VIA ELECTRONIC MAIL

August 1, 2019

Erich Weissbart, P.G.
Remedial Project Manager
Land and Chemicals Division
U.S. Environmental Protection Agency, Region III
701 Mapes Road
Fort Meade, MD 20755

Subject: **Quarterly Progress Report No. 11**
Former Kop-Flex Facility Site, Hanover, Maryland
Administrative Order on Consent, Docket No. RCRA-03-2016-0170 CA

Dear Erich:

On behalf of EMERSUB 16, LLC, a subsidiary of Emerson Electric Co., WSP USA, Inc. (WSP) is submitting this quarterly progress report describing the remedial and groundwater monitoring activities conducted in the second quarter of calendar year 2019 (April 1 through June 30) as part of the corrective measures implementation at the former Kop-Flex, Inc. facility property located at 7555 and 7565 Harmans Road (Site) in Hanover, Maryland. The Site is identical to the area described as the "Facility" in the Administrative Order on Consent, Docket No. RCRA-03-2016-0170 CA for the Site (Consent Order). The report also describes the activities planned for the third quarter of calendar year 2019 (July 1 through September 30).

This progress report is being submitted to the U.S. Environmental Protection Agency (EPA) pursuant to Section IV.C.3 of the Consent Order. Please note that, in addition to performing the work conducted under the Consent Order, EMERSUB 16 continues to fulfill its remedial obligations under the October 2015 Response Action Plan approved by the MDE Voluntary Cleanup Program, and that EMERSUB 16 copies EPA on all submittals required under that program.

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

Kind regards,

Robert E. Johnson, PhD.
Senior Technical Manager

REJ:rlo
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Encl.

cc: Mr. Stephen Clarke, EMERSUB 16 LLC
Ms. Richelle Hanson, Maryland Department of the Environment
Mr. Raymond Goins, Trammell Crow Company

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Suite 300
13530 Dulles Technology Drive
Herndon, VA 20171

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CERTIFICATION

I certify that the information contained in or accompanying this quarterly progress report is true, accurate, and complete.

As to those portions of this quarterly progress report for which I cannot personally verify their accuracy, I certify under penalty of law that this quarterly report and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature: 

Name: Stephen L. Clarke

Title: President of EMERSUB 16, LLC

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Quarterly Progress Report No. 11

Former Kop-Flex Facility Site

April 2019 through June 2019

Site Name:	Former Kop-Flex Facility
Site Address:	7565 Harmans Road Hanover, Maryland 21076
Consultant:	WSP USA Inc.
Address:	13530 Dulles Technology Drive, Suite 300 Herndon, Virginia 20171
Phone No.:	(703) 709-6500
Project Coordinator:	Eric Johnson
Alternate:	Lisa Bryda

1.0 ACTIVITIES COMPLETED DURING APRIL 2019 – JUNE 2019 REPORTING PERIOD

1.1 HYDRAULIC CONTAINMENT SYSTEM OPERATION

– The hydraulic containment system (System) operated continuously from April 1, 2019 through June 30, 2019, except for a 2-day period (June 14th and 15th) due to a problem with the boiler used to generate steam for the regeneration of the specialty resin vessels. During the reporting period, a total of approximately 9.14 million gallons of volatile organic compound (VOC)-containing groundwater were recovered and treated by the system, with a combined withdrawal rate from the shallow and deep recovery wells ranging from 68-75 gallons per minute.

  As indicated in the previous progress report, the specific capacity, or pumping rate per unit drawdown, of shallow recovery well RW-3S was closely monitored during the reporting period to assess this well's performance. Evaluation of the operational data showed an increase in this well's specific capacity to values consistent with the first year of System operation. In addition to checking the specific capacity, the sample collected from RW-3S during the May 2019 semi-annual monitoring event (see discussion below) was analyzed for total and dissolved iron and petroleum hydrocarbons, which represent constituents that may indicate the potential for fouling of the well screen and sand filter pack. The low iron concentrations (approximately 650 micrograms per liter [µg/l]) and non-detect levels of petroleum constituents did not suggest conditions favorable for well fouling.

– During system operation, water samples were collected for chemical analysis to monitor and evaluate VOC concentrations in the treatment system influent and effluent. The total concentration of VOCs and 1,4-dioxane in the system influent ranged from 462-480 µg/l, which is lower than the level in the first quarter 2019 sample (575 µg/l). The combined well discharge continued to contain higher concentrations of chlorinated ethanes and ethenes compared to 1,4-dioxane. Based on the influent concentration data, the mass removal of chlorinated VOCs during the reporting period (25.3 pounds [lbs.]) was approximately 3x higher than the amount for 1,4-dioxane (8.6 lbs.). As of the end of June 2019, a total of 254 lbs. of VOCs and 104 lbs. of 1,4-dioxane had been recovered from the aquifer system.

– Monthly samples of the treated effluent were collected for chemical analysis in accordance with State Discharge Permit Number 15-DP-3442 and National Pollutant Discharge Elimination System (NPDES) Permit MD 0069094 (Permit) issued by the MDE. The analytical results indicate no detections of VOCs, except for a very low concentration of 1,1,1-Trichloroethane (3.4 µg/l) in the June 2019 sample. The total concentration of VOCs, or purgeable organics, detected in the June sample (3.4 µg/l) was well below the total purgeable organics limit of 100 µg/l specified in the Permit. The concentrations for the other monitored parameters complied with the effluent limitations specified in the Permit.

The 1,4-dioxane concentrations in the effluent typically ranged from 1.7-10 µg/l, with a slightly higher level (37 µg/l) detected in the June sample due to an upset with the resin regeneration process. WSP and EMERSUB 16 notified the USEPA and MDE of the 1,4-dioxane concentration in the June 2019 sample exceeding the Site cleanup goal of 15 µg/l. Based on discussions with the treatment system vendor (Emerging Compound Treatment Technologies [ECT^2]), the reduction in the 1,4-dioxane removal efficiency was believed to be a manifestation of the physical and/or chemical fouling of the specialty resin. Given this determination, WSP increased the frequency of the stream regeneration of the resin to ensure 1,4-dioxane concentrations in the treated water remained below the Site cleanup criterion. Additionally, WSP has been working with ECT^2 to ascertain the cause(s) of the resin fouling and develop an approach for 'cleaning' the resin material to restore the 1,4-dioxane removal efficiency. The activities conducted during the reporting period to assess the fouling of the resin material included the following:

- Analysis of the May 8, 2019 System influent and effluent samples to gather updated information on the presence of potential fouling constituents;
- Collection of a representative sample of the resin material by ECT^2 on May 10, 2019 for laboratory analysis; and
- Performance of bench-scale tests by ECT^2 of potential methods for the removal of the fouling substances from the resin material.

A copy of the certified laboratory analytical report for the May 2019 influent and effluent samples is included in Enclosure A. Organic carbon and petroleum hydrocarbons were detected in the influent sample with lower concentrations for both groups of compounds in the effluent sample. No other potential fouling constituents were detected in the samples. As of the end of the reporting period, ECT^2 is still performing bench-scale tests to determine the optimum method/procedure for cleaning of the resin media. The testing program will be completed early in the third quarter, and a decision made on the cleaning method to be used for restoring the adsorptive capacity the resin.

1.2 GROUNDWATER LEVEL MONITORING

- Groundwater level monitoring is conducted to gather data to evaluate the hydraulic response to remedial pumping in both the unconfined and confined portions of the Lower Patapsco aquifer system. During the reporting period, water level measurements were collected from all monitoring wells and recovery well piezometers the week of May 20, 2019, as part of the semi-annual groundwater monitoring event. The data for this and previous measurement rounds from December 2016 to the present are provided in Table 1.

- Water level contour maps depicting hydraulic head conditions in the shallow, unconfined zone both at the water table and in the lower portion of the unconfined zone are provided in Figures 1 and 2, respectively. The head value determined from the depth to water measurement at shallow offsite well MW-45 was used in contouring of the water table surface. Information on the hydraulic head distribution and gradients along the groundwater surface and lower portion of the unconfined zone are discussed separately below.

  The water table contour map (Figure 1) indicates the continued presence of a localized depression in the groundwater surface around well MW-38R. As with the contour maps from previous measurement events, the mounding effect around wells MW-04 and MW-09 reflects enhanced recharge to the groundwater system associated with the storm water management area in the east-central portion of the Site.

  The most pronounced head changes (i.e., drawdown) occurred within the permeable sand deposits comprising the lower portion of the unconfined zone, with a well-developed cone of depression centered around the shallow recovery wells and extending north toward wells MW-39 and MW-43 (Figure 2). Based on the spatial head variations, VOC-containing groundwater within the clayey deposits in the upper portion of the unconfined zone will migrate downward as flow moves westward toward the recovery wells. This downward groundwater seepage mixes with VOCs migrating through the sandy deposits in the lower portion of the unconfined zone and eventually is captured as part of the inflow to the shallow recovery wells. The groundwater capture area for

the shallow recovery well system encompasses the width of the downgradient portion of the VOC plume as defined by the sampling data from monitoring wells MW-18, MW-39, MW-43, and MW-44.

– The potentiometric surface contour map for the confined portion of the Lower Patapsco aquifer generated from the May 2019 water level data is provided in Figure 3. Water level data from deep wells MW-24D on the Williams-Scotsman property and MW-46D on the Verizon property were utilized to help interpolate the head contours across the Site. The head distribution shows the continued existence of an elongated hydraulic sink along the southern property boundary in response to groundwater withdrawals from the deep recovery wells. Based on the contour map, the drawdown in the potentiometric surface appears to extend more than 250 feet south onto the adjoining Williams Scotsman property. Evaluation of the flow paths in response to groundwater pumping shows the capture area for the deep recovery wells encompasses the inferred width of the VOC plume in the southern portion of the Site, as defined by the sampling data for wells MW-22D, MW-40D and MW-41D.

1.3 GROUNDWATER QUALITY MONITORING

– In accordance with the Groundwater Monitoring Plan, groundwater quality samples were collected the week of May 20, 2019 from the shallow and deep recovery wells and all monitoring wells selected for annual sampling. Samples from the shallow and deep monitoring wells were collected using the HydraSleeve sampler. The sampling devices for these wells were deployed to the same depths as previous monitoring events. Following the minimum 2-week equilibration period, samples were obtained by continuously pulling upward on each HydraSleeve until full, and then immediately decanting a representative portion of the collected water into the laboratory-supplied containers. For the recovery wells, the samples were collected directly from an in-line sampling port located at the well-head. All water samples were submitted to the Pace Analytical Services laboratory in Huntersville, North Carolina, and analyzed for VOCs using USEPA SW-846 Test Method 8260B and 1,4-dioxane using modified USEPA Method 8260B with selected ion monitoring.

  The analytical results for the primary VOCs detected in the monitoring and recovery well samples are summarized in Tables 2 and 3, respectively. Sampling data for the shallow (unconfined) and deep (confined) monitoring wells are provided in Figures 4 and 5, respectively, and results for the recovery well samples are provided in Figure 6. Copies of the certified laboratory analytical reports are included in Enclosure B for the monitoring well samples and Enclosure C for the recovery well samples.

– For the shallow (unconfined) zone, samples of the untreated discharge from recovery wells RW-1S and RW-2S had total concentrations of chlorinated VOCs + 1,4-dioxane on the order of 1 milligram per liter, which is generally consistent with the previous sampling data (Figure 6). The results for the RW-2S sample showed a noticeable increase in the level of 1,4-dioxane. As with the historical data for the System, the total VOC + 1,4-dioxane concentration in the RW-3S sample remained lower relative to the other shallow recovery wells, although the 1,4-dioxane level slightly exceeded the Groundwater Cleanup Standard for the Site. Over the past year, samples of the RW-3S discharge have exhibited a slight increase in the concentrations of 1,1,1-trichloroethane and 1,4-dioxane.

  For shallow monitoring wells in the eastern portion of the site, the chlorinated VOC and 1,4-dioxane concentration for the May 2019 samples are generally similar to levels detected in the November 2018 samples. The sample from well MW-16 exhibited appreciable reductions in the levels of chlorinated ethanes and ethenes, which is contrasted by an increase in the 1,4-dioxane concentration. Data for monitoring wells on the western portion of the site also indicate generally similar concentrations for wells screened in the upper clayey deposits, with 1,4-dioxane being the primary site-related constituent detected in these samples (Figure 4). Data for the sample collected from well MW-43 near the northern limit of the shallow groundwater plume show continued low concentrations of chlorinated VOCs and 1,4-dioxane relative to the pre-pumping (baseline) samples. Conversely, VOCs and 1,4-dioxane levels in samples from well MW-44, which is situated near the southern boundary of the affected groundwater area, have exhibited transient increases as shown by the May results. No site-related contaminants were detected at levels above the cleanup criteria in samples from wells located between the access road to the west of the new buildings and Stony Run.

– In the deep recovery well samples, 1,1-DCE and 1,4-dioxane in the untreated water remain at concentrations above the Groundwater Cleanup Standards (Table 3). As with recent data, the sample results indicate higher levels of chlorinated VOCs degradation products (1,1-dichloroethene, 1,1-dichloroethane and chloroethane) in the untreated discharge from well RW-1D in the southwestern portion of the Site compared to RW-2D (Figure 6). The 1,4-dioxane concentrations are generally similar for the May 2019 deep recovery well samples.

  Overall, the concentrations of VOCs and 1,4-dioxane in the May 2019 samples from the deep monitoring wells in the southern portion of the Site are similar to or lower than the levels detected in previous monitoring events. This includes samples collected from wells located near the eastern (MW-22D) and western (MW-40D) boundaries of the VOC plume in the confined portion of the Lower Patapsco aquifer. The presence of non-detect to very low concentrations of site-related contaminants in the sample from well MW-41D, which is screened below the deep recovery wells, defines the lower plume boundary in this hydrostratigraphic unit and indicates no downward migration of constituents in response to remedial pumping (Figure 5). In addition, the MW-23D sample showed noticeable reductions in the concentrations of VOCs and 1,4-dioxane compared to the previous (November 2018) sample, which may be indicative of mass transport toward the recovery wells in response to enhanced hydraulic gradients in response to pumping.

2.0 PLANNED ONSITE ACTIVITIES FOR THE THIRD QUARTER OF 2019

– Continue with the operation, maintenance and monitoring (OM&M) activities for the hydraulic containment system (including checks on the performance of well RW-3S) and collect data for inclusion in the 2019 OM&M Report, as required under Section 14.2 of the 2015 RAP.

– Complete the bench-scale testing and evaluate the test results with ECT^2 to determine the optimum method/procedure for cleaning of the resin media, and then begin full-scale implementation of the selected approach.

– Conduct the necessary monitoring and reporting activities for the system effluent pursuant to the Discharge Permit.

– Collect water level measurements, as deemed necessary, to continue to assess the aquifer response to remedial pumping and capture of the VOC plumes in the unconfined and confined portions of the aquifer system.

3.0 KEY PERSONNEL/FACILITY CHANGES

There were no changes to key project personnel during the reporting period.

FIGURES

STONY RUN

POND

WILLIAMS SCOTSMAN, INC.

TREATMENT EQUIPMENT BUILDING

NORTH WAREHOUSE

SOUTH WAREHOUSE

MW-03

MW-43

MW-09
115.49

MW-39

MW-38R
106.27

RW-1S

RW-2S

RW-3S

MW-42
106.99

MW-18

MW-5R
107.76

MW-44

MW-16

MW-04
115.60

MW-20

MW-45
114.97

MW-01
115.82

101 108 109 110 111 112 113 114 115 115

N

LEGEND

- PROPERTY LINE
- STREAM/EDGE OF WATER
- FENCE LINE
- STORMWATER MANAGEMENT AREA
- SHALLOW MONITORING WELL
- SHALLOW EXTRACTION WELL
- 107.76 GROUNDWATER SURFACE ELEVATION (FEET MSL)
- GROUNDWATER SURFACE CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW PATH

0 140 280
SCALE IN FEET

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Drawn By: EGC
Checked: MML 6/27/2019
Approved: RGD
DWG Name: 314V1545.010-028

FORMER KOP-FLEX FACILITY SITE
HANOVER, MARYLAND

PREPARED FOR
EMERSUB 16 LLC
ST. LOUIS, MISSOURI

FIGURE 1

WATER TABLE CONTOUR MAP
(MAY 2019)

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

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STONY RUN

POND

WILLIAMS SCOTSMAN, INC.

NORTH WAREHOUSE

SOUTH WAREHOUSE

TREATMENT EQUIPMENT BUILDING

MW-03 106.52

MW-43 101.34

MW-39 101.60

MW-38R

RW-1S 96.48

RW-2S 92.34

RW-3S 103.30

MW-42

MW-18 102.13

MW-5R

MW-44 111.19

MW-09

MW-16 114.63

MW-04

MW-20 114.76

MW-01

104 106 104 106 108 110 112 114 96 98 100 102

POND

LEGEND

- PROPERTY LINE
- STREAM/EDGE OF WATER
- FENCE LINE
- STORMWATER MANAGEMENT AREA
- SHALLOW MONITORING WELL
- SHALLOW EXTRACTION WELL
- 113.04 PIEZOMETRIC SURFACE ELEVATION (FEET MSL)
- PIEZOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW PATH

0 140 280

SCALE IN FEET

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Approved: PGD
DWG Name: 314V1545.010-029

FORMER KOP-FLEX FACILITY SITE
HANOVER, MARYLAND

PREPARED FOR
EMERSUB 16 LLC
ST. LOUIS, MISSOURI

FIGURE 2

PIEZOMETRIC SURFACE CONTOUR MAP FOR THE SHALLOW UNCONFINED PORTION OF THE LOWER PATASPCO AQUIFER (MAY 2019)

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STONY RUN

MW-27D
89.05

MW-46D
89.30

POND

WILLIAMS
SCOTSMAN, INC.

