30	
Hexachloro-1,3-butadiene	ug/L	ND	20	20	21.6	23.4	108	117	62-151	8	30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3084192 3084193

Parameter	Units	92507939013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
m&p-Xylene	ug/L	ND	40	40	40.7	41.8	102	104	53-157	3	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	21.0	21.0	102	102	59-156	0	30	
Methylene Chloride	ug/L	ND	20	20	20.0	20.0	100	100	64-148	0	30	
Naphthalene	ug/L	ND	20	20	20.3	21.1	102	106	57-150	4	30	
o-Xylene	ug/L	ND	20	20	20.6	20.7	103	104	68-143	1	30	
p-Isopropyltoluene	ug/L	ND	20	20	21.1	21.9	105	110	70-141	4	30	
Styrene	ug/L	ND	20	20	20.3	20.7	102	104	70-136	2	30	
Tetrachloroethene	ug/L	ND	20	20	19.7	20.9	98	104	70-139	6	30	
Toluene	ug/L	ND	20	20	20.7	21.0	104	105	47-157	1	30	
trans-1,2-Dichloroethene	ug/L	ND	20	20	21.6	21.7	108	108	70-149	0	30	
trans-1,3-Dichloropropene	ug/L	ND	20	20	21.4	22.0	107	110	70-138	3	30	
Trichloroethene	ug/L	ND	20	20	22.0	21.0	110	105	70-149	5	30	
Trichlorofluoromethane	ug/L	ND	20	20	19.4	19.3	97	97	61-154	0	30	
Vinyl acetate	ug/L	ND	40	40	43.4	42.8	109	107	48-156	1	30	IK
Vinyl chloride	ug/L	ND	20	20	18.0	18.2	90	91	55-172	1	30	
Xylene (Total)	ug/L	ND	60	60	61.3	62.5	102	104	66-145	2	30	
1,2-Dichloroethane-d4 (S)	%						96	97	70-130			
4-Bromofluorobenzene (S)	%						100	101	70-130			
Toluene-d8 (S)	%						100	101	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

QC Batch: 582772
QC Batch Method: EPA 8260D Mod.
Analysis Method: EPA 8260D Mod.
Analysis Description: 8260D MSV SIM
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92507939001, 92507939003, 92507939004, 92507939005, 92507939006, 92507939007

METHOD BLANK: 3081850 Matrix: Water
Associated Lab Samples: 92507939001, 92507939003, 92507939004, 92507939005, 92507939006, 92507939007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/24/20 16:00	
1,2-Dichloroethane-d4 (S)	%	97	70-130	11/24/20 16:00	
Toluene-d8 (S)	%	92	66-133	11/24/20 16:00	

LABORATORY CONTROL SAMPLE: 3081851

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	18.8	94	70-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
Toluene-d8 (S)	%			92	66-133	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3081852 3081853

Parameter	Units	92507939007 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	18.4	19.6	92	98	64-141	6	30	
1,2-Dichloroethane-d4 (S)	%						102	100	70-130		30	
Toluene-d8 (S)	%						92	91	66-133		30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

QC Batch: 582773 Analysis Method: EPA 8260D Mod.
QC Batch Method: EPA 8260D Mod. Analysis Description: 8260D MSV SIM
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92507939008, 92507939010, 92507939011, 92507939012, 92507939013

METHOD BLANK: 3081855 Matrix: Water
Associated Lab Samples: 92507939008, 92507939010, 92507939011, 92507939012, 92507939013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/24/20 16:19	
1,2-Dichloroethane-d4 (S)	%	96	70-130	11/24/20 16:19	
Toluene-d8 (S)	%	92	66-133	11/24/20 16:19	

LABORATORY CONTROL SAMPLE: 3081856

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.5	102	70-130	
1,2-Dichloroethane-d4 (S)	%			96	70-130	
Toluene-d8 (S)	%			92	66-133	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3081857 3081858

Parameter	Units	92507939013 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	41.5	20	20	64.4	62.3	115	104	64-141	3	30	
1,2-Dichloroethane-d4 (S)	%						103	98	70-130		30	
Toluene-d8 (S)	%						93	91	66-133		30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

QC Batch: 582774
QC Batch Method: EPA 8260D Mod.
Analysis Method: EPA 8260D Mod.
Analysis Description: 8260D MSV SIM
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92507939002

METHOD BLANK: 3081862 Matrix: Water
Associated Lab Samples: 92507939002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/25/20 04:16	
1,2-Dichloroethane-d4 (S)	%	99	70-130	11/25/20 04:16	
Toluene-d8 (S)	%	91	66-133	11/25/20 04:16	

LABORATORY CONTROL SAMPLE: 3081863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.2	101	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
Toluene-d8 (S)	%			93	66-133	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3081864 3081865

Parameter	Units	92507748001 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	20.1	20.6	99	101	64-141	2	30	
1,2-Dichloroethane-d4 (S)	%						98	101	70-130		30	
Toluene-d8 (S)	%						93	92	66-133		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