MW-23D
88.32

NORTH WAREHOUSE

TREATMENT
EQUIPMENT
BUILDING

89

88

87

86

85

84

83

82

81

80

MW-16D
85.80

MW-40D
85.60

SOUTH WAREHOUSE

MW-22D
84.83

MW-41D

MW-21D
77.92

RW-1D

RW-2D

MW-01D
72.85

74

75

76

77

78

79

MW-24D
79.43

POND

N

LEGEND

- PROPERTY LINE
- STREAM/EDGE OF WATER
- FENCE LINE
- STORMWATER MANAGEMENT AREA
- DEEP MONITORING WELL
- DEEP EXTRACTION WELL
- 85.80 POTENTIOMETRIC SURFACE ELEVATION (FEET MSL)
- POTENTIOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW PATH

0 140 280
SCALE IN FEET

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DWG Name: 314V1545.010-030

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

FIGURE 3

POTENTIOMETRIC SURFACE CONTOUR MAP
FOR THE DEEPER CONFINED PORTION OF THE
LOWER PATAPSCO AQUIFER (MAY 2019)

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VERIZON

POND

WILLIAMS SCOTSMAN, INC.

NORTH WAREHOUSE

SOUTH WAREHOUSE

TREATMENT EQUIPMENT BUILDING

RUN

MW-27D

MW-46D

MW-23D

MW-43

MW-09

MW-03

MW-39

MW-38R

RW-1S

MW-42

RW-2S

MW-18

MW-5R

MW-40D

RW-3S

MW-16

MW-16D

MW-04

MW-20

MW-45

MW-44

MW-41D

MW-22D

MW-21D

RW-1D

RW-2D

MW-01D

MW-01

MW-24D

MW-43	
1,1-DCA	5.2
1,2-DCA	ND
1,1-DCE	***53.9***
1,4-Dioxane	***52***
1,1,1-TCA	ND
TCE	ND

MW-03	
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	ND
1,1,1-TCA	ND
TCE	ND

MW-39	
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	ND
1,1,1-TCA	ND
TCE	ND

MW-38R	
1,1-DCA	6.9
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	***39.4***
1,1,1-TCA	ND
TCE	ND

MW-42	
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	10.6
1,1,1-TCA	ND
TCE	ND

MW-18	
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	ND
1,1,1-TCA	ND
TCE	ND

MW-5R	
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	7.6
1,1,1-TCA	1.9
TCE	ND

MW-44	
1,1-DCA	14.9
1,2-DCA	ND
1,1-DCE	***22.4***
1,4-Dioxane	***64.4***
1,1,1-TCA	74.3
TCE	ND

MW-16	
1,1-DCA	***343***
1,2-DCA	ND
1,1-DCE	***1,160***
1,4-Dioxane	***1,230***
1,1,1-TCA	***216***
TCE	***13.7***

MW-09	
1,1-DCA	3.6
1,2-DCA	ND
1,1-DCE	***70.8***
1,4-Dioxane	***32.8***
1,1,1-TCA	1.2
TCE	ND

MW-04	
1,1-DCA	57.7
1,2-DCA	1.1
1,1-DCE	***142***
1,4-Dioxane	***111***
1,1,1-TCA	1.7
TCE	ND

MW-20	
1,1-DCA	***157***
1,2-DCA	***6.5***
1,1-DCE	***226***
1,4-Dioxane	***1,620***
1,1,1-TCA	ND
TCE	ND

LEGEND

- PROPERTY LINE
- STREAM/EDGE OF WATER
- FENCE LINE
- STORMWATER MANAGEMENT AREA
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- SHALLOW EXTRACTION WELL
- DEEP EXTRACTION WELL

MW-20	
1,1-DCA	***157***
1,2-DCA	***6.5***
1,1-DCE	***226***
1,4-Dioxane	***1,620***
1,1,1-TCA	ND
TCE	ND

WELL ID

CONCENTRATION (ug/l) (BOLD ITALIC EXCEEDS CLEANUP LEVELS)

CONSTITUENT

ND	NON DETECT
1,1-DCA	1,1–DICHLOROETHANE
1,2-DCA	1,2–DICHLOROETHANE
1,1-DCE	1,1–DICHLOROETHENE
1,1,1-TCA	1,1,1–TRICHLOROETHANE
TCE	TRICHLOROETHENE

Cleanup Levels	
	µg/l
1,1-DCA	90
1,2-DCA	5
1,1-DCE	7
1,4-Dioxane	15
1,1,1-TCA	200
TCE	5

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SCALE IN FEET

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Checked:
Approved: 7/30/2019
DWG Name: 314V1545.010-034

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

FIGURE 4

SAMPLING RESULTS FOR THE MONITORING WELLS SCREENED IN THE SHALLOW UNCONFINED PORTION OF THE LOWER PATAPSCO AQUIFER (MAY 2019)

WSP USA Inc.
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VERIZON

STONY RUN

POND

WILLIAMS SCOTSMAN, INC.

TREATMENT EQUIPMENT BUILDING

NORTH WAREHOUSE

SOUTH WAREHOUSE

MW-27D	
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	ND
1,1,1-TCA	ND
TCE	ND

MW-23D	
1,1-DCA	18.5
1,2-DCA	1.2
1,1-DCE	***96.4***
1,4-Dioxane	***70.7***
1,1,1-TCA	8.6
TCE	ND

MW-40D	
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	ND
1,1,1-TCA	ND
TCE	ND

MW-16D	
1,1-DCA	28.5
1,2-DCA	2.1
1,1-DCE	***172***
1,4-Dioxane	***148***
1,1,1-TCA	14.5
TCE	ND

MW-22D	
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	6.3
1,4-Dioxane	5.1
1,1,1-TCA	ND
TCE	ND

MW-1D	
1,1-DCA	2.1
1,2-DCA	ND
1,1-DCE	***13.7***
1,4-Dioxane	13
1,1,1-TCA	1.1
TCE	ND

MW-21D	
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	***9.9***
1,4-Dioxane	8.4
1,1,1-TCA	ND
TCE	ND

MW-41D	
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
1,4-Dioxane	2.1
1,1,1-TCA	ND
TCE	ND

MW-03, MW-04, MW-09, MW-01, MW-5R, MW-18, MW-20, MW-24D, MW-38R, MW-39, MW-42, MW-43, MW-44, MW-45, MW-46D

MW-01D, MW-16, MW-21D, MW-22D, MW-23D, MW-27D, MW-40D, MW-41D

RW-1D, RW-1S, RW-2D, RW-2S, RW-3S

LEGEND

- PROPERTY LINE
- STREAM/EDGE OF WATER
- FENCE LINE
- STORMWATER MANAGEMENT AREA
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- SHALLOW EXTRACTION WELL
- DEEP EXTRACTION WELL

MW-16D	
1,1-DCA	28.5
1,2-DCA	2.1
1,1-DCE	***172***
1,4-Dioxane	***148***
1,1,1-TCA	14.5
TCE	ND

WELL ID

CONCENTRATION (ug/l) (BOLD ITALIC EXCEEDS CLEANUP LEVELS)

CONSTITUENT

ND	NON DETECT
1,1-DCA	1,1-DICHLOROETHANE
1,2-DCA	1,2-DICHLOROETHANE
1,1-DCE	1,1-DICHLOROETHENE
1,1,1-TCA	1,1,1-TRICHLOROETHANE
TCE	TRICHLOROETHENE

Cleanup Levels	
	µg/l
1,1-DCA	90
1,2-DCA	5
1,1-DCE	7
1,4-Dioxane	15
1,1,1-TCA	200
TCE	5

0 140 280

SCALE IN FEET

B

FIGURE 5

SAMPLING RESULTS FOR THE MONITORING WELLS SCREENED IN THE DEEPER CONFINED PORTION OF THE LOWER PATAPSCO AQUIFER (MAY 2019)

FORMER KOP-FLEX FACILITY SITE
HANOVER, MARYLAND

PREPARED FOR
EMERSUB 16 LLC
ST. LOUIS, MISSOURI

Drawn By: TDH
Checked:
Approved: RM 7/30/2019
DWG Name: 314V1545.010-034

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

R:\ACAD\CADD_CLIENT\Emerson\MD_Hanover\314015545.010\CAD\314V1545.010-034.dwg 7/30/2019 8:34 AM USEC01012

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VERIZON

MW-46D

MW-27D

STONY RUN

POND

MW-23D

WILLIAMS SCOTSMAN, INC.

TREATMENT EQUIPMENT BUILDING

NORTH WAREHOUSE

MW-03

MW-43

MW-09

MW-39

MW-45

MW-04

MW-20

RW-1S

MW-38R

MW-16

MW-16D

MW-42

RW-2S

MW-18

MW-5R

MW-40D

SOUTH WAREHOUSE

RW-3S

MW-22D

MW-44

MW-41D

MW-01D

MW-21D

RW-1D

RW-2D

MW-01

MW-24D

RW-1S	
1,1-DCA	89.1
1,2-DCA	ND
1,1-DCE	***384***
1,4-Dioxane	***374***
1,1,1-TCA	76.5
TCE	2.8

RW-2S	
1,1-DCA	36.5
1,2-DCA	ND
1,1-DCE	***244***
1,4-Dioxane	***448***
1,1,1-TCA	***314***
TCE	3.6

RW-3S	
1,1-DCA	2.1
1,2-DCA	ND
1,1-DCE	2.7
1,4-Dioxane	***15.2***
1,1,1-TCA	9.4
TCE	ND

RW-1D	
1,1-DCA	50.8
1,2-DCA	ND
1,1-DCE	***224***
1,4-Dioxane	***112***
1,1,1-TCA	5.9
TCE	ND

RW-2D	
1,1-DCA	16.9
1,2-DCA	1.3
1,1-DCE	***115***
1,4-Dioxane	***72.7***
1,1,1-TCA	5.7
TCE	ND

LEGEND

- PROPERTY LINE
- STREAM/EDGE OF WATER
- FENCE LINE
- STORMWATER MANAGEMENT AREA
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- SHALLOW EXTRACTION WELL
- DEEP EXTRACTION WELL

RW-2D	
1,1-DCA	16.9
1,2-DCA	1.3
1,1-DCE	***115***
1,4-Dioxane	***72.7***
1,1,1-TCA	5.7
TCE	ND

WELL ID

CONCENTRATION (ug/l) (BOLD ITALIC EXCEEDS CLEANUP LEVELS)

CONSTITUENT

ND	NON DETECT
1,1-DCA	1,1-DICHLOROETHANE
1,2-DCA	1,2-DICHLOROETHANE
1,1-DCE	1,1-DICHLOROETHENE
1,1,1-TCA	1,1,1-TRICHLOROETHANE
TCE	TRICHLOROETHENE

Cleanup Levels	
	µg/l
1,1-DCA	90
1,2-DCA	5
1,1-DCE	7
1,4-Dioxane	15
1,1,1-TCA	200
TCE	5

0 140 280

SCALE IN FEET

B

Drawn By: EGC
Checked:
Approved: 7/30/2019
DWG Name: 314V1545.010-034

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

FIGURE 6

GROUNDWATER RECOVERY WELL RESULTS
(MAY 2019)

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

TABLES

Table 1

Historical Water Level Measurements in
Monitoring Wells and Recovery Well Piezometers
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 to May 2019) (a)

Well ID	Zone	TOC elevation	12/7/2016 (b)		2/1/2017 (b)		3/21/2017		4/7/2017		4/10/2017		4/13/2017		4/17/2017	
			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-01	Shallow	129.8	NM	-	15.98	113.82	16.16	113.64	15.93	113.87	15.95	113.85	15.94	113.86	15.90	113.90
MW-03	Shallow	113.6	6.78	106.82	6.83	106.77	6.79	106.81	6.41	107.19	6.76	106.84	6.91	106.69	6.90	106.70
MW-04	Shallow	124.4	12.28	112.12	11.14	113.26	11.17	113.23	11.05	113.35	11.09	113.31	11.06	113.34	11.13	113.27
MW-5R	Shallow	123.5	15.87	107.63	13.49	110.01	15.98	107.52	16.15	107.35	16.38	107.12	16.45	107.05	16.47	107.03
MW-09	Shallow	125.1	10.84	114.26	11.30	113.80	11.51	113.59	11.41	113.69	11.41	113.69	11.51	113.59	11.48	113.62
MW-16	Shallow	124.0	10.92	113.08	11.12	112.88	11.66	112.34	11.74	112.26	11.81	112.19	11.82	112.18	12.08	111.92
MW-18	Shallow	125.1	20.77	104.33	20.84	104.26	22.85	102.25	22.85	102.25	23.11	101.99	23.18	101.92	23.19	101.91
MW-20	Shallow	125.4	NM	-	12.24	113.16	12.5	112.90	12.33	113.07	12.31	113.09	12.3	113.10	13.38	112.02
MW-38R	Shallow	125.4	15.58	109.82	15.76	109.64	19.64	105.76	19.6	105.80	20.81	104.59	19.81	105.59	19.84	105.56
MW-39	Shallow	124.6	NM	-	20.96	103.64	22.64	101.96	22.55	102.05	21.86	102.74	23	101.60	23.01	101.59
MW-42	Shallow	125.9	16.18	109.72	16.26	109.64	19.28	106.62	19.33	106.57	19.52	106.38	19.49	106.41	19.55	106.35
MW-43	Shallow	122.8	19.25	103.55	19.31	103.49	20.68	102.12	20.31	102.49	20.61	102.19	21.81	100.99	20.92	101.88
MW-44	Shallow	127.1	14.93	112.17	15.25	111.85	17.7	109.40	17.08	110.02	17.18	109.92	17.35	109.75	17.23	109.87
MW-45	Shallow	126.7	NM	-	NM	-	14.1	112.62	13.85	112.87	13.85	112.87	13.85	112.87	13.75	112.97
RW-1S	Shallow	122.9	12.96	109.94	13.17	109.73	12.96	109.94	20.36	102.54	20.6	102.30	20.56	102.34	20.60	102.30
RW-2S	Shallow	123.5	14.12	109.38	14.02	109.48	28.55	94.95	28.88	94.62	29.81	93.69	29	94.50	29.14	94.36
RW-3S	Shallow	125.4	14.29	111.11	14.24	111.16	20.34	105.06	23.49	101.91	23.59	101.81	23.69	101.71	23.73	101.67
MW-1D	Deep	129.4	42.81	86.59	42.22	87.18	56.15	73.25	56.06	73.34	56.22	73.18	56.44	72.96	56.37	73.03
MW-16D	Deep	124.1	34.91	89.19	34.72	89.38	37.55	86.55	37.6	86.50	38.02	86.08	38.1	86.00	37.94	86.16
MW-21D	Deep	126.3	37.8	88.50	37.59	88.71	47.12	79.18	47.26	79.04	47.57	78.73	47.61	78.69	47.58	78.72
MW-22D	Deep	128.9	40.78	88.07	40.49	88.36	43.28	85.57	43.3	85.55	43.59	85.26	43.76	85.09	43.73	85.12
MW-23D	Deep	125.2	35.14	90.06	34.74	90.46	36.33	88.87	36.29	88.91	36.72	88.48	36.81	88.39	36.61	88.59
MW-24D	Deep	129.1	46.3	82.80	45.73	83.37	47.44	81.66	47.71	81.39	48	81.10	48.16	80.94	48.29	80.81
MW-27D	Deep	117.2	29.66	87.54	26.78	90.42	27.73	89.47	27.68	89.52	28.18	89.02	28.3	88.90	28.03	89.17
MW-40D	Deep	124.1	35.14	88.96	34.94	89.16	37.19	86.91	37.51	86.59	37.98	86.12	37.98	86.12	37.85	86.25
MW-41D	Deep	127.1	41.98	85.12	41.44	85.66	44.00	83.10	44.06	83.04	44.48	82.62	44.56	82.54	44.43	82.67
MW-46D	Deep	124.8	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
RW-1D	Deep	126.9	38.53	88.37	38.19	88.71	58.69	68.21	59.02	67.88	59.06	67.84	59.02	67.88	59.26	67.64
RW-2D	Deep	127.4	42.31	85.09	41.62	85.78	68.82	58.58	68.51	58.89	68.39	59.01	68.78	58.62	68.63	58.77

Table 1

Historical Water Level Measurements in
Monitoring Wells and Recovery Well Piezometers
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 to May 2019) (a)

Well ID	Zone	TOC elevation	5/1/2017		5/8/2017		8/31/2017		10/25/2017		11/14/2017		5/30/2018		11/7/2018		5/21/2019	
			Depth to Water	*Groundwater Elevation*	*Depth to Water*	*Groundwater Elevation*	*Depth to Water*	*Groundwater Elevation*	*Depth to Water*	*Groundwater Elevation*	*Depth to Water*	*Groundwater Elevation*	*Depth to Water*	*Groundwater Elevation*	*Depth to Water*	*Groundwater Elevation*	*Depth to Water*	*Groundwater Elevation*
MW-01	Shallow	129.8	15.92	113.88	15.81	113.99	15.49	114.31	NA	NA	14.17	115.63	15.52	114.28	13.99	115.81	13.98	115.82
MW-03	Shallow	113.6	6.96	106.64	6.87	106.73	7.59	106.01	NA	NA	7.27	106.33	7.17	106.43	6.43	107.17	7.08	106.52
MW-04	Shallow	124.4	10.95	113.45	10.91	113.49	10.66	113.74	NA	NA	10.97	113.43	10.19	114.21	9.16	115.24	8.80	115.60
MW-5R	Shallow	123.5	16.60	106.90	16.60	106.90	16.90	106.60	NA	NA	16.78	106.72	15.89	107.61	15.51	107.99	15.74	107.76
MW-09	Shallow	125.1	11.41	113.69	11.34	113.76	11.09	114.01	NA	NA	NA	NA	10.78	114.32	9.16	115.94	9.61	115.49
MW-16	Shallow	124.0	11.99	112.01	11.81	112.19	11.90	112.10	NA	NA	12.00	112.00	11.76	112.24	10.96	113.04	9.37	114.63
MW-18	Shallow	125.1	23.30	101.80	23.28	101.82	24.63	100.47	NA	NA	24.41	100.69	23.80	101.30	23.13	101.97	22.97	102.13
MW-20	Shallow	125.4	13.01	112.39	12.24	113.16	12.39	113.01	NA	NA	11.98	113.42	12.15	113.25	11.74	113.66	10.64	114.76
MW-38R	Shallow	125.4	19.94	105.46	19.96	105.44	20.16	105.24	NA	NA	19.93	105.47	19.35	106.05	18.67	106.73	19.13	106.27
MW-39	Shallow	124.6	23.05	101.55	23.00	101.60	24.51	100.09	NA	NA	23.93	100.67	23.72	100.88	23.09	101.51	23.00	101.60
MW-42	Shallow	125.9	19.68	106.22	19.67	106.23	19.95	105.95	NA	NA	19.82	106.08	19.16	106.74	18.55	107.35	18.91	106.99
MW-43	Shallow	122.8	21.11	101.69	20.90	101.90	21.73	101.07	NA	NA	21.66	101.14	20.47	102.33	20.60	102.20	21.46	101.34
MW-44	Shallow	127.1	17.31	109.79	17.27	109.83	17.18	109.92	NA	NA	17.00	110.10	16.32	110.78	15.78	111.32	15.91	111.19
MW-45	Shallow	126.7	13.67	113.05	13.60	113.12	13.20	113.52	NA	NA	13.80	112.92	12.98	113.74	12.00	114.72	11.75	114.97
RW-1S	Shallow	122.9	20.80	102.10	20.79	102.11	21.49	101.41	NA	NA	21.98	100.92	22.88	100.02	23.97	98.93	26.42	96.48
RW-2S	Shallow	123.5	29.61	93.89	29.74	93.76	32.10	91.40	NA	NA	30.76	92.74	28.37	95.13	27.48	96.02	31.16	92.34
RW-3S	Shallow	125.4	24.32	101.08	24.46	100.94	26.20	99.20	NA	NA	28.47	96.93	26.91	98.49	24.39	101.01	22.10	103.30
MW-1D	Deep	129.4	56.40	73.00	56.29	73.11	56.70	72.70	58.17	71.23	58.09	71.31	58.03	71.37	57.22	72.18	56.55	72.85
MW-16D	Deep	124.1	37.98	86.12	38.08	86.02	41.1	83.00	40.71	83.39	40.63	83.47	40.37	83.73	39.33	84.77	38.30	85.80
MW-21D	Deep	126.3	47.54	78.76	47.61	78.69	56.7	69.60	50.61	75.69	50.53	75.77	50.38	75.92	49.61	76.69	48.38	77.92
MW-22D	Deep	128.9	43.82	85.03	43.81	85.04	46.71	82.14	46.74	82.11	46.25	82.60	46.30	82.55	35.31	93.54	44.02	84.83
MW-23D	Deep	125.2	36.71	88.49	36.77	88.43	39.9	85.30	39.21	85.99	39.04	86.16	38.87	86.33	37.72	87.48	36.88	88.32
MW-24D	Deep	129.1	48.35	80.75	48.37	80.73	55.82	73.28	52.15	76.95	51.99	77.11	50.94	78.16	50.72	78.38	49.67	79.43
MW-27D	Deep	117.2	28.21	88.99	28.21	88.99	31.11	86.09	30.52	86.68	30.34	86.86	30.20	87.00	29.17	88.03	28.15	89.05
MW-40D	Deep	124.1	38.01	86.09	38.04	86.06	41.00	83.10	40.75	83.35	40.50	83.60	40.44	83.66	39.60	84.50	38.50	85.60
MW-41D	Deep	127.1	44.61	82.49	44.62	82.48	49.18	77.92	47.94	79.16	47.71	79.39	47.56	79.54	46.56	80.54	45.42	81.68
MW-46D	Deep	124.8	NM	-	NM	-	NM	-	NM	-	NM	-	37.37	87.40	32.65	92.12	35.47	89.30
RW-1D	Deep	126.9	58.88	68.02	58.99	67.91	60.23	66.67	62.62	64.28	63.62	63.28	62.75	64.15	62.97	63.93	62.44	64.46
RW-2D	Deep	127.4	68.70	58.70	68.44	58.96	70.11	57.29	68.90	58.50	68.95	58.45	69.21	58.19	68.34	59.06	68.19	59.21

a/ Vertical datum is NAVD-88
NM = not measured
TOC = top of casing
NA = not available because the well had not been installed

Light gray shading denotes wells screened in the shallow (unconfined) zone; blue shading denotes wells screened in the deep (confined) zone.
Continuous pumping of the groundwater recovery well system started on March 29, 2017.
Water levels from both shallow and deep recoverys were measured in piezometers co-located with the wells.
b/ Water level measurements representative of non-pumping conditions in the aquifer system.

Table 2

May 2019 Monitoring Well Sampling Results
Former Kop-Flex Facility
Hanover, Maryland (a)

		Shallow Wells											
Well ID:		**MW-03**	**MW-04**	**MW-5R**	**MW-09**	**MW-16**	**MW-18**	**MW-20**	**MW-38R**	**MW-39**	**MW-42**	**MW-43**	**MW-44**
Parameters	**Groundwater Cleanup Standards (µg/L) (b)**												
Chloroethane	3.6	1 U	1 U	1 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	90	1 U	57.7	1 U	3.6	**343**	1 U	**157**	6.9	1 U	1 U	5.2	14.9
1,2-Dichloroethane	5	1 U	1.1	1 U	1 U	10 U	1 U	**6.5**	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	1 U	**142**	1 U	**70.8**	**1,160**	1 U	**226**	1 U	1 U	1 U	**53.9**	**22.4**
1,4-Dioxane	15 (c)	2 U	**111**	7.6	**32.8**	**1,230**	2 U	**1,620**	**39.4**	2 U	10.6	**52**	**64.4**
Methyl tert-butyl ether	20	1 U	1 U	1 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	3.4	1 U
1,1,1-Trichloroethane	200	1 U	1.7	1.9	1.2	**216**	1 U	2 U	1 U	1 U	1 U	1 U	74.3
Trichloroethene	5	1 U	1.1	1 U	1 U	**13.7**	1 U	2 U	1 U	1 U	1 U	1 U	1 U

a/ U = not detected above the method detection limit; NS = not sampled
Bolded values indicate an exceedence of the Groundwater Quality Standards
All sample concentrations in micrograms per liter (µg/l)
b/ Source:
ttp://www.mde.maryland.gov/assets/document/Final%20Update%20No%202.1%20dated%205-20-08(1).pdf
c/ Numeric cleanup standards from WSP's October 2, 2015, Response Action Plan, Revision 2.
d/ Field dupicate of the MW-16D well sample

Table 2

May 2019 Monitoring Well Sampling Results
Former Kop-Flex Facility
Hanover, Maryland (a)

		Deep Wells								
Well ID:		**MW-1D**	**MW-16D**	**DUP052219 (d)**	**MW-21D**	**MW-22D**	**MW-23D**	**MW-27D**	**MW-40D**	**MW-41D**
Parameters	**Groundwater Cleanup Standards (µg/L) (b)**									
Chloroethane	3.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	90	2.1	28.5	27.6	1 U	1 U	18.5	1 U	1 U	1 U
1,2-Dichloroethane	5	1 U	2.1	2.2	1 U	1 U	1.2	1 U	1 U	1 U
1,1-Dichloroethene	7	**13.7**	**172**	**151**	**9.9**	6.3	**96.4**	1 U	1 U	1 U
1,4-Dioxane	15 (c)	13	**148**	**146**	8.4	5.1	**70.7**	2 U	2 U	2.1
Methyl tert-butyl ether	20	1 U	1.3	1 U	1.1	1 U	1.2	1 U	1 U	1 U
1,1,1-Trichloroethane	200	1.1	14.5	12.2	1 U	1 U	8.6	1 U	1 U	1 U
Trichloroethene	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

a/ U = not detected above the method detection limit; NS = not sampled
Bolded values indicate an exceedence of the Groundwater Quality Standards
All sample concentrations in micrograms per liter (µg/l)
b/ Source:
ttp://www.mde.maryland.gov/assets/document/Final%20Update%20No%202.1%20dated 08(1).pdf
c/ Numeric cleanup standards from WSP's October 2, 2015, Response Action Plan, Revis
d/ Field dupicate of the MW-16D well sample

Table 3

May 2019 Recovery Well Sampling Results
Former Kop-Flex Facility
Hanover, Maryland (a)

		Shallow Wells			Deep Wells	
	Well ID:	RW-1S	RW-2S	RW-3S	RW-1D	RW-2D
Parameters	Groundwater Cleanup Standards (µg/L) (b)					
VOCs						
Chloroethane	3.6	**20.2**	2 U	1 U	2.4	1 U
1,1-Dichloroethane	90	89.1	36.5	2.1	50.8	16.9
1,2-Dichloroethane	5	2.5 U	2 U	1 U	2 U	1.3
1,1-Dichloroethene	7	**384**	**244**	2.7	**224**	**115**
1,4-Dioxane	15	**374**	**448**	**15.2**	**112**	**72.7**
1,1,1-Trichloroethane	200	76.5	**314**	9.4	5.9	5.7
Trichloroethene	5	2.8	3.6	1 U	2 U	1 U
Vinyl chloride	2	**4.2**	2 U	1 U	2 U	1 U

a/ U = not detected above the method detection limit
Bolded values indicate an exceedence of the Groundwater Quality Standards
All sample concentrations in micrograms per liter (µg/l)
b/ Numeric cleanup standards from WSP's October 2, 2015, Response Action Plan, Revision 2.

ENCLOSURE A – LABORATORY ANALYTICAL REPORT, MAY 2019 INFLUENT AND EFFLUENT SAMPLES

Analytical Report for

WSP USA - Herndon

Certificate of Analysis No.: 19050815

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : 31401545.010.04

May 22, 2019

Phase Separation Science, Inc.

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PHASE SEPARATION SCIENCE, INC.

May 22, 2019

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171

Reference: PSS Work Order(s) No: **19050815**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 31401545.010.04

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **19050815**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on June 12, 2019, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: WSP USA - Herndon

Project Name: Kop-Flex

Work Order Number(s): 19050815

Project ID: 31401545.010.04

The following samples were received under chain of custody by Phase Separation Science (PSS) on 05/08/2019 at 01:00 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
19050815-001	Effluent VSP-4	WASTE WATER	05/08/19 11:35
19050815-002	T-1100 Lead Ef	WASTE WATER	05/08/19 10:40
19050815-003	Influent VSP-1	GROUND WATER	05/08/19 10:10
19050815-004	Rinse Water	DRINKING WATER	05/08/19 09:25
19050815-005	TB-050819	WATER	05/08/19 13:00

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Effluent VSP-4 **Date/Time Sampled: 05/08/2019 11:35** **PSS Sample ID: 19050815-001**
Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

DOC by SM5310 Analytical Method: SM 5310B -00

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Dissolved Organic Carbon	ND	mg/L	0.50		05/13/19	05/13/19 19:01	4001

MBAS Surfactants Analytical Method: SM 5540C

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Surfactants	ND	mg/L	0.1		05/10/19	05/10/19 09:00	4009

Total Organic Carbon Analytical Method: SM20 5310B

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Total Organic Carbon	ND	mg/L	0.50		05/13/19	05/13/19 23:31	4001

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CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Effluent VSP-4 **Date/Time Sampled: 05/08/2019 11:35** **PSS Sample ID: 19050815-001**
Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

Total Petroleum Hydrocarbons - DRO Analytical Method: SW-846 8015 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**0.064**	mg/L	0.040		1	05/09/19	05/09/19 15:46	1059
Surrogate(s)	***Recovery***		***Limits***					
o-Terphenyl	*84*	*%*	*38-114*		*1*	*05/09/19*	*05/09/19 15:46*	*1059*

Total Petroleum Hydrocarbons-GRO Analytical Method: SW-846 8015C Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/L	40		1	05/12/19	05/12/19 15:23	1045
Surrogate(s)	***Recovery***		***Limits***					
a,a,a-Trifluorotoluene	*91*	*%*	*64-142*		*1*	*05/12/19*	*05/12/19 15:23*	*1045*

VCP Organochlorine Pesticides Analytical Method: SW-846 8081 B Preparation Method: 3510C

Qualifier(s): See Batch 164260 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
gamma-BHC (Lindane)	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
beta-BHC	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
delta-BHC	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
Heptachlor	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
Aldrin	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
Heptachlor epoxide	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
gamma-Chlordane	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
alpha-Chlordane	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
4,4-DDE	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
Endosulfan I	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
Dieldrin	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Effluent VSP-4 **Date/Time Sampled: 05/08/2019 11:35** **PSS Sample ID: 19050815-001**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

VCP Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: 3510C

Qualifier(s): See Batch 164260 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Endrin	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
4,4-DDD	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
Endosulfan II	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
4,4-DDT	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
Endrin aldehyde	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
Methoxychlor	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
Endosulfan sulfate	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
Endrin ketone	ND	ug/L	0.040		1	05/09/19	05/13/19 21:09	1029
Toxaphene	ND	ug/L	1.0		1	05/09/19	05/13/19 21:09	1029

Surrogate(s)	*Recovery*		*Limits*			
Tetrachloro-m-xylene	*81*	*%*	*40-126*	*1*	*05/09/19*	*05/13/19 21:09*	*1029*
Decachlorobiphenyl	*93*	*%*	*43-150*	*1*	*05/09/19*	*05/13/19 21:09*	*1029*

VCP Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	4.6		10	05/14/19	05/16/19 20:39	1029
2,4-D	ND	ug/L	1.9		10	05/14/19	05/16/19 20:39	1029
2,4,5-TP (Silvex)	ND	ug/L	0.19		10	05/14/19	05/16/19 20:39	1029
Dinoseb	ND	ug/L	0.95		10	05/14/19	05/16/19 20:39	1029

Surrogate(s)	*Recovery*		*Limits*			
2,4-Dichlorophenylacetic Acid	*96*	*%*	*64-126*	*10*	*05/14/19*	*05/16/19 20:39*	*1029*

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Effluent VSP-4 **Date/Time Sampled: 05/08/2019 11:35** **PSS Sample ID: 19050815-001**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	05/11/19	05/11/19 18:38	1011
Benzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Bromochloromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Bromodichloromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Bromoform	ND	ug/L	5.0		1	05/11/19	05/11/19 18:38	1011
Bromomethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
2-Butanone (MEK)	ND	ug/L	10		1	05/11/19	05/11/19 18:38	1011
Carbon Disulfide	ND	ug/L	10		1	05/11/19	05/11/19 18:38	1011
Carbon tetrachloride	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Chlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Chloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Chloroform	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Chloromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Cyclohexane	ND	ug/L	10		1	05/11/19	05/11/19 18:38	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0		1	05/11/19	05/11/19 18:38	1011
Dibromochloromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Effluent VSP-4 **Date/Time Sampled: 05/08/2019 11:35** **PSS Sample ID: 19050815-001**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Ethylbenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	05/11/19	05/11/19 18:38	1011
Isopropylbenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Methyl Acetate	ND	ug/L	10		1	05/11/19	05/11/19 18:38	1011
Methylcyclohexane	ND	ug/L	10		1	05/11/19	05/11/19 18:38	1011
Methylene chloride	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	05/11/19	05/11/19 18:38	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Naphthalene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Styrene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Tetrachloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Toluene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Trichloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	05/11/19	05/11/19 18:38	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
Vinyl chloride	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011
m&p-Xylene	ND	ug/L	2.0		1	05/11/19	05/11/19 18:38	1011
o-Xylene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:38	1011

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*97*	*%*	*87-109*		*1*	*05/11/19*	*05/11/19 18:38*	*1011*
Dibromofluoromethane	*105*	*%*	*93-111*		*1*	*05/11/19*	*05/11/19 18:38*	*1011*
Toluene-D8	*97*	*%*	*91-109*		*1*	*05/11/19*	*05/11/19 18:38*	*1011*

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Effluent VSP-4 **Date/Time Sampled: 05/08/2019 11:35** **PSS Sample ID: 19050815-001**
Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

1,4-Dioxane by GC/MS - SIM — Analytical Method: SW-846 8260 B-Modified — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,4-Dioxane (P-Dioxane)	**5.6**	ug/L	1.0		1	05/20/19	05/20/19 22:58	1011
Surrogate(s)	***Recovery***		***Limits***					
Toluene-D8	*87*	*%*	*80-120*		*1*	*05/20/19*	*05/20/19 22:58*	*1011*

VCP Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Acenaphthylene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Anthracene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Benzo(a)anthracene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Benzo(a)pyrene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Benzo(b)fluoranthene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Benzo(g,h,i)perylene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Benzo(k)fluoranthene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
Carbazole	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
4-Chloroaniline	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
2-Chlorophenol	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
Chrysene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Dibenz(a,h)Anthracene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Dibenzofuran	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
1,2-Dichlorobenzene	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
1,3-Dichlorobenzene	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Effluent VSP-4 **Date/Time Sampled: 05/08/2019 11:35** **PSS Sample ID: 19050815-001**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

VCP Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,4-Dichlorobenzene	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
2,4-Dichlorophenol	ND	ug/L	2.0		1	05/08/19	05/08/19 22:42	1055
Diethyl phthalate	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
2,4-Dinitrophenol	ND	ug/L	10		1	05/08/19	05/08/19 22:42	1055
2,4-Dinitrotoluene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
Fluoranthene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Fluorene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Hexachlorobenzene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Hexachlorobutadiene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
Hexachloroethane	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Isophorone	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
2-Methylnaphthalene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
2-Methyl phenol	ND	ug/L	2.0		1	05/08/19	05/08/19 22:42	1055
3&4-Methylphenol	ND	ug/L	2.0		1	05/08/19	05/08/19 22:42	1055
Naphthalene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Nitrobenzene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
Pentachlorophenol	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
Phenanthrene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
Phenol	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
Pyrene	ND	ug/L	0.50		1	05/08/19	05/08/19 22:42	1055
1,2,4-Trichlorobenzene	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055
2,4,5-Trichlorophenol	ND	ug/L	2.0		1	05/08/19	05/08/19 22:42	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Effluent VSP-4 **Date/Time Sampled: 05/08/2019 11:35** **PSS Sample ID: 19050815-001**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

VCP Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2,4,6-Trichlorophenol	ND	ug/L	2.0		1	05/08/19	05/08/19 22:42	1055
Bis(2-ethylhexyl)adipate	ND	ug/L	5.0		1	05/08/19	05/08/19 22:42	1055