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kop Flex
Pace Project No.: 92507939

QC Batch: 583085
QC Batch Method: EPA 8260D Mod.
Analysis Method: EPA 8260D Mod.
Analysis Description: 8260D MSV SIM
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92507939009, 92507939014, 92507939015, 92507939016, 92507939017

METHOD BLANK: 3083365 Matrix: Water
Associated Lab Samples: 92507939009, 92507939014, 92507939015, 92507939016, 92507939017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/25/20 15:42	
1,2-Dichloroethane-d4 (S)	%	100	70-130	11/25/20 15:42	
Toluene-d8 (S)	%	89	66-133	11/25/20 15:42	

LABORATORY CONTROL SAMPLE: 3083366

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	22.9	115	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
Toluene-d8 (S)	%			92	66-133	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3083367 3083368

Parameter	Units	92508101002 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	187	80	80	289	296	128	137	64-141	2	30	
1,2-Dichloroethane-d4 (S)	%						97	96	70-130		30	
Toluene-d8 (S)	%						93	93	66-133		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

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: Kop Flex
Pace Project No.: 92507939

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.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
IK	The recalculated concentration of the calibration standard(s) did not meet method acceptance criteria; this result should be considered an estimated value.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
v1	The continuing calibration verification was above the method acceptance limit. Any detection for the analyte in the associated samples may have a high bias.
v2	The continuing calibration verification was below the method acceptance limit. The analyte was not detected in the associated samples and the sensitivity of the instrument was verified with a reporting limit check standard.
v3	The continuing calibration verification was below the method acceptance limit. Any detection for the analyte in the associated samples may have low bias.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Kop Flex
Pace Project No.: 92507939

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92507939001	**DUP-112320**	EPA 8260D	582948		
92507939002	**MW-24D**	EPA 8260D	583280		
92507939003	**MW-35D**	EPA 8260D	582948		
92507939004	**MW-34D**	EPA 8260D	582948		
92507939005	**MW-29D**	EPA 8260D	582948		
92507939006	**MW-30D-273**	EPA 8260D	582948		
92507939007	**MW-30D-413**	EPA 8260D	582948		
92507939008	**MW-33D-295**	EPA 8260D	583280		
92507939009	**MW-33D-235**	EPA 8260D	583045		
92507939010	**MW-32D**	EPA 8260D	583045		
92507939011	**MW-28D**	EPA 8260D	583045		
92507939012	**MW-25D-130**	EPA 8260D	583045		
92507939013	**MW-25D-190 MS/MSD**	EPA 8260D	583280		
92507939014	**MW-31D**	EPA 8260D	583045		
92507939015	**MW-36D**	EPA 8260D	583045		
92507939016	**MW-46D**	EPA 8260D	583045		
92507939017	**TRIP BLANK**	EPA 8260D	583045		
92507939001	**DUP-112320**	EPA 8260D Mod.	582772		
92507939002	**MW-24D**	EPA 8260D Mod.	582774		
92507939003	**MW-35D**	EPA 8260D Mod.	582772		
92507939004	**MW-34D**	EPA 8260D Mod.	582772		
92507939005	**MW-29D**	EPA 8260D Mod.	582772		
92507939006	**MW-30D-273**	EPA 8260D Mod.	582772		
92507939007	**MW-30D-413**	EPA 8260D Mod.	582772		
92507939008	**MW-33D-295**	EPA 8260D Mod.	582773		
92507939009	**MW-33D-235**	EPA 8260D Mod.	583085		
92507939010	**MW-32D**	EPA 8260D Mod.	582773		
92507939011	**MW-28D**	EPA 8260D Mod.	582773		
92507939012	**MW-25D-130**	EPA 8260D Mod.	582773		
92507939013	**MW-25D-190 MS/MSD**	EPA 8260D Mod.	582773		
92507939014	**MW-31D**	EPA 8260D Mod.	583085		
92507939015	**MW-36D**	EPA 8260D Mod.	583085		
92507939016	**MW-46D**	EPA 8260D Mod.	583085		
92507939017	**TRIP BLANK**	EPA 8260D Mod.	583085		

Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: INSP

Project #: WO# : 92507939

92507939

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

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

Date/Initials Person Examining Contents: 11/24/20

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

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Thermometer: ☒ IR Gun ID: 92T064 Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temp: 1.9, 1.7 Correction Factor: Add/Subtract (°C) -0.1

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 1.8, 1.6

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: WT				
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

Samples MW-31D, MW-36D, Trip Blank B, MW-46D not present.