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*71*	*%*	*35-107*	*1*	*05/08/19*	*05/08/19 22:42*	*1055*
2-Fluorophenol	*63*	*%*	*32-106*	*1*	*05/08/19*	*05/08/19 22:42*	*1055*
Nitrobenzene-d5	*68*	*%*	*34-123*	*1*	*05/08/19*	*05/08/19 22:42*	*1055*
Phenol-d6	*62*	*%*	*36-111*	*1*	*05/08/19*	*05/08/19 22:42*	*1055*
Terphenyl-D14	*98*	*%*	*43-143*	*1*	*05/08/19*	*05/08/19 22:42*	*1055*
2,4,6-Tribromophenol	*76*	*%*	*26-122*	*1*	*05/08/19*	*05/08/19 22:42*	*1055*

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CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: T-1100 Lead Ef **Date/Time Sampled: 05/08/2019 10:40** **PSS Sample ID: 19050815-002**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

Dissolved Metals — Analytical Method: EPA 200.8 — Preparation Method: 200.8

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Copper	**6.0**	ug/L	1.0		1	05/09/19	05/09/19 19:16	1051
Iron	ND	ug/L	100		1	05/09/19	05/09/19 19:16	1051
Lead	ND	ug/L	1.0		1	05/09/19	05/09/19 19:16	1051
Nickel	**12.6**	ug/L	1.00		1	05/09/19	05/09/19 19:16	1051
Zinc	**49.4**	ug/L	20.0		1	05/09/19	05/09/19 19:16	1051

Total Metals + Hardness — Analytical Method: EPA 200.8 — Preparation Method: 200.8

Qualifier(s): See Batch 164117 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Copper	**6.5**	ug/L	1.0		1	05/09/19	05/09/19 16:15	1051
Iron	ND	ug/L	100		1	05/09/19	05/09/19 16:15	1051
Lead	ND	ug/L	1.0		1	05/09/19	05/09/19 16:15	1051
Nickel	**13.2**	ug/L	1.00		1	05/09/19	05/09/19 16:15	1051
Zinc	**62.8**	ug/L	20.0		1	05/09/19	05/09/19 16:15	1051
Hardness (Ca & Mg)	**18**	mg/L	0.66		1	05/09/19	05/09/19 16:15	1051

DOC by SM5310 — Analytical Method: SM 5310B -00

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Dissolved Organic Carbon	ND	mg/L	0.50		05/13/19	05/13/19 19:01	4001

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CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: T-1100 Lead Ef **Date/Time Sampled: 05/08/2019 10:40** **PSS Sample ID: 19050815-002**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

MBAS Surfactants — Analytical Method: SM 5540C

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Surfactants	ND	mg/L	0.1		05/10/19	05/10/19 09:00	4009

Total Organic Carbon — Analytical Method: SM20 5310B

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Total Organic Carbon	**0.89**	mg/L	0.50		05/13/19	05/13/19 23:31	4001

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**0.068**	mg/L	0.040		1	05/09/19	05/09/19 16:11	1059
Surrogate(s)	***Recovery***		***Limits***					
o-Terphenyl	*89*	*%*	*38-114*		*1*	*05/09/19*	*05/09/19 16:11*	*1059*

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No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: T-1100 Lead Ef **Date/Time Sampled: 05/08/2019 10:40** **PSS Sample ID: 19050815-002**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

Total Petroleum Hydrocarbons-GRO Analytical Method: SW-846 8015C Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/L	40		1	05/12/19	05/12/19 15:46	1045
Surrogate(s)	***Recovery***		***Limits***					
a,a,a-Trifluorotoluene	*90*	*%*	*64-142*		*1*	*05/12/19*	*05/12/19 15:46*	*1045*

VCP Organochlorine Pesticides Analytical Method: SW-846 8081 B Preparation Method: 3510C

Qualifier(s): See Batch 164260 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
gamma-BHC (Lindane)	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
beta-BHC	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
delta-BHC	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
Heptachlor	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
Aldrin	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
Heptachlor epoxide	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
gamma-Chlordane	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
alpha-Chlordane	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
4,4-DDE	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
Endosulfan I	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
Dieldrin	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
Endrin	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
4,4-DDD	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
Endosulfan II	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
4,4-DDT	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
Endrin aldehyde	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
Methoxychlor	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
Endosulfan sulfate	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
Endrin ketone	ND	ug/L	0.040		1	05/09/19	05/13/19 21:38	1029
Toxaphene	ND	ug/L	1.0		1	05/09/19	05/13/19 21:38	1029

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CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: T-1100 Lead Ef **Date/Time Sampled: 05/08/2019 10:40** **PSS Sample ID: 19050815-002**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

VCP Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: 3510C

Qualifier(s): See Batch 164260 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*91*	*%*	*40-126*	*1*	*05/09/19*	*05/13/19 21:38*	*1029*
Decachlorobiphenyl	*95*	*%*	*43-150*	*1*	*05/09/19*	*05/13/19 21:38*	*1029*

VCP Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	4.6		10	05/14/19	05/16/19 21:12	1029
2,4-D	ND	ug/L	1.9		10	05/14/19	05/16/19 21:12	1029
2,4,5-TP (Silvex)	ND	ug/L	0.19		10	05/14/19	05/16/19 21:12	1029
Dinoseb	ND	ug/L	0.95		10	05/14/19	05/16/19 21:12	1029

Surrogate(s)	*Recovery*		*Limits*				
2,4-Dichlorophenylacetic Acid	*90*	*%*	*64-126*	*10*	*05/14/19*	*05/16/19 21:12*	*1029*

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	05/11/19	05/11/19 18:59	1011
Benzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Bromochloromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Bromodichloromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Bromoform	ND	ug/L	5.0		1	05/11/19	05/11/19 18:59	1011
Bromomethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
2-Butanone (MEK)	ND	ug/L	10		1	05/11/19	05/11/19 18:59	1011
Carbon Disulfide	ND	ug/L	10		1	05/11/19	05/11/19 18:59	1011
Carbon tetrachloride	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Chlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: T-1100 Lead Ef **Date/Time Sampled: 05/08/2019 10:40** **PSS Sample ID: 19050815-002**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Chloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Chloroform	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Chloromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Cyclohexane	ND	ug/L	10		1	05/11/19	05/11/19 18:59	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0		1	05/11/19	05/11/19 18:59	1011
Dibromochloromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Ethylbenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	05/11/19	05/11/19 18:59	1011
Isopropylbenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Methyl Acetate	ND	ug/L	10		1	05/11/19	05/11/19 18:59	1011
Methylcyclohexane	ND	ug/L	10		1	05/11/19	05/11/19 18:59	1011
Methylene chloride	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	05/11/19	05/11/19 18:59	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Naphthalene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Styrene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: T-1100 Lead Ef **Date/Time Sampled: 05/08/2019 10:40** **PSS Sample ID: 19050815-002**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Tetrachloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Toluene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
1,1,1-Trichloroethane	**3.3**	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Trichloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	05/11/19	05/11/19 18:59	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
Vinyl chloride	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011
m&p-Xylene	ND	ug/L	2.0		1	05/11/19	05/11/19 18:59	1011
o-Xylene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:59	1011

Surrogate(s)	*Recovery*		*Limits*			
4-Bromofluorobenzene	*98*	*%*	*87-109*	*1*	*05/11/19*	*05/11/19 18:59*	*1011*
Dibromofluoromethane	*104*	*%*	*93-111*	*1*	*05/11/19*	*05/11/19 18:59*	*1011*
Toluene-D8	*98*	*%*	*91-109*	*1*	*05/11/19*	*05/11/19 18:59*	*1011*

1,4-Dioxane by GC/MS - SIM — Analytical Method: SW-846 8260 B-Modified — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,4-Dioxane (P-Dioxane)	**38**	ug/L	1.0		1	05/20/19	05/20/19 23:20	1011

Surrogate(s)	*Recovery*		*Limits*			
Toluene-D8	*84*	*%*	*80-120*	*1*	*05/20/19*	*05/20/19 23:20*	*1011*

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: T-1100 Lead Ef **Date/Time Sampled: 05/08/2019 10:40** **PSS Sample ID: 19050815-002**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

VCP Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Acenaphthylene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Anthracene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Benzo(a)anthracene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Benzo(a)pyrene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Benzo(b)fluoranthene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Benzo(g,h,i)perylene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Benzo(k)fluoranthene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
Carbazole	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
4-Chloroaniline	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
2-Chlorophenol	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
Chrysene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Dibenz(a,h)Anthracene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Dibenzofuran	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
1,2-Dichlorobenzene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
1,3-Dichlorobenzene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
1,4-Dichlorobenzene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
2,4-Dichlorophenol	ND	ug/L	2.0		1	05/08/19	05/08/19 21:18	1055
Diethyl phthalate	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
2,4-Dinitrophenol	ND	ug/L	10		1	05/08/19	05/08/19 21:18	1055
2,4-Dinitrotoluene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: T-1100 Lead Ef **Date/Time Sampled: 05/08/2019 10:40** **PSS Sample ID: 19050815-002**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

VCP Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Fluoranthene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Fluorene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Hexachlorobenzene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Hexachlorobutadiene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
Hexachloroethane	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Isophorone	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
2-Methylnaphthalene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
2-Methyl phenol	ND	ug/L	2.0		1	05/08/19	05/08/19 21:18	1055
3&4-Methylphenol	ND	ug/L	2.0		1	05/08/19	05/08/19 21:18	1055
Naphthalene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Nitrobenzene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
Pentachlorophenol	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
Phenanthrene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
Phenol	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
Pyrene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:18	1055
1,2,4-Trichlorobenzene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055
2,4,5-Trichlorophenol	ND	ug/L	2.0		1	05/08/19	05/08/19 21:18	1055
2,4,6-Trichlorophenol	ND	ug/L	2.0		1	05/08/19	05/08/19 21:18	1055
Bis(2-ethylhexyl)adipate	ND	ug/L	5.0		1	05/08/19	05/08/19 21:18	1055

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Sample ID: T-1100 Lead Ef **Date/Time Sampled: 05/08/2019 10:40** **PSS Sample ID: 19050815-002**

Matrix: WASTE WATER **Date/Time Received: 05/08/2019 13:00**

VCP Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*80*	*%*	*35-107*	*1*	*05/08/19*	*05/08/19 21:18*	*1055*
2-Fluorophenol	*66*	*%*	*32-106*	*1*	*05/08/19*	*05/08/19 21:18*	*1055*
Nitrobenzene-d5	*73*	*%*	*34-123*	*1*	*05/08/19*	*05/08/19 21:18*	*1055*
Phenol-d6	*66*	*%*	*36-111*	*1*	*05/08/19*	*05/08/19 21:18*	*1055*
Terphenyl-D14	*96*	*%*	*43-143*	*1*	*05/08/19*	*05/08/19 21:18*	*1055*
2,4,6-Tribromophenol	*79*	*%*	*26-122*	*1*	*05/08/19*	*05/08/19 21:18*	*1055*

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No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Influent VSP-1 **Date/Time Sampled: 05/08/2019 10:10** **PSS Sample ID: 19050815-003**

Matrix: GROUND WATER **Date/Time Received: 05/08/2019 13:00**

Dissolved Metals — Analytical Method: EPA 200.8 — Preparation Method: 200.8

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Copper	**3.9**	ug/L	1.0		1	05/09/19	05/09/19 19:21	1051
Iron	ND	ug/L	100		1	05/09/19	05/09/19 19:21	1051
Lead	ND	ug/L	1.0		1	05/09/19	05/09/19 19:21	1051
Nickel	**12.1**	ug/L	1.00		1	05/09/19	05/09/19 19:21	1051
Zinc	**20.8**	ug/L	20.0		1	05/09/19	05/09/19 19:21	1051

Total Metals + Hardness — Analytical Method: EPA 200.8 — Preparation Method: 200.8

Qualifier(s): See Batch 164117 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Copper	**4.6**	ug/L	1.0		1	05/09/19	05/09/19 16:21	1051
Iron	ND	ug/L	100		1	05/09/19	05/09/19 16:21	1051
Lead	ND	ug/L	1.0		1	05/09/19	05/09/19 16:21	1051
Nickel	**13.2**	ug/L	1.00		1	05/09/19	05/09/19 16:21	1051
Zinc	**23.7**	ug/L	20.0		1	05/09/19	05/09/19 16:21	1051
Hardness (Ca & Mg)	**18**	mg/L	0.66		1	05/09/19	05/09/19 16:21	1051

DOC by SM5310 — Analytical Method: SM 5310B -00

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Dissolved Organic Carbon	**0.52**	mg/L	0.50		05/13/19	05/13/19 19:01	4001

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CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Influent VSP-1 **Date/Time Sampled: 05/08/2019 10:10** **PSS Sample ID: 19050815-003**
Matrix: GROUND WATER **Date/Time Received: 05/08/2019 13:00**

MBAS Surfactants — Analytical Method: SM 5540C

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Surfactants	ND	mg/L	0.1		05/10/19	05/10/19 09:00	4009

Total Organic Carbon — Analytical Method: SM20 5310B

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Total Organic Carbon	**0.66**	mg/L	0.50		05/13/19	05/13/19 23:31	4001

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**0.075**	mg/L	0.040		1	05/09/19	05/09/19 16:11	1059
Surrogate(s)	***Recovery***		***Limits***					
o-Terphenyl	*94*	*%*	*38-114*		*1*	*05/09/19*	*05/09/19 16:11*	*1059*

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No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Influent VSP-1 **Date/Time Sampled: 05/08/2019 10:10** **PSS Sample ID: 19050815-003**
Matrix: GROUND WATER **Date/Time Received: 05/08/2019 13:00**

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**45**	ug/L	40		1	05/12/19	05/12/19 16:09	1045
Surrogate(s)	***Recovery***		***Limits***					
a,a,a-Trifluorotoluene	*90*	*%*	*64-142*		*1*	*05/12/19*	*05/12/19 16:09*	*1045*

VCP Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: 3510C

Qualifier(s): See Batch 164260 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
gamma-BHC (Lindane)	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
beta-BHC	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
delta-BHC	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
Heptachlor	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
Aldrin	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
Heptachlor epoxide	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
gamma-Chlordane	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
alpha-Chlordane	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
4,4-DDE	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
Endosulfan I	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
Dieldrin	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
Endrin	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
4,4-DDD	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
Endosulfan II	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
4,4-DDT	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
Endrin aldehyde	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
Methoxychlor	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
Endosulfan sulfate	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
Endrin ketone	ND	ug/L	0.040		1	05/09/19	05/13/19 22:05	1029
Toxaphene	ND	ug/L	1.0		1	05/09/19	05/13/19 22:05	1029

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CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Influent VSP-1 **Date/Time Sampled: 05/08/2019 10:10** **PSS Sample ID: 19050815-003**
Matrix: GROUND WATER **Date/Time Received: 05/08/2019 13:00**

VCP Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: 3510C

Qualifier(s): See Batch 164260 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*69*	*%*	*40-126*	*1*	*05/09/19*	*05/13/19 22:05*	*1029*
Decachlorobiphenyl	*104*	*%*	*43-150*	*1*	*05/09/19*	*05/13/19 22:05*	*1029*

VCP Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	4.6		10	05/14/19	05/16/19 21:44	1029
2,4-D	ND	ug/L	1.9		10	05/14/19	05/16/19 21:44	1029
2,4,5-TP (Silvex)	ND	ug/L	0.19		10	05/14/19	05/16/19 21:44	1029
Dinoseb	ND	ug/L	0.95		10	05/14/19	05/16/19 21:44	1029

Surrogate(s)	*Recovery*		*Limits*				
2,4-Dichlorophenylacetic Acid	*79*	*%*	*64-126*	*10*	*05/14/19*	*05/16/19 21:44*	*1029*

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

Qualifier(s): See Batch 164256 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	05/14/19	05/14/19 11:04	1011
Benzene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Bromochloromethane	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Bromodichloromethane	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Bromoform	ND	ug/L	5.0		1	05/14/19	05/14/19 11:04	1011
Bromomethane	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
2-Butanone (MEK)	ND	ug/L	10		1	05/14/19	05/14/19 11:04	1011
Carbon Disulfide	ND	ug/L	10		1	05/14/19	05/14/19 11:04	1011
Carbon tetrachloride	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Chlorobenzene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011

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No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Influent VSP-1 **Date/Time Sampled: 05/08/2019 10:10** **PSS Sample ID: 19050815-003**

Matrix: GROUND WATER **Date/Time Received: 05/08/2019 13:00**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

Qualifier(s): See Batch 164256 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Chloroethane	**4.0**	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Chloroform	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Chloromethane	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Cyclohexane	ND	ug/L	10		1	05/14/19	05/14/19 11:04	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0		1	05/14/19	05/14/19 11:04	1011
Dibromochloromethane	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
1,1-Dichloroethane	**51**	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
1,2-Dichloroethane	**1.8**	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
cis-1,2-Dichloroethene	**1.7**	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
1,1-Dichloroethene	**260**	ug/L	10		10	05/14/19	05/14/19 11:29	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Ethylbenzene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	05/14/19	05/14/19 11:04	1011
Isopropylbenzene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Methyl Acetate	ND	ug/L	10		1	05/14/19	05/14/19 11:04	1011
Methylcyclohexane	ND	ug/L	10		1	05/14/19	05/14/19 11:04	1011
Methylene chloride	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	05/14/19	05/14/19 11:04	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Naphthalene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Styrene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Influent VSP-1 **Date/Time Sampled: 05/08/2019 10:10** **PSS Sample ID: 19050815-003**

Matrix: GROUND WATER **Date/Time Received: 05/08/2019 13:00**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

Qualifier(s): See Batch 164256 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Tetrachloroethene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Toluene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
1,1,1-Trichloroethane	**29**	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Trichloroethene	**1.6**	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	05/14/19	05/14/19 11:04	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
Vinyl chloride	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011
m&p-Xylene	ND	ug/L	2.0		1	05/14/19	05/14/19 11:04	1011
o-Xylene	ND	ug/L	1.0		1	05/14/19	05/14/19 11:04	1011

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*96*	*%*	*87-109*		*1*	*05/14/19*	*05/14/19 11:04*	*1011*
Dibromofluoromethane	*106*	*%*	*93-111*		*1*	*05/14/19*	*05/14/19 11:04*	*1011*
Toluene-D8	*98*	*%*	*91-109*		*1*	*05/14/19*	*05/14/19 11:04*	*1011*
4-Bromofluorobenzene	*101*	*%*	*87-109*		*10*	*05/14/19*	*05/14/19 11:29*	*1011*
Dibromofluoromethane	*105*	*%*	*93-111*		*10*	*05/14/19*	*05/14/19 11:29*	*1011*
Toluene-D8	*95*	*%*	*91-109*		*10*	*05/14/19*	*05/14/19 11:29*	*1011*

1,4-Dioxane by GC/MS - SIM — Analytical Method: SW-846 8260 B-Modified — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,4-Dioxane (P-Dioxane)	**130**	ug/L	10		10	05/20/19	05/20/19 23:42	1011

Surrogate(s)	*Recovery*		*Limits*				
Toluene-D8	*97*	*%*	*80-120*		*10*	*05/20/19*	*05/20/19 23:42*	*1011*

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Influent VSP-1 **Date/Time Sampled: 05/08/2019 10:10** **PSS Sample ID: 19050815-003**

Matrix: GROUND WATER **Date/Time Received: 05/08/2019 13:00**

VCP Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Acenaphthylene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Anthracene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Benzo(a)anthracene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Benzo(a)pyrene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Benzo(b)fluoranthene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Benzo(g,h,i)perylene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Benzo(k)fluoranthene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
Carbazole	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
4-Chloroaniline	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
2-Chlorophenol	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
Chrysene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Dibenz(a,h)Anthracene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Dibenzofuran	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
1,2-Dichlorobenzene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
1,3-Dichlorobenzene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
1,4-Dichlorobenzene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
2,4-Dichlorophenol	ND	ug/L	2.0		1	05/08/19	05/08/19 21:46	1055
Diethyl phthalate	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
2,4-Dinitrophenol	ND	ug/L	10		1	05/08/19	05/08/19 21:46	1055
2,4-Dinitrotoluene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Influent VSP-1 **Date/Time Sampled: 05/08/2019 10:10** **PSS Sample ID: 19050815-003**

Matrix: GROUND WATER **Date/Time Received: 05/08/2019 13:00**

VCP Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Fluoranthene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Fluorene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Hexachlorobenzene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Hexachlorobutadiene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
Hexachloroethane	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Isophorone	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
2-Methylnaphthalene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
2-Methyl phenol	ND	ug/L	2.0		1	05/08/19	05/08/19 21:46	1055
3&4-Methylphenol	ND	ug/L	2.0		1	05/08/19	05/08/19 21:46	1055
Naphthalene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Nitrobenzene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
Pentachlorophenol	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
Phenanthrene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
Phenol	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
Pyrene	ND	ug/L	0.50		1	05/08/19	05/08/19 21:46	1055
1,2,4-Trichlorobenzene	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055
2,4,5-Trichlorophenol	ND	ug/L	2.0		1	05/08/19	05/08/19 21:46	1055
2,4,6-Trichlorophenol	ND	ug/L	2.0		1	05/08/19	05/08/19 21:46	1055
Bis(2-ethylhexyl)adipate	ND	ug/L	5.0		1	05/08/19	05/08/19 21:46	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: Influent VSP-1 **Date/Time Sampled: 05/08/2019 10:10** **PSS Sample ID: 19050815-003**
Matrix: GROUND WATER **Date/Time Received: 05/08/2019 13:00**

VCP Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: 3510C

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*75*	*%*	*35-107*	*1*	*05/08/19*	*05/08/19 21:46*	*1055*
2-Fluorophenol	*65*	*%*	*32-106*	*1*	*05/08/19*	*05/08/19 21:46*	*1055*
Nitrobenzene-d5	*71*	*%*	*34-123*	*1*	*05/08/19*	*05/08/19 21:46*	*1055*
Phenol-d6	*64*	*%*	*36-111*	*1*	*05/08/19*	*05/08/19 21:46*	*1055*
Terphenyl-D14	*97*	*%*	*43-143*	*1*	*05/08/19*	*05/08/19 21:46*	*1055*
2,4,6-Tribromophenol	*81*	*%*	*26-122*	*1*	*05/08/19*	*05/08/19 21:46*	*1055*

Sample ID: Rinse Water **Date/Time Sampled: 05/08/2019 09:25** **PSS Sample ID: 19050815-004**
Matrix: DRINKING WATER **Date/Time Received: 05/08/2019 13:00**

Residual Chlorine — Analytical Method: SM 4500-CL G -2011

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Total Chlorine	ND	mg/L	0.20		1	05/08/19	05/08/19 16:32	1059

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: TB-050819 **Date/Time Sampled: 05/08/2019 13:00** **PSS Sample ID: 19050815-005**

Matrix: WATER **Date/Time Received: 05/08/2019 13:00**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	05/11/19	05/11/19 18:17	1011
Benzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Bromochloromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Bromodichloromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Bromoform	ND	ug/L	5.0		1	05/11/19	05/11/19 18:17	1011
Bromomethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
2-Butanone (MEK)	ND	ug/L	10		1	05/11/19	05/11/19 18:17	1011
Carbon Disulfide	ND	ug/L	10		1	05/11/19	05/11/19 18:17	1011
Carbon tetrachloride	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Chlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Chloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Chloroform	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Chloromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Cyclohexane	ND	ug/L	10		1	05/11/19	05/11/19 18:17	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0		1	05/11/19	05/11/19 18:17	1011
Dibromochloromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: TB-050819 **Date/Time Sampled: 05/08/2019 13:00** **PSS Sample ID: 19050815-005**

Matrix: WATER **Date/Time Received: 05/08/2019 13:00**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Ethylbenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	05/11/19	05/11/19 18:17	1011
Isopropylbenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Methyl Acetate	ND	ug/L	10		1	05/11/19	05/11/19 18:17	1011
Methylcyclohexane	ND	ug/L	10		1	05/11/19	05/11/19 18:17	1011
Methylene chloride	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	05/11/19	05/11/19 18:17	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Naphthalene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Styrene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Tetrachloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Toluene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Trichloroethene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	05/11/19	05/11/19 18:17	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
Vinyl chloride	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011
m&p-Xylene	ND	ug/L	2.0		1	05/11/19	05/11/19 18:17	1011
o-Xylene	ND	ug/L	1.0		1	05/11/19	05/11/19 18:17	1011

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*97*	*%*	*87-109*		*1*	*05/11/19*	*05/11/19 18:17*	*1011*
Dibromofluoromethane	*101*	*%*	*93-111*		*1*	*05/11/19*	*05/11/19 18:17*	*1011*
Toluene-D8	*106*	*%*	*91-109*		*1*	*05/11/19*	*05/11/19 18:17*	*1011*

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 19050815

WSP USA - Herndon, Herndon, VA

May 22, 2019

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 31401545.010.04

Sample ID: TB-050819 **Date/Time Sampled: 05/08/2019 13:00** **PSS Sample ID: 19050815-005**

Matrix: WATER **Date/Time Received: 05/08/2019 13:00**

1,4-Dioxane by GC/MS - SIM Analytical Method: SW-846 8260 B-Modified Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,4-Dioxane (P-Dioxane)	ND	ug/L	1.0		1	05/20/19	05/20/19 22:37	1011
Surrogate(s)	***Recovery***		***Limits***					
Toluene-D8	*97*	*%*	*80-120*		*1*	*05/20/19*	*05/20/19 22:37*	*1011*

May 17, 2019 Service Request No:K1904176

Amy Friedlander
Phase Separation Science, Inc.
6630 Baltimore National Pike
Route 40 West
Baltimore, MD 21228

Laboratory Results for: 19050815

Dear Amy,

Enclosed are the results of the sample(s) submitted to our laboratory May 09, 2019
For your reference, these analyses have been assigned our service request number **K1904176.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3275. You may also contact me via email at Chris.Leaf@ALSGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Chris Leaf
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: Phase Separation Science, Inc
Project: 19050815
Sample Matrix: Water

Service Request: K1904176
Date Received: 05/09/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier I level requested by the client.

Sample Receipt:

Three water samples were received for analysis at ALS Environmental on 05/09/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by _____ Date 05/17/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: Influent VSP-1			Lab ID: K1904176-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Tannin and Lignin	0.03	J	0.03	0.20	mg/L	SM 5550 B

Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: Phase Separation Science, Inc **Service Request:**K1904176
Project: 19050815/31401545.010.04

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1904176-001	Effluent VSP-4	5/8/2019	1135
K1904176-002	T-1100 Lead Ef	5/8/2019	1040
K1904176-003	Influent VSP-1	5/8/2019	1010

Chain of Custody Form for Subcontracted Analyses

L1904176

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

For Questions or issues please contact: Amber Confer

W.O. No. : **19050815**
Project Location : Hanover, MD
Project Number : 31401545.010.04
Report To LOD : No

Report Due On :05/22/19 05:00

Samples Transferred To:
ALS Group USA, Corp. - WA
1317 S. 13th Avenue
Kelso, WA 98626
800.695.7222
Phone : 360.577.7222

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
19050815-001	Effluent VSP-4	05/08/19	11:35	Water	Tannin/Lignin	VARIOUS	250 COOL	COOL
19050815-002	T-1100 Lead Ef	05/08/19	10:40	Water	Tannin/Lignin	VARIOUS	250 COOL	COOL
19050815-003	Influent VSP-1	05/08/19	10:10	Water	Tannin/Lignin	VARIOUS	250 COOL	COOL

Data Deliverables Required: COA

Perform Q.C. on Sample : _____

Send Report Attn : reporting@phaseonline.com

Send InvoiceAttn : invoicing@phaseonline.com

Airbill No.: _____ Carrier : ND - Air Saver

Condition Upon Receipt : _____

Comments : **Please J-flag results.**

Samples Relinquished By : _____ Date : 5/8/19 Time: 1520 Samples Received By : _____

Samples Relinquished By: _____ Date : 5/9/19 Time : 0930 Samples Received By: _____

Samples Relinquished By: _____ Date: _____ Time: _____ Samples Received By: _____

PC CV

Cooler Receipt and Preservation Form

Client Phase Separation Sci Service Request *K19* 0417

Received: 5/9/19 Opened: 5/9/19 By: [illegible] Unloaded: 5/9/19 By: [illegible]

1. Samples were received via? *USPS* *Fed Ex* (*UPS*) *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.9	0.7	—	—	-0.2	384		1Z2313E4 1362 1556 24	

4. Packing material: *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N

   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Miscellaneous Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client:	Phase Separation Science, Inc	**Service Request:**	K1904176
Project:	19050815/31401545.010.04		

Sample Name:	Effluent VSP-4	**Date Collected:**	05/8/19
Lab Code:	K1904176-001	**Date Received:**	05/9/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
SM 5550 B		BDITZLER

Sample Name:	T-1100 Lead Ef	**Date Collected:**	05/8/19
Lab Code:	K1904176-002	**Date Received:**	05/9/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
SM 5550 B		BDITZLER

Sample Name:	Influent VSP-1	**Date Collected:**	05/8/19
Lab Code:	K1904176-003	**Date Received:**	05/9/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
SM 5550 B		BDITZLER

Sample Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	Phase Separation Science, Inc	**Service Request:**	K1904176
Project:	19050815/31401545.010.04	**Date Collected:**	05/08/19 11:35
Sample Matrix:	Water	**Date Received:**	05/09/19 09:30
Sample Name:	Effluent VSP-4	**Basis:**	NA
Lab Code:	K1904176-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Tannin and Lignin	SM 5550 B	ND U	mg/L	0.20	0.03	1	05/17/19 11:05	

Analytical Report

Client:	Phase Separation Science, Inc	**Service Request:**	K1904176
Project:	19050815/31401545.010.04	**Date Collected:**	05/08/19 10:40
Sample Matrix:	Water	**Date Received:**	05/09/19 09:30
Sample Name:	T-1100 Lead Ef	**Basis:**	NA
Lab Code:	K1904176-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Tannin and Lignin	SM 5550 B	ND U	mg/L	0.20	0.03	1	05/17/19 11:05	

Analytical Report

Client:	Phase Separation Science, Inc	**Service Request:**	K1904176
Project:	19050815/31401545.010.04	**Date Collected:**	05/08/19 10:10
Sample Matrix:	Water	**Date Received:**	05/09/19 09:30
Sample Name:	Influent VSP-1	**Basis:**	NA
Lab Code:	K1904176-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Tannin and Lignin	SM 5550 B	**0.03 J**	mg/L	0.20	0.03	1	05/17/19 11:05	

QC Summary Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	Phase Separation Science, Inc	**Service Request:**	K1904176
Project:	19050815/31401545.010.04	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1904176-MB		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Tannin and Lignin	SM 5550 B	ND U	mg/L	0.20	0.03	1	05/17/19 11:05	

Case Narrative Summary

Client Name: WSP USA - Herndon

Project Name: Kop-Flex

Work Order Number(s): 19050815
Project ID: 31401545.010.04

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

Sample aliquots for dissolved metals and DOC were not field filtered and were received unpreserved.
Received 17 containers for sample 001, COC indicates 12.

General Comments:
19050815: Analyses associated with analyst code 4001 were performed by
ALS Environmental 301 Fullling Mill Road Middletown, PA 17057.- PA- 22-293, VA-460157

19050815: Analyses associated with analyst code 4007 were performed by
Martel Laboratories 1025 Cromwell Bridge Road Baltimore, Maryland 21286

Analytical:

Total Metals + Hardness

Batch: 164117
Method Blank (MB)/(BLK) exceeded the acceptance criteria for iron at 60 ppb. All results were non-detect for this analyte.

Analytical:

VCP Organochlorine Pesticides

Batch: 164260
The recoveries of peaks 4 and 5 for closing Toxaphene were 79% with acceptance limits of 80-120%.

Analytical:

TCL Volatile Organic Compounds

Batch: 164256
Laboratory control sample exceedances identified; see LCS summary form.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.
SM 5540C

SW-846 8260 B-Modified: 1,4-Dioxane

Case Narrative Summary

Client Name: WSP USA - Herndon

Project Name: Kop-Flex

Work Order Number(s): 19050815

Project ID: 31401545.010.04

Analytical Data Package Information Summary

Work Order(s): 19050815
Report Prepared For: WSP USA - Herndon, Herndon, VA
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
EPA 200.8	T-1100 Lead Ef	Initial	19050815-002	1051	W	76718	164117	05/08/2019	05/09/2019 09:52	05/09/2019 16:15
	Influent VSP-1	Initial	19050815-003	1051	W	76718	164117	05/08/2019	05/09/2019 09:52	05/09/2019 16:21
	76718-1-BKS	BKS	76718-1-BKS	1051	W	76718	164117	--------	05/09/2019 09:52	05/09/2019 14:09
	76718-1-BLK	BLK	76718-1-BLK	1051	W	76718	164117	--------	05/09/2019 09:52	05/09/2019 14:03
	20190507HRP001 S	MS	19050807-001 S	1051	W	76718	164117	05/07/2019	05/09/2019 09:52	05/09/2019 15:12
	Manhole #1 - 24hr Comp S	MS	19050827-027 S	1051	W	76718	164117	05/07/2019	05/09/2019 09:52	05/09/2019 16:38
	20190507HRP001 SD	MSD	19050807-001 SD	1051	W	76718	164117	05/07/2019	05/09/2019 09:52	05/09/2019 15:18
EPA 200.8	T-1100 Lead Ef	Initial	19050815-002	1051	W	76730	164153	05/08/2019	05/09/2019 13:35	05/09/2019 19:16
	Influent VSP-1	Initial	19050815-003	1051	W	76730	164153	05/08/2019	05/09/2019 13:35	05/09/2019 19:21
	76730-1-BKS	BKS	76730-1-BKS	1051	W	76730	164153	--------	05/09/2019 13:35	05/09/2019 18:41
	76730-1-BLK	BLK	76730-1-BLK	1051	W	76730	164153	--------	05/09/2019 13:35	05/09/2019 18:35
	Settling 1 Out S	MS	19050806-003 S	1051	W	76730	164153	05/08/2019	05/09/2019 13:35	05/09/2019 18:53
	Settling 1 Out SD	MSD	19050806-003 SD	1051	W	76730	164153	05/08/2019	05/09/2019 13:35	05/09/2019 18:58
SM 4500-CL G - 2011	Rinse Water	Initial	19050815-004	1059	W	164090	164090	05/08/2019	05/08/2019 16:32	05/08/2019 16:32
	164090-1-LCS	BKS	164090-1-LCS	1059	W	164090	164090	--------	05/08/2019 16:32	05/08/2019 16:32
	164090-1-BLK	BLK	164090-1-BLK	1059	W	164090	164090	--------	05/08/2019 16:32	05/08/2019 16:32
	Rinse Water D	MD	19050815-004 D	1059	W	164090	164090	05/08/2019	05/08/2019 16:32	05/08/2019 16:32
SM 5310B -00	Effluent VSP-4	Initial	19050815-001	4001	W	164518	164518	05/08/2019	05/13/2019 19:01	05/13/2019 19:01
	T-1100 Lead Ef	Initial	19050815-002	4001	W	164518	164518	05/08/2019	05/13/2019 19:01	05/13/2019 19:01
	Influent VSP-1	Initial	19050815-003	4001	W	164518	164518	05/08/2019	05/13/2019 19:01	05/13/2019 19:01
SM 5540C	Effluent VSP-4	Initial	19050815-001	4009	W	164516	164516	05/08/2019	05/10/2019 09:00	05/10/2019 09:00
	T-1100 Lead Ef	Initial	19050815-002	4009	W	164516	164516	05/08/2019	05/10/2019 09:00	05/10/2019 09:00
	Influent VSP-1	Initial	19050815-003	4009	W	164516	164516	05/08/2019	05/10/2019 09:00	05/10/2019 09:00
SM20 5310B	Effluent VSP-4	Initial	19050815-001	4001	W	164517	164517	05/08/2019	05/13/2019 23:31	05/13/2019 23:31
	T-1100 Lead Ef	Initial	19050815-002	4001	W	164517	164517	05/08/2019	05/13/2019 23:31	05/13/2019 23:31
	Influent VSP-1	Initial	19050815-003	4001	W	164517	164517	05/08/2019	05/13/2019 23:31	05/13/2019 23:31