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: BV **Date:** 11/30/20

Project Manager SRF Review: BV **Date:** 11/30/20

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # **WO# : 92507939**

PM: BV Due Date: 12/03/20

CLIENT: 92-WSP

PJ

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																5													
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11																5													
12																6													

pH Adjustment Log for Preserved Samples

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 compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # WO# : 92507939

PM: BV Due Date: 12/03/20

CLIENT: 92-WSP

p.2

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																6													
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pH Adjustment Log for Preserved Samples

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 compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: WSP

Project #: WO#: 92507939

PM: BV Due Date: 12/03/20
CLIENT: 92-WSP

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:____

Custody Seal Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Date/Initials Person Examining Contents: MG 11-25-20

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: 92T064 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp: 4.7 **Correction Factor:** Add/Subtract (°C) -0.1

Cooler Temp Corrected (°C): 4.6

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: WT				
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

rec'd MW-33D-235, MW-31D > MW-36D, TripBlank B + MW-46D

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project #

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG8U-40 mL Amber Unpreserved vials (N/A)
1																5													
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pH Adjustment Log for Preserved Samples

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 compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

Offsite

CHAIN-OF-CUSTODY RECORD

WSP USA Office Address	13530 Dulles Technology Dr. Ste 300 Herndon VA
Project Name	Kopflex
WSP USA Contact Name	Molly Long
Project Location	Hanover, MD
WSP USA Contact E-mail	molly.long@wsp.com
Project Number & Task	31401545.211
WSP USA Contact Phone	571 232 5045
Sampler(s) Name(s)	Molly Long, Elliott Martyniuk
Sampler(s) Signature(s)	

No. 010007

Laboratory Name & Location	Pace, NC
Laboratory Project Manager	Bonnie
Requested Turn-Around-Time	[X] Standard [ ] 24 HR [ ] 48 HR [ ] 72 HR [ ] ___ HR
Sample Comments	92507939

	Sample Identification	Matrix	Collection Start* Date	Collection Start* Time	Collection Stop* Date	Collection Stop* Time	Number of Containers	Requested Analyses & Preservatives: VOC, 8260D	1,4 Dioxane 8260D + SIM								
A	DUP-112320	AQ	11/23/2020		12	00	5	X	X								001
A	MW-24D				09	45	6	X	X								002
A	MW-35D				10	25	6	X	X								003
A	MW-34D				10	45	6	X	X								004
A	MW-29D				11	25	6	X	X								005
A	MW-30D-273				11	50	6	X	X								006
A	MW-30D-413				12	00	6	X	X								007
A	MW-33D-295				12	20	6	X	X								008
B	MW-33D-235				12	25	6	X	X								009
B	MW-31D				12	55	6	X	X								014
A	MW-32D				14	15	6	X	X								010
A	MW-28D				14	35	6	X	X								011
B	MW-36D				14	55	6	X	X								015
A	MW-25D-130				15	00	5	X	X								012
A	MW-25D-190				16	00	6	X	X								013

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Shipment Method	Tracking Number(s)
	11/23/20	1730				fedex	816045610271
Relinquished By (Signature)	**Date**	**Time**	**Received By (Signature)**	**Date**	**Time**	**Number of Packages**	**Custody Seal Number(s)**
			LDH PACE HVL	11/24/20	1100	1	

*Use stop time/date for composite and/or air samples; use only start time/date for all other samples.

Matrix: AQ = Aqueous, S = Soil, SE = Sediment, A = Air, W = Wipe, B = Bulk, O = Other (detail in comments)

Offsite

CHAIN-OF-CUSTODY RECORD

WSP USA Office Address: WSP Herndon VA

Project Name:

WSP USA Contact Name:

Project Location:

WSP USA Contact E-mail: Molly.long @wsp.com

Project Number & Task:

WSP USA Contact Phone:

Sampler(s) Name(s): Molly Long

Sampler(s) Signature(s):

No. 010008 WSP

Laboratory Name & Location:

Laboratory Project Manager: Bonnie V

Requested Turn-Around-Time: [X] Standard [ ] 24 HR [ ] 48 HR [ ] 72 HR [ ] ___ HR 92307939

	Sample Identification	Matrix	Collection Start* Date	Collection Start* Time	Collection Stop* Date	Collection Stop* Time	Number of Containers	Requested Analyses & Preservatives: VOC 8260D	1,4 Dioxane 8260D	6+ SVMS	Sample Comments
A	MW-25D-190-MS	AQ	11/23/2022	16	00		6	X	X		MS | MSD @13
A	MW-25D-190-MSD	AQ	11/23/2022	16	00		6	X	X		
B	Trip Blank B		Laboratory				4	X	X		@17
B	MW-46D	AQ	11/22/2022	16	40		6	X	X		@16

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Shipment Method	Tracking Number(s)
	11/23/22	1730				Fedex	816045810271
Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Number of Packages	Custody Seal Number(s)
						1	

*Use stop time/date for composite and/or air samples; use only start time/date for all other samples.

Matrix: AQ = Aqueous, S = Soil, SE = Sediment, A = Air, W = Wipe, B = Bulk, O = Other (detail in comments)