Analytical Data Package Information Summary

Work Order(s): **19050815**
Report Prepared For: WSP USA - Herndon, Herndon, VA
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8015 C	Influent VSP-1	Initial	19050815-003	1059	W	76714	164111	05/08/2019	05/09/2019 08:18	05/09/2019 16:11
	76714-1-BKS	BKS	76714-1-BKS	1059	W	76714	164111	--------	05/09/2019 08:18	05/09/2019 11:53
	76714-1-BLK	BLK	76714-1-BLK	1059	W	76714	164111	--------	05/09/2019 08:18	05/09/2019 15:46
	76714-1-BSD	BSD	76714-1-BSD	1059	W	76714	164111	--------	05/09/2019 08:18	05/09/2019 12:17
	Effluent VSP-4	Initial	19050815-001	1059	W	76714	164145	05/08/2019	05/09/2019 08:18	05/09/2019 15:46
	T-1100 Lead Ef	Initial	19050815-002	1059	W	76714	164145	05/08/2019	05/09/2019 08:18	05/09/2019 16:11
SW-846 8015C	Effluent VSP-4	Initial	19050815-001	1045	W	76797	164251	05/08/2019	05/12/2019 09:12	05/12/2019 15:23
	T-1100 Lead Ef	Initial	19050815-002	1045	W	76797	164251	05/08/2019	05/12/2019 09:12	05/12/2019 15:46
	Influent VSP-1	Initial	19050815-003	1045	W	76797	164251	05/08/2019	05/12/2019 09:12	05/12/2019 16:09
	76797-2-BKS	BKS	76797-2-BKS	1045	W	76797	164251	--------	05/12/2019 09:12	05/12/2019 09:36
	76797-2-BLK	BLK	76797-2-BLK	1045	W	76797	164251	--------	05/12/2019 09:12	05/12/2019 11:31
	76797-2-BSD	BSD	76797-2-BSD	1045	W	76797	164251	--------	05/12/2019 09:12	05/12/2019 09:59
	12957-Eff-5/19 S	MS	19050719-001 S	1045	W	76797	164251	05/06/2019	05/12/2019 09:12	05/12/2019 10:22
	12957-Eff-5/19 SD	MSD	19050719-001 SD	1045	W	76797	164251	05/06/2019	05/12/2019 09:12	05/12/2019 10:45
SW-846 8081 B	Effluent VSP-4	Initial	19050815-001	1029	W	76732	164260	05/08/2019	05/09/2019 14:21	05/13/2019 21:09
	T-1100 Lead Ef	Initial	19050815-002	1029	W	76732	164260	05/08/2019	05/09/2019 14:21	05/13/2019 21:38
	Influent VSP-1	Initial	19050815-003	1029	W	76732	164260	05/08/2019	05/09/2019 14:21	05/13/2019 22:05
	76732-1-BKS	BKS	76732-1-BKS	1029	W	76732	164260	--------	05/09/2019 14:21	05/10/2019 17:00
	76732-1-BLK	BLK	76732-1-BLK	1029	W	76732	164260	--------	05/09/2019 14:21	05/10/2019 16:03
	76732-1-BSD	BSD	76732-1-BSD	1029	W	76732	164260	--------	05/09/2019 14:21	05/10/2019 17:28
SW-846 8151 A	Effluent VSP-4	Initial	19050815-001	1029	W	76805	164400	05/08/2019	05/14/2019 18:44	05/16/2019 20:39
	T-1100 Lead Ef	Initial	19050815-002	1029	W	76805	164400	05/08/2019	05/14/2019 18:44	05/16/2019 21:12
	Influent VSP-1	Initial	19050815-003	1029	W	76805	164400	05/08/2019	05/14/2019 18:44	05/16/2019 21:44
	76805-1-BKS	BKS	76805-1-BKS	1029	W	76805	164400	--------	05/14/2019 18:44	05/16/2019 19:34
	76805-1-BLK	BLK	76805-1-BLK	1029	W	76805	164400	--------	05/14/2019 18:44	05/16/2019 19:02
	76805-1-BSD	BSD	76805-1-BSD	1029	W	76805	164400	--------	05/14/2019 18:44	05/16/2019 20:07
SW-846 8260 B	Effluent VSP-4	Initial	19050815-001	1011	W	76763	164190	05/08/2019	05/11/2019 08:26	05/11/2019 18:38

Analytical Data Package Information Summary

Work Order(s): 19050815
Report Prepared For: WSP USA - Herndon, Herndon, VA
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	T-1100 Lead Ef	Initial	19050815-002	1011	W	76763	164190	05/08/2019	05/11/2019 08:26	05/11/2019 18:59
	TB-050819	Initial	19050815-005	1011	W	76763	164190	05/08/2019	05/11/2019 08:26	05/11/2019 18:17
	76763-1-BKS	BKS	76763-1-BKS	1011	W	76763	164190	--------	05/11/2019 08:26	05/11/2019 10:23
	76763-1-BLK	BLK	76763-1-BLK	1011	W	76763	164190	--------	05/11/2019 08:26	05/11/2019 11:25
	PS-BF S	MS	19050731-001 S	1011	W	76763	164190	05/07/2019	05/11/2019 08:26	05/11/2019 13:49
	PS-BF SD	MSD	19050731-001 SD	1011	W	76763	164190	05/07/2019	05/11/2019 08:26	05/11/2019 14:10
	Influent VSP-1	Initial	19050815-003	1011	W	76802	164256	05/08/2019	05/14/2019 08:01	05/14/2019 11:04
	76802-1-BKS	BKS	76802-1-BKS	1011	W	76802	164256	--------	05/14/2019 08:01	05/14/2019 09:08
	76802-1-BLK	BLK	76802-1-BLK	1011	W	76802	164256	--------	05/14/2019 08:01	05/14/2019 10:10
	Influent VSP-1	Reanalysis	19050815-003	1011	W	76802	164256	05/08/2019	05/14/2019 08:01	05/14/2019 11:29
SW-846 8260 B-Modified	Effluent VSP-4	Initial	19050815-001	1011	W	76906	164492	05/08/2019	05/20/2019 16:43	05/20/2019 22:58
	T-1100 Lead Ef	Initial	19050815-002	1011	W	76906	164492	05/08/2019	05/20/2019 16:43	05/20/2019 23:20
	Influent VSP-1	Initial	19050815-003	1011	W	76906	164492	05/08/2019	05/20/2019 16:43	05/20/2019 23:42
	TB-050819	Initial	19050815-005	1011	W	76906	164492	05/08/2019	05/20/2019 16:43	05/20/2019 22:37
	76906-1-BKS	BKS	76906-1-BKS	1011	W	76906	164492	--------	05/20/2019 16:43	05/20/2019 20:49
	76906-1-BLK	BLK	76906-1-BLK	1011	W	76906	164492	--------	05/20/2019 16:43	05/20/2019 22:16
	76906-1-BSD	BSD	76906-1-BSD	1011	W	76906	164492	--------	05/20/2019 16:43	05/20/2019 21:11
SW-846 8270 C	Effluent VSP-4	Initial	19050815-001	1055	W	76709	164161	05/08/2019	05/08/2019 14:46	05/08/2019 22:42
	T-1100 Lead Ef	Initial	19050815-002	1055	W	76709	164161	05/08/2019	05/08/2019 14:46	05/08/2019 21:18
	Influent VSP-1	Initial	19050815-003	1055	W	76709	164161	05/08/2019	05/08/2019 14:46	05/08/2019 21:46
	76709-1-BKS	BKS	76709-1-BKS	1055	W	76709	164161	--------	05/08/2019 14:46	05/08/2019 19:27
	76709-1-BLK	BLK	76709-1-BLK	1055	W	76709	164161	--------	05/08/2019 14:46	05/08/2019 18:59
	76709-1-BSD	BSD	76709-1-BSD	1055	W	76709	164161	--------	05/08/2019 14:46	05/08/2019 19:55

PHASE SEPARATION SCIENCE, INC.

QC Summary 19050815

WSP USA - Herndon
Kop-Flex

Analytical Method: SM 4500-CL G -2011

Seq Number: 164090 Matrix: Drinking Water
Parent Sample Id: 19050815-004 MD Sample Id: 19050815-004 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Total Chlorine	<0.2000	<0.2000	0	20	mg/L	U

Analytical Method: EPA 200.8

Prep Method: E200.8_PREP
Seq Number: 164117 Matrix: Water Date Prep: 05/09/19
MB Sample Id: 76718-1-BLK LCS Sample Id: 76718-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<1.000	40.00	43.36	108	85-115	ug/L	
Iron	<100	400	426.8	107	85-115	ug/L	
Lead	<1.000	40.00	41.17	103	85-115	ug/L	
Nickel	<1.000	40.00	40.13	100	85-115	ug/L	
Zinc	<20.00	200	202.1	101	85-115	ug/L	

Analytical Method: EPA 200.8

Prep Method: E200.8_PREP
Seq Number: 164153 Matrix: Water Date Prep: 05/09/19
MB Sample Id: 76730-1-BLK LCS Sample Id: 76730-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<1.000	40.00	39.65	99	85-115	ug/L	
Iron	<100	400	398.7	100	85-115	ug/L	
Lead	<1.000	40.00	38.46	96	85-115	ug/L	
Nickel	<1.000	40.00	37.18	93	85-115	ug/L	
Zinc	<20.00	200	187.3	94	85-115	ug/L	

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QC Summary 19050815

WSP USA - Herndon
Kop-Flex

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 164260 Matrix: Water Date Prep: 05/09/19
MB Sample Id: 76732-1-BLK LCS Sample Id: 76732-1-BKS LCSD Sample Id: 76732-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
alpha-BHC	<0.04000	0.2000	0.1944	97	0.1945	97	57-118	0	20	ug/L	
gamma-BHC (Lindane)	<0.04000	0.2000	0.1976	99	0.1946	97	57-120	2	20	ug/L	
beta-BHC	<0.04000	0.2000	0.1892	95	0.1852	93	56-113	2	20	ug/L	
delta-BHC	<0.04000	0.2000	0.2004	100	0.1930	97	48-125	4	20	ug/L	
Heptachlor	<0.04000	0.2000	0.1974	99	0.1925	96	49-127	3	20	ug/L	
Aldrin	<0.04000	0.2000	0.1951	98	0.1904	95	57-119	2	20	ug/L	
Heptachlor epoxide	<0.04000	0.2000	0.1949	97	0.1881	94	62-116	4	20	ug/L	
gamma-Chlordane	<0.04000	0.2000	0.2043	102	0.1955	98	59-116	4	20	ug/L	
alpha-Chlordane	<0.04000	0.2000	0.2142	107	0.2046	102	68-109	5	20	ug/L	
4,4-DDE	<0.04000	0.2000	0.2060	103	0.1915	96	49-122	7	20	ug/L	
Endosulfan I	<0.04000	0.2000	0.2018	101	0.1927	96	71-108	5	20	ug/L	
Dieldrin	<0.04000	0.2000	0.2011	101	0.1902	95	60-117	6	20	ug/L	
Endrin	<0.04000	0.2000	0.1950	98	0.1792	90	48-132	8	20	ug/L	
4,4-DDD	<0.04000	0.2000	0.2096	105	0.1901	95	48-128	10	20	ug/L	
Endosulfan II	<0.04000	0.2000	0.2066	103	0.1915	96	59-118	8	20	ug/L	
4,4-DDT	<0.04000	0.2000	0.2200	110	0.1964	98	29-147	11	20	ug/L	
Endrin aldehyde	<0.04000	0.2000	0.1890	95	0.1765	88	54-122	7	20	ug/L	
Methoxychlor	<0.04000	0.2000	0.2102	105	0.1845	92	26-156	13	20	ug/L	
Endosulfan sulfate	<0.04000	0.2000	0.2078	104	0.1881	94	57-130	10	20	ug/L	
Endrin ketone	<0.04000	0.2000	0.2001	100	0.1795	90	55-123	11	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Decachlorobiphenyl	71		96		82		43-150	%
Tetrachloro-m-xylene	89		100		100		40-126	%

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 164400 Matrix: Water Date Prep: 05/14/19
MB Sample Id: 76805-1-BLK LCS Sample Id: 76805-1-BKS LCSD Sample Id: 76805-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Dalapon	<4.550	13.65	10.77	79	10.49	77	33-127	3	20	ug/L	
2,4-D	<1.880	5.640	4.839	86	4.740	84	70-104	2	20	ug/L	
2,4,5-TP (Silvex)	<0.1900	0.5700	0.6033	106	0.5976	105	59-122	1	20	ug/L	
Dinoseb	<0.9500	2.850	2.737	96	2.687	94	48-110	2	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
2,4-Dichlorophenylacetic Acid	94		97		98		64-126	%

PHASE SEPARATION SCIENCE, INC.

QC Summary 19050815

WSP USA - Herndon
Kop-Flex

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 164111 Matrix: Water Date Prep: 05/09/19
MB Sample Id: 76714-1-BLK LCS Sample Id: 76714-1-BKS LCSD Sample Id: 76714-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-DRO (Diesel Range Organics)	<0.04000	1.000	0.8425	84	0.8258	83	53-113	2	21	mg/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
o-Terphenyl	86		91		87		38-114	%

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QC Summary 19050815

WSP USA - Herndon

Kop-Flex

Analytical Method: SW-846 8270 C Prep Method: SW3510C

Seq Number: 164161 Matrix: Water Date Prep: 05/08/19

MB Sample Id: 76709-1-BLK LCS Sample Id: 76709-1-BKS LCSD Sample Id: 76709-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Acenaphthene	<0.5000	40.00	33.51	84	36.70	92	67-110	9	20	ug/L	
Acenaphthylene	<0.5000	40.00	33.25	83	36.90	92	69-106	10	20	ug/L	
Anthracene	<0.5000	40.00	37.54	94	38.09	95	79-108	1	20	ug/L	
Benzo(a)anthracene	<0.5000	40.00	40.17	100	41.16	103	76-109	2	20	ug/L	
Benzo(a)pyrene	<0.5000	40.00	38.88	97	40.15	100	76-114	3	20	ug/L	
Benzo(b)fluoranthene	<0.5000	40.00	37.47	94	39.36	98	67-121	5	20	ug/L	
Benzo(g,h,i)perylene	<0.5000	40.00	37.98	95	39.32	98	75-107	3	20	ug/L	
Benzo(k)fluoranthene	<0.5000	40.00	38.47	96	38.79	97	62-132	1	20	ug/L	
bis(2-chloroethyl) ether	<5.000	40.00	29.74	74	32.60	82	62-103	9	20	ug/L	
bis(2-chloroisopropyl) ether	<5.000	40.00	27.53	69	30.96	77	50-103	12	20	ug/L	
bis(2-ethylhexyl) phthalate	<5.000	40.00	42.50	106	43.18	108	78-114	2	20	ug/L	
Di-n-butyl phthalate	<5.000	40.00	37.30	93	37.72	94	71-115	1	20	ug/L	
Carbazole	<5.000	40.00	41.30	103	43.06	108	52-134	4	20	ug/L	
4-Chloroaniline	<5.000	40.00	30.42	76	33.41	84	54-103	9	20	ug/L	
2-Chloronaphthalene	<5.000	40.00	31.60	79	36.32	91	66-105	14	20	ug/L	
2-Chlorophenol	<5.000	40.00	29.63	74	33.50	84	63-109	12	20	ug/L	
Chrysene	<0.5000	40.00	41.86	105	42.42	106	78-111	1	20	ug/L	
Dibenz(a,h)Anthracene	<0.5000	40.00	38.36	96	39.64	99	76-106	3	20	ug/L	
Dibenzofuran	<5.000	40.00	35.14	88	37.48	94	70-111	6	20	ug/L	
1,2-Dichlorobenzene	<5.000	40.00	28.18	70	31.33	78	64-108	11	20	ug/L	
1,3-Dichlorobenzene	<5.000	40.00	28.02	70	31.07	78	62-104	10	20	ug/L	
1,4-Dichlorobenzene	<5.000	40.00	27.86	70	31.22	78	63-108	11	20	ug/L	
3,3-Dichlorobenzidine	<5.000	40.00	45.25	113	46.59	116	79-132	3	20	ug/L	
2,4-Dichlorophenol	<2.000	40.00	32.24	81	35.85	90	65-118	11	20	ug/L	
Diethyl phthalate	<5.000	40.00	38.22	96	39.16	98	60-114	2	20	ug/L	
2,4-Dimethylphenol	<5.000	40.00	32.78	82	36.65	92	60-119	11	20	ug/L	
2,4-Dinitrophenol	<10.00	40.00	39.99	100	42.46	106	36-136	6	20	ug/L	
2,4-Dinitrotoluene	<0.5000	40.00	40.02	100	40.93	102	70-119	2	20	ug/L	
2,6-Dinitrotoluene	<5.000	40.00	38.05	95	39.30	98	68-117	3	20	ug/L	
Fluoranthene	<0.5000	40.00	38.50	96	39.59	99	79-112	3	20	ug/L	
Fluorene	<0.5000	40.00	35.99	90	38.04	95	71-109	6	20	ug/L	
Hexachlorobenzene	<0.5000	40.00	37.02	93	38.43	96	76-110	4	20	ug/L	
Hexachlorobutadiene	<0.5000	40.00	29.55	74	33.30	83	64-113	12	20	ug/L	
Hexachlorocyclopentadiene	<5.000	40.00	31.37	78	36.60	92	49-124	15	20	ug/L	
Hexachloroethane	<0.5000	40.00	28.29	71	30.57	76	62-105	8	20	ug/L	
Indeno(1,2,3-c,d)Pyrene	<0.5000	40.00	38.41	96	40.31	101	69-120	5	20	ug/L	
Isophorone	<5.000	40.00	37.67	94	41.47	104	68-108	10	20	ug/L	
2-Methylnaphthalene	<0.5000	40.00	32.15	80	36.81	92	64-117	14	20	ug/L	
2-Methyl phenol	<2.000	40.00	30.16	75	34.28	86	67-111	13	20	ug/L	
3&4-Methylphenol	<2.000	40.00	31.12	78	34.56	86	67-107	10	20	ug/L	
Naphthalene	<0.5000	40.00	30.23	76	33.72	84	65-103	11	20	ug/L	
Nitrobenzene	<0.5000	40.00	29.84	75	33.39	83	60-107	11	20	ug/L	
N-Nitrosodi-n-propyl amine	<5.000	40.00	30.78	77	34.24	86	60-98	11	20	ug/L	
N-Nitrosodiphenylamine	<5.000	40.00	37.54	94	39.08	98	68-106	4	20	ug/L	
Pentachlorophenol	<5.000	40.00	36.22	91	38.12	95	63-119	5	20	ug/L	
Phenanthrene	<0.5000	40.00	35.91	90	37.36	93	73-109	4	20	ug/L	
Phenol	<5.000	40.00	28.28	71	31.99	80	65-110	12	20	ug/L	
Pyrene	<0.5000	40.00	42.77	107	43.45	109	78-111	2	20	ug/L	
1,2,4-Trichlorobenzene	<5.000	40.00	31.21	78	35.01	88	67-108	11	20	ug/L	
2,4,5-Trichlorophenol	<2.000	40.00	35.37	88	38.55	96	69-114	9	20	ug/L	
2,4,6-Trichlorophenol	<2.000	40.00	31.86	80	34.82	87	68-118	9	20	ug/L	

PHASE SEPARATION SCIENCE, INC.

QC Summary 19050815

WSP USA - Herndon
Kop-Flex

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 164161 Matrix: Water Date Prep: 05/08/19
MB Sample Id: 76709-1-BLK LCS Sample Id: 76709-1-BKS LCSD Sample Id: 76709-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Bis(2-ethylhexyl)adipate	<5.000	40.00	44.02	110	44.73	112	78-116	2	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
2-Fluorobiphenyl	92		87		94		35-107	%
2-Fluorophenol	86		76		80		32-106	%
Nitrobenzene-d5	88		81		85		34-123	%
Phenol-d6	79		75		81		36-111	%
Terphenyl-D14	86		101		97		43-143	%
2,4,6-Tribromophenol	84		99		96		26-122	%

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 164251 Matrix: Water Date Prep: 05/12/19
MB Sample Id: 76797-2-BLK LCS Sample Id: 76797-2-BKS LCSD Sample Id: 76797-2-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-GRO (Gasoline Range Organics	<40	5000	5100	102	4900	98	58-141	4	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
a,a,a-Trifluorotoluene	93		95		96		64-142	%

PHASE SEPARATION SCIENCE, INC.

QC Summary 19050815

WSP USA - Herndon
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B

Seq Number: 164190 Matrix: Water Date Prep: 05/11/19

MB Sample Id: 76763-1-BLK LCS Sample Id: 76763-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acetone	<10.00	50.00	57.89	116	55-120	ug/L	
Benzene	<1.000	50.00	54.06	108	87-123	ug/L	
Bromochloromethane	<1.000	50.00	59.41	119	74-136	ug/L	
Bromodichloromethane	<1.000	50.00	55.52	111	83-125	ug/L	
Bromoform	<5.000	50.00	53.65	107	72-129	ug/L	
Bromomethane	<1.000	50.00	48.06	96	45-167	ug/L	
2-Butanone (MEK)	<10.00	50.00	54.46	109	45-136	ug/L	
Carbon Disulfide	<10.00	50.00	52.13	104	87-123	ug/L	
Carbon tetrachloride	<1.000	50.00	55.80	112	79-133	ug/L	
Chlorobenzene	<1.000	50.00	54.99	110	87-127	ug/L	
Chloroethane	<1.000	50.00	50.34	101	81-122	ug/L	
Chloroform	<1.000	50.00	52.48	105	76-129	ug/L	
Chloromethane	<1.000	50.00	51.64	103	59-121	ug/L	
Cyclohexane	<10.00	50.00	56.62	113	83-122	ug/L	
1,2-Dibromo-3-chloropropane	<5.000	50.00	46.64	93	63-140	ug/L	
Dibromochloromethane	<1.000	50.00	53.82	108	73-139	ug/L	
1,2-Dibromoethane	<1.000	50.00	55.71	111	80-127	ug/L	
1,2-Dichlorobenzene	<1.000	50.00	54.95	110	82-129	ug/L	
1,3-Dichlorobenzene	<1.000	50.00	53.96	108	88-127	ug/L	
Dichlorodifluoromethane	<1.000	50.00	50.85	102	70-131	ug/L	
1,4-Dichlorobenzene	<1.000	50.00	52.67	105	84-129	ug/L	
1,1-Dichloroethane	<1.000	50.00	53.05	106	85-120	ug/L	
1,2-Dichloroethane	<1.000	50.00	53.17	106	86-125	ug/L	
cis-1,2-Dichloroethene	<1.000	50.00	56.11	112	86-126	ug/L	
1,1-Dichloroethene	<1.000	50.00	57.34	115	85-123	ug/L	
1,2-Dichloropropane	<1.000	50.00	53.44	107	83-120	ug/L	
cis-1,3-Dichloropropene	<1.000	50.00	50.83	102	81-125	ug/L	
trans-1,3-Dichloropropene	<1.000	50.00	51.23	102	79-121	ug/L	
trans-1,2-Dichloroethene	<1.000	50.00	53.61	107	87-120	ug/L	
Ethylbenzene	<1.000	50.00	58.31	117	82-128	ug/L	
2-Hexanone (MBK)	<5.000	50.00	51.21	102	56-116	ug/L	
Isopropylbenzene	<1.000	50.00	57.52	115	81-128	ug/L	
Methyl Acetate	<10.00	50.00	48.33	97	68-129	ug/L	
Methylcyclohexane	<10.00	50.00	57.35	115	84-127	ug/L	
Methylene chloride	<1.000	50.00	52.87	106	85-119	ug/L	
4-Methyl-2-Pentanone (MIBK)	<5.000	50.00	47.57	95	57-116	ug/L	
Methyl-t-Butyl Ether	<1.000	50.00	48.92	98	61-130	ug/L	
Naphthalene	<1.000	50.00	51.12	102	74-114	ug/L	
Styrene	<1.000	50.00	53.95	108	76-130	ug/L	
1,1,2,2-Tetrachloroethane	<1.000	50.00	51.43	103	79-131	ug/L	
Tetrachloroethene	<1.000	50.00	54.56	109	85-131	ug/L	
Toluene	<1.000	50.00	53.88	108	82-127	ug/L	
1,2,3-Trichlorobenzene	<1.000	50.00	54.92	110	79-123	ug/L	
1,2,4-Trichlorobenzene	<1.000	50.00	54.01	108	78-123	ug/L	
1,1,1-Trichloroethane	<1.000	50.00	55.75	112	87-125	ug/L	
Trichloroethene	<1.000	50.00	53.28	107	87-124	ug/L	
1,1,2-Trichloroethane	<1.000	50.00	53.17	106	84-127	ug/L	
Trichlorofluoromethane	<5.000	50.00	58.23	116	85-130	ug/L	
1,1,2-Trichlorotrifluoroethane	<1.000	50.00	56.97	114	81-132	ug/L	
Vinyl chloride	<1.000	50.00	53.61	107	66-133	ug/L	
m&p-Xylene	<2.000	100	116.2	116	78-126	ug/L	

PHASE SEPARATION SCIENCE, INC.

QC Summary 19050815

WSP USA - Herndon
Kop-Flex

Analytical Method: SW-846 8260 B
Prep Method: SW5030B
Seq Number: 164190
Matrix: Water
Date Prep: 05/11/19
MB Sample Id: 76763-1-BLK
LCS Sample Id: 76763-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
o-Xylene	<1.000	50.00	53.97	108	75-130	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
4-Bromofluorobenzene	97		97		87-109	%
Dibromofluoromethane	103		103		93-111	%
Toluene-D8	96		97		91-109	%

PHASE SEPARATION SCIENCE, INC.

QC Summary 19050815

WSP USA - Herndon
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B

Seq Number: 164256 Matrix: Water Date Prep: 05/14/19

MB Sample Id: 76802-1-BLK LCS Sample Id: 76802-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acetone	<10.00	50.00	62.90	126	55-120	ug/L	H
Benzene	<1.000	50.00	51.04	102	87-123	ug/L	
Bromochloromethane	<1.000	50.00	52.01	104	74-136	ug/L	
Bromodichloromethane	<1.000	50.00	53.25	107	83-125	ug/L	
Bromoform	<5.000	50.00	44.89	90	72-129	ug/L	
Bromomethane	<1.000	50.00	48.82	98	45-167	ug/L	
2-Butanone (MEK)	<10.00	50.00	58.67	117	45-136	ug/L	
Carbon Disulfide	<10.00	50.00	50.33	101	87-123	ug/L	
Carbon tetrachloride	<1.000	50.00	52.41	105	79-133	ug/L	
Chlorobenzene	<1.000	50.00	49.45	99	87-127	ug/L	
Chloroethane	<1.000	50.00	50.66	101	81-122	ug/L	
Chloroform	<1.000	50.00	51.57	103	76-129	ug/L	
Chloromethane	<1.000	50.00	50.59	101	59-121	ug/L	
Cyclohexane	<10.00	50.00	55.79	112	83-122	ug/L	
1,2-Dibromo-3-chloropropane	<5.000	50.00	38.43	77	63-140	ug/L	
Dibromochloromethane	<1.000	50.00	46.36	93	73-139	ug/L	
1,2-Dibromoethane	<1.000	50.00	49.60	99	80-127	ug/L	
1,2-Dichlorobenzene	<1.000	50.00	48.58	97	82-129	ug/L	
1,3-Dichlorobenzene	<1.000	50.00	48.29	97	88-127	ug/L	
Dichlorodifluoromethane	<1.000	50.00	50.93	102	70-131	ug/L	
1,4-Dichlorobenzene	<1.000	50.00	47.87	96	84-129	ug/L	
1,1-Dichloroethane	<1.000	50.00	53.33	107	85-120	ug/L	
1,2-Dichloroethane	<1.000	50.00	56.36	113	86-125	ug/L	
cis-1,2-Dichloroethene	<1.000	50.00	52.14	104	86-126	ug/L	
1,1-Dichloroethene	<1.000	50.00	54.01	108	85-123	ug/L	
1,2-Dichloropropane	<1.000	50.00	51.31	103	83-120	ug/L	
cis-1,3-Dichloropropene	<1.000	50.00	47.86	96	81-125	ug/L	
trans-1,3-Dichloropropene	<1.000	50.00	49.59	99	79-121	ug/L	
trans-1,2-Dichloroethene	<1.000	50.00	49.60	99	87-120	ug/L	
Ethylbenzene	<1.000	50.00	51.18	102	82-128	ug/L	
2-Hexanone (MBK)	<5.000	50.00	54.68	109	56-116	ug/L	
Isopropylbenzene	<1.000	50.00	50.73	101	81-128	ug/L	
Methyl Acetate	<10.00	50.00	46.83	94	68-129	ug/L	
Methylcyclohexane	<10.00	50.00	53.07	106	84-127	ug/L	
Methylene chloride	<1.000	50.00	51.25	103	85-119	ug/L	
4-Methyl-2-Pentanone (MIBK)	<5.000	50.00	49.28	99	57-116	ug/L	
Methyl-t-Butyl Ether	<1.000	50.00	47.53	95	61-130	ug/L	
Naphthalene	<1.000	50.00	44.79	90	74-114	ug/L	
Styrene	<1.000	50.00	47.71	95	76-130	ug/L	
1,1,2,2-Tetrachloroethane	<1.000	50.00	45.06	90	79-131	ug/L	
Tetrachloroethene	<1.000	50.00	58.08	116	85-131	ug/L	
Toluene	<1.000	50.00	54.80	110	82-127	ug/L	
1,2,3-Trichlorobenzene	<1.000	50.00	49.17	98	79-123	ug/L	
1,2,4-Trichlorobenzene	<1.000	50.00	48.55	97	78-123	ug/L	
1,1,1-Trichloroethane	<1.000	50.00	54.59	109	87-125	ug/L	
Trichloroethene	<1.000	50.00	50.56	101	87-124	ug/L	
1,1,2-Trichloroethane	<1.000	50.00	55.07	110	84-127	ug/L	
Trichlorofluoromethane	<5.000	50.00	55.64	111	85-130	ug/L	
1,1,2-Trichlorotrifluoroethane	<1.000	50.00	54.55	109	81-132	ug/L	
Vinyl chloride	<1.000	50.00	56.00	112	66-133	ug/L	
m&p-Xylene	<2.000	100	103.5	104	78-126	ug/L	

PHASE SEPARATION SCIENCE, INC.

QC Summary 19050815

WSP USA - Herndon
Kop-Flex

Analytical Method: SW-846 8260 B

Prep Method: SW5030B
Seq Number: 164256
Matrix: Water
Date Prep: 05/14/19
MB Sample Id: 76802-1-BLK
LCS Sample Id: 76802-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
o-Xylene	<1.000	50.00	48.03	96	75-130	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
4-Bromofluorobenzene	98		95		87-109	%
Dibromofluoromethane	105		106		93-111	%
Toluene-D8	103		108		91-109	%

Analytical Method: SW-846 8260 B-Modified

Prep Method: SW5030B
Seq Number: 164492
Matrix: Water
Date Prep: 05/20/19
MB Sample Id: 76906-1-BLK
LCS Sample Id: 76906-1-BKS
LCSD Sample Id: 76906-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
1,4-Dioxane (P-Dioxane)	<1.000	30.00	31.93	106	29.82	99	50-150	7	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Toluene-D8	98		87		85		80-120	%

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC. Internal samples

www.phaseonline.com
email: info@phaseonline.com

(1) *CLIENT: WSP *OFFICE LOC.: Herndon VA
*PROJECT MGR: Eric Johnson *PHONE NO.: (703) 709-6500
EMAIL: eric.johnson@wsp.com FAX NO.: ( )
*PROJECT NAME: Kyflex 31401545:010.04 PROJECT NO.:
SITE LOCATION: Hanover MD P.O. NO.:
SAMPLER(S): MSK DW CERT NO.:

PSS Work Order #: 1905081S PAGE 1 OF 2

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2)

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Preservatives Used	HCl	H2SO4	H2SO4	HNO3					HCl		
							Analysis/ Method Required (3) *	1,4-Dioxane (8260 SIM)	VOCs (8260)	Total metals (Pb, Li, Zn, Fe)	Hardness (as CaCO3)	Dissolved metals (Pb, Li, Zn, Fe)	Residual Chlorine	MBAS surfactants	DOC (SM5310B)	Total org. carbon (SM5310B)	Tannin/Lignin	TPH-DRO	REMARKS
1	Effluent VSP-4	5/8/19	1135	WW	12	G		X	X					X	X	X	X	X	
2	T-1100 Lead Ef	5/8/19	1040	WW	19	G		X	X	X	X	X		X	X	X	X	X	lab filter dissolved metals
3	Influent VSP-1	5/8/19	1010	GW	19	G		X	X	X	X	X		X	X	X	X	X	
4	Rinse Water	5/8/19	0925	DW	2	G							X						
5	TB-050819	—	—	DW	4	G		X	X										

(5)

Relinquished By: (1)	Date	Time	Received By:
	5/8/19	1300	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

*Requested TAT (One TAT per COC)
☐ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☒ Other

Data Deliverables Required:
COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER ____

# of Coolers: 4 TB: 2.8°-4.5°C
Custody Seal: Cooler-Intact
Ice Present: PRES Temp: 4.1°-7.5°C
Shipping Carrier: CLIENT

Special Instructions: Include Fe in metals analysis, 10 day TAT, lab to filter dissolved metals

DW COMPLIANCE? YES ☐ EDD FORMAT TYPE ____

STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER ____

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC. Internal sample cont.

www.phaseonline.com
email: info@phaseonline.com

1

*CLIENT: WSP *OFFICE LOC. Hernden VA

*PROJECT MGR: Eric Johnson *PHONE NO.: 703) 709- 6500

EMAIL: eric.johnson@wsp.com FAX NO.: ( )

*PROJECT NAME: Kopflex 31401545.010.04 PROJECT NO.:

SITE LOCATION: Hanover MD P.O. NO.:

SAMPLER(S): MJC DW CERT NO.:

PSS Work Order #: 1905081S PAGE 2 OF 2

Matrix Codes: **SW**=Surface Wtr **DW**=Drinking Wtr **GW**=Ground Wtr **WW**=Waste Wtr **O**=Oil **S**=Soil **L**=Liquid **SOL**=Solid **A**=Air **WI**=Wipe

2

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Preservatives Used: H4	Analysis/ Method Required ③ * TPH - GRO	VCP- chlorin. Herbicides	VCP- Pesticides	VCP- semivolatile organic comp.	REMARKS
1	Effluent VSP-4	5/8/19		WW	12	G		X	X	X	X	
2	T-1100 Lead Ef	5/8/19	1040	WW	19	G		X	X	X	X	
3	Influent VSP-1	5/8/19	1010	GW	19	G		X	X	X	X	

5

Relinquished By:	Date	Time	Received By:
(1)	5/8/19	1300	
(2)			
(3)			
(4)			

4

*Requested TAT (One TAT per COC)
☐ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☒ Other

Data Deliverables Required:
COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER

# of Coolers: 4

Custody Seal: Cooler-Intact

Ice Present: PRES Temp: 4.1°-7.5°

Shipping Carrier: CLW2

Special Instructions:
10 Day TAT

DW COMPLIANCE? YES ☐

EDD FORMAT TYPE

STATE RESULTS REPORTED TO:
MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	19050815	**Received By**	Thomas Wingate
Client Name	WSP USA - Herndon	**Date Received**	05/08/2019 01:00:00 PM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	31401545.010.04	**Tracking No**	Not Applicable
Disposal Date	06/12/2019	**Logged In By**	Thomas Wingate

Shipping Container(s)

No. of Coolers 4

		Ice	Present
Custody Seal(s) Intact?	Yes	Temp (deg C)	7.5
Seal(s) Signed / Dated?	Yes	Temp Blank Present	Yes

Documentation

		Sampler Name	Maria Kaplan
COC agrees with sample labels?	Yes	MD DW Cert. No.	N/A
Chain of Custody	Yes		

Sample Container

		Custody Seal(s) Intact?	Not Applicable
Appropriate for Specified Analysis?	Yes	Seal(s) Signed / Dated	Not Applicable
Intact?	Yes		
Labeled and Labels Legible?	Yes		

Total No. of Samples Received 5 Total No. of Containers Received 61

Preservation

Total Metals	(pH<2)	Yes
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	No
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	No
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Sample aliquots for dissolved metals and DOC were not field filtered and were received unpreserved.
Received 17 containers for sample 001, COC indicates 12.

Samples Inspected/Checklist Completed By: Thomas Wingate Date: 05/08/2019

Thomas Wingate

PM Review and Approval: Lynn Jackson Date: 05/09/2019

Lynn Jackson

ENCLOSURE B – LABORATORY ANALYTICAL REPORT, SEMI-ANNUAL (MAY 2019) GROUNDWATER MONITORING EVENT, MONITORING WELL SAMPLES

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

June 04, 2019

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

RE: Project: Kopflex Onsite
Pace Project No.: 92430510

Dear Eric Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on May 24, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

cc: Molly Long, WSP

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

CERTIFICATIONS

Project: Kopflex Onsite
Pace Project No.: 92430510

Charlotte Certification IDs

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: Kopflex Onsite
Pace Project No.: 92430510

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92430510001	**MW-27D**	Water	05/21/19 09:05	05/24/19 09:50
92430510002	**MW-03**	Water	05/21/19 09:20	05/24/19 09:50
92430510003	**MW-43**	Water	05/21/19 09:35	05/24/19 09:50
92430510004	**MW-05R**	Water	05/21/19 09:45	05/24/19 09:50
92430510005	**MW-39**	Water	05/21/19 10:05	05/24/19 09:50
92430510006	**MW-42**	Water	05/21/19 10:15	05/24/19 09:50
92430510007	**MW-18**	Water	05/21/19 10:25	05/24/19 09:50
92430510008	**MW-40D**	Water	05/21/19 10:35	05/24/19 09:50
92430510009	**MW-38R**	Water	05/21/19 11:00	05/24/19 09:50
92430510010	**MW-44**	Water	05/21/19 11:55	05/24/19 09:50
92430510011	**MW-21D**	Water	05/21/19 14:55	05/24/19 09:50
92430510012	**MW-41D**	Water	05/21/19 15:15	05/24/19 09:50
92430510013	**MW-1D**	Water	05/21/19 15:30	05/24/19 09:50
92430510014	**MW-22D**	Water	05/21/19 15:55	05/24/19 09:50
92430510015	**MW-04**	Water	05/21/19 16:05	05/24/19 09:50
92430510016	**MW-20**	Water	05/21/19 16:20	05/24/19 09:50
92430510017	**MW-09**	Water	05/21/19 16:30	05/24/19 09:50
92430510018	**MW-23D**	Water	05/21/19 16:40	05/24/19 09:50
92430510019	**MW-16**	Water	05/22/19 09:25	05/24/19 09:50
92430510020	**DUP 052219**	Water	05/22/19 08:00	05/24/19 09:50
92430510021	**MW-16D**	Water	05/22/19 09:40	05/24/19 09:50
92430510022	**Trip Blank**	Water	05/22/19 00:00	05/24/19 09:50

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SAMPLE ANALYTE COUNT

Project: Kopflex Onsite
Pace Project No.: 92430510

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92430510001	MW-27D	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510002	MW-03	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510003	MW-43	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510004	MW-05R	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510005	MW-39	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510006	MW-42	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510007	MW-18	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510008	MW-40D	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510009	MW-38R	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510010	MW-44	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510011	MW-21D	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510012	MW-41D	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510013	MW-1D	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510014	MW-22D	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510015	MW-04	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510016	MW-20	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510017	MW-09	EPA 8260B	NSCQ	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510018	MW-23D	EPA 8260B	NSCQ	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510019	MW-16	EPA 8260B	DLK	63	PASI-C

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SAMPLE ANALYTE COUNT

Project: Kopflex Onsite
Pace Project No.: 92430510

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260B Mod.	SAS	3	PASI-C
92430510020	**DUP 052219**	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510021	**MW-16D**	EPA 8260B	NSCQ	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430510022	**Trip Blank**	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C

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ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-27D **Lab ID: 92430510001** Collected: 05/21/19 09:05 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/29/19 16:22	67-64-1	
Benzene	ND	ug/L	1.0	1		05/29/19 16:22	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/29/19 16:22	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/29/19 16:22	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/19 16:22	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/19 16:22	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/19 16:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/19 16:22	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/19 16:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/19 16:22	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/29/19 16:22	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/29/19 16:22	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/29/19 16:22	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 16:22	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 16:22	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/29/19 16:22	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/19 16:22	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/19 16:22	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/19 16:22	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:22	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:22	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:22	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/29/19 16:22	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/29/19 16:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/19 16:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/29/19 16:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 16:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 16:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 16:22	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/29/19 16:22	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 16:22	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/29/19 16:22	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 16:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 16:22	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/29/19 16:22	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/29/19 16:22	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/29/19 16:22	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/29/19 16:22	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/29/19 16:22	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/29/19 16:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/19 16:22	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/29/19 16:22	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/29/19 16:22	91-20-3	
Styrene	ND	ug/L	1.0	1		05/29/19 16:22	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 16:22	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 16:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/19 16:22	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-27D **Lab ID: 92430510001** Collected: 05/21/19 09:05 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/29/19 16:22	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:22	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:22	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/29/19 16:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/19 16:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/19 16:22	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/19 16:22	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/19 16:22	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/19 16:22	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/19 16:22	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/29/19 16:22	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/29/19 16:22	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/29/19 16:22	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		05/29/19 16:22	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130	1		05/29/19 16:22	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		05/29/19 16:22	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		05/28/19 15:33	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	50-150	1		05/28/19 15:33	17060-07-0	
Toluene-d8 (S)	107	%	50-150	1		05/28/19 15:33	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-03 **Lab ID: 92430510002** Collected: 05/21/19 09:20 Received: 05/24/19 09:50 Matrix: Water

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-03 **Lab ID: 92430510002** Collected: 05/21/19 09:20 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 02:50	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 02:50	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 02:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/25/19 02:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 02:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 02:50	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 02:50	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 02:50	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 02:50	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 02:50	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 02:50	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 02:50	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 02:50	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		05/25/19 02:50	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		05/25/19 02:50	17060-07-0	
Toluene-d8 (S)	102	%	70-130	1		05/25/19 02:50	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		05/28/19 15:52	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%	50-150	1		05/28/19 15:52	17060-07-0	
Toluene-d8 (S)	105	%	50-150	1		05/28/19 15:52	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-43 **Lab ID: 92430510003** Collected: 05/21/19 09:35 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 04:26	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 04:26	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 04:26	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 04:26	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 04:26	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 04:26	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 04:26	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 04:26	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 04:26	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 04:26	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 04:26	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 04:26	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 04:26	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 04:26	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 04:26	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 04:26	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 04:26	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 04:26	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 04:26	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 04:26	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 04:26	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 04:26	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 04:26	75-71-8	
1,1-Dichloroethane	**5.2**	ug/L	1.0	1		05/25/19 04:26	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/25/19 04:26	107-06-2	
1,1-Dichloroethene	**53.9**	ug/L	1.0	1		05/25/19 04:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 04:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 04:26	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 04:26	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 04:26	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 04:26	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 04:26	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 04:26	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 04:26	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 04:26	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 04:26	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 04:26	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 04:26	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 04:26	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 04:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 04:26	108-10-1	
Methyl-tert-butyl ether	**3.4**	ug/L	1.0	1		05/25/19 04:26	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 04:26	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 04:26	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 04:26	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 04:26	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 04:26	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-43 **Lab ID: 92430510003** Collected: 05/21/19 09:35 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 04:26	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 04:26	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 04:26	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/25/19 04:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 04:26	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 04:26	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 04:26	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 04:26	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 04:26	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 04:26	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 04:26	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 04:26	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 04:26	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		05/25/19 04:26	460-00-4	
1,2-Dichloroethane-d4 (S)	86	%	70-130	1		05/25/19 04:26	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		05/25/19 04:26	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**52.0**	ug/L	5.0	2.5		05/28/19 16:12	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%	50-150	2.5		05/28/19 16:12	17060-07-0	
Toluene-d8 (S)	107	%	50-150	2.5		05/28/19 16:12	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: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-05R **Lab ID: 92430510004** Collected: 05/21/19 09:45 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/29/19 16:41	67-64-1	
Benzene	ND	ug/L	1.0	1		05/29/19 16:41	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/29/19 16:41	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/29/19 16:41	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/19 16:41	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/19 16:41	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/19 16:41	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/19 16:41	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/19 16:41	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/19 16:41	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/29/19 16:41	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/29/19 16:41	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/29/19 16:41	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 16:41	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 16:41	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/29/19 16:41	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/19 16:41	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/19 16:41	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/19 16:41	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:41	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:41	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:41	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/29/19 16:41	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/29/19 16:41	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/19 16:41	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/29/19 16:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 16:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 16:41	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 16:41	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/29/19 16:41	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 16:41	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/29/19 16:41	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 16:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 16:41	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/29/19 16:41	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/29/19 16:41	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/29/19 16:41	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/29/19 16:41	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/29/19 16:41	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/29/19 16:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/19 16:41	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/29/19 16:41	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/29/19 16:41	91-20-3	
Styrene	ND	ug/L	1.0	1		05/29/19 16:41	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 16:41	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 16:41	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/19 16:41	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-05R **Lab ID: 92430510004** Collected: 05/21/19 09:45 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/29/19 16:41	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:41	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:41	120-82-1	
1,1,1-Trichloroethane	**1.9**	ug/L	1.0	1		05/29/19 16:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/19 16:41	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/19 16:41	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/19 16:41	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/19 16:41	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/19 16:41	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/19 16:41	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/29/19 16:41	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/29/19 16:41	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/29/19 16:41	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		05/29/19 16:41	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130	1		05/29/19 16:41	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		05/29/19 16:41	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**7.6**	ug/L	2.0	1		05/28/19 16:31	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%	50-150	1		05/28/19 16:31	17060-07-0	
Toluene-d8 (S)	108	%	50-150	1		05/28/19 16:31	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: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-39 **Lab ID: 92430510005** Collected: 05/21/19 10:05 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 04:44	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 04:44	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 04:44	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 04:44	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 04:44	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 04:44	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 04:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 04:44	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 04:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 04:44	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 04:44	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 04:44	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 04:44	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 04:44	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 04:44	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 04:44	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 04:44	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 04:44	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 04:44	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 04:44	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 04:44	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 04:44	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 04:44	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/25/19 04:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/25/19 04:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/25/19 04:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 04:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 04:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 04:44	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 04:44	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 04:44	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 04:44	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 04:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 04:44	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 04:44	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 04:44	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 04:44	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 04:44	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 04:44	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 04:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 04:44	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/25/19 04:44	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 04:44	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 04:44	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 04:44	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 04:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 04:44	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-39 **Lab ID: 92430510005** Collected: 05/21/19 10:05 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 04:44	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 04:44	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 04:44	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/25/19 04:44	71-55-6	M1
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 04:44	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 04:44	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 04:44	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 04:44	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 04:44	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 04:44	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 04:44	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 04:44	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 04:44	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		05/25/19 04:44	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-130	1		05/25/19 04:44	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		05/25/19 04:44	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		05/28/19 16:51	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	50-150	1		05/28/19 16:51	17060-07-0	
Toluene-d8 (S)	106	%	50-150	1		05/28/19 16:51	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: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-42 **Lab ID: 92430510006** Collected: 05/21/19 10:15 Received: 05/24/19 09:50 Matrix: Water

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

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-42 **Lab ID: 92430510006** Collected: 05/21/19 10:15 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 05:02	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:02	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:02	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/25/19 05:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 05:02	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 05:02	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 05:02	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 05:02	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 05:02	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 05:02	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 05:02	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 05:02	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 05:02	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		05/25/19 05:02	460-00-4	
1,2-Dichloroethane-d4 (S)	86	%	70-130	1		05/25/19 05:02	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		05/25/19 05:02	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**10.6**	ug/L	2.0	1		05/28/19 17:10	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%	50-150	1		05/28/19 17:10	17060-07-0	
Toluene-d8 (S)	106	%	50-150	1		05/28/19 17:10	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: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-18 **Lab ID: 92430510007** Collected: 05/21/19 10:25 Received: 05/24/19 09:50 Matrix: Water

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

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-18 **Lab ID: 92430510007** Collected: 05/21/19 10:25 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 05:20	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:20	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:20	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/25/19 05:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 05:20	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 05:20	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 05:20	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 05:20	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 05:20	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 05:20	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 05:20	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 05:20	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 05:20	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		05/25/19 05:20	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-130	1		05/25/19 05:20	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		05/25/19 05:20	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		05/28/19 17:30	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%	50-150	1		05/28/19 17:30	17060-07-0	
Toluene-d8 (S)	107	%	50-150	1		05/28/19 17:30	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: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-40D **Lab ID: 92430510008** Collected: 05/21/19 10:35 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 05:37	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 05:37	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 05:37	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 05:37	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 05:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 05:37	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 05:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 05:37	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 05:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 05:37	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 05:37	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 05:37	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 05:37	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 05:37	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 05:37	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 05:37	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 05:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 05:37	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 05:37	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:37	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:37	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:37	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 05:37	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/25/19 05:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/25/19 05:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/25/19 05:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 05:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 05:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 05:37	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 05:37	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 05:37	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 05:37	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 05:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 05:37	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 05:37	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 05:37	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 05:37	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 05:37	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 05:37	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 05:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 05:37	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/25/19 05:37	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 05:37	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 05:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 05:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 05:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 05:37	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-40D **Lab ID: 92430510008** Collected: 05/21/19 10:35 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 05:37	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:37	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:37	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/25/19 05:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 05:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 05:37	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 05:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 05:37	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 05:37	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 05:37	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 05:37	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 05:37	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 05:37	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		05/25/19 05:37	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-130	1		05/25/19 05:37	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		05/25/19 05:37	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		05/28/19 17:49	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%	50-150	1		05/28/19 17:49	17060-07-0	
Toluene-d8 (S)	106	%	50-150	1		05/28/19 17:49	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: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-38R **Lab ID: 92430510009** Collected: 05/21/19 11:00 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 05:55	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 05:55	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 05:55	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 05:55	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 05:55	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 05:55	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 05:55	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 05:55	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 05:55	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 05:55	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 05:55	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 05:55	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 05:55	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 05:55	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 05:55	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 05:55	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 05:55	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 05:55	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 05:55	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:55	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:55	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:55	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 05:55	75-71-8	
1,1-Dichloroethane	**4.7**	ug/L	1.0	1		05/25/19 05:55	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/25/19 05:55	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/25/19 05:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 05:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 05:55	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 05:55	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 05:55	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 05:55	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 05:55	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 05:55	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 05:55	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 05:55	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 05:55	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 05:55	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 05:55	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 05:55	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 05:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 05:55	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/25/19 05:55	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 05:55	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 05:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 05:55	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 05:55	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 05:55	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-38R **Lab ID: 92430510009** Collected: 05/21/19 11:00 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 05:55	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:55	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 05:55	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/25/19 05:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 05:55	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 05:55	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 05:55	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 05:55	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 05:55	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 05:55	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 05:55	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 05:55	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 05:55	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		05/25/19 05:55	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-130	1		05/25/19 05:55	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		05/25/19 05:55	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**43.2**	ug/L	2.0	1		05/28/19 18:08	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	50-150	1		05/28/19 18:08	17060-07-0	
Toluene-d8 (S)	109	%	50-150	1		05/28/19 18:08	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: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-44 **Lab ID: 92430510010** Collected: 05/21/19 11:55 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 03:07	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 03:07	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 03:07	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 03:07	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 03:07	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 03:07	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 03:07	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 03:07	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 03:07	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 03:07	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 03:07	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 03:07	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 03:07	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 03:07	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 03:07	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 03:07	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 03:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 03:07	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 03:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 03:07	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 03:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 03:07	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 03:07	75-71-8	
1,1-Dichloroethane	**14.9**	ug/L	1.0	1		05/25/19 03:07	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/25/19 03:07	107-06-2	
1,1-Dichloroethene	**22.4**	ug/L	1.0	1		05/25/19 03:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 03:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 03:07	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 03:07	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 03:07	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 03:07	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 03:07	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 03:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 03:07	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 03:07	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 03:07	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 03:07	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 03:07	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 03:07	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 03:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 03:07	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/25/19 03:07	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 03:07	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 03:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 03:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 03:07	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 03:07	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-44 **Lab ID: 92430510010** Collected: 05/21/19 11:55 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 03:07	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 03:07	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 03:07	120-82-1	
1,1,1-Trichloroethane	**74.3**	ug/L	1.0	1		05/25/19 03:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 03:07	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 03:07	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 03:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 03:07	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 03:07	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 03:07	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 03:07	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 03:07	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 03:07	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		05/25/19 03:07	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		05/25/19 03:07	17060-07-0	
Toluene-d8 (S)	105	%	70-130	1		05/25/19 03:07	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**64.4**	ug/L	2.0	1		05/28/19 18:28	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%	50-150	1		05/28/19 18:28	17060-07-0	
Toluene-d8 (S)	108	%	50-150	1		05/28/19 18:28	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-21D **Lab ID: 92430510011** Collected: 05/21/19 14:55 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 06:13	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 06:13	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 06:13	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 06:13	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 06:13	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 06:13	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 06:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 06:13	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 06:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 06:13	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 06:13	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 06:13	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 06:13	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 06:13	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 06:13	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 06:13	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 06:13	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 06:13	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 06:13	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:13	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:13	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:13	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 06:13	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/25/19 06:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/25/19 06:13	107-06-2	
1,1-Dichloroethene	**9.9**	ug/L	1.0	1		05/25/19 06:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 06:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 06:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 06:13	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 06:13	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 06:13	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 06:13	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 06:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 06:13	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 06:13	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 06:13	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 06:13	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 06:13	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 06:13	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 06:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 06:13	108-10-1	
Methyl-tert-butyl ether	**1.1**	ug/L	1.0	1		05/25/19 06:13	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 06:13	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 06:13	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 06:13	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 06:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 06:13	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-21D **Lab ID: 92430510011** Collected: 05/21/19 14:55 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 06:13	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:13	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/25/19 06:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 06:13	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 06:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 06:13	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 06:13	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 06:13	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 06:13	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 06:13	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 06:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 06:13	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		05/25/19 06:13	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-130	1		05/25/19 06:13	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		05/25/19 06:13	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**8.4**	ug/L	2.0	1		05/28/19 18:47	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%	50-150	1		05/28/19 18:47	17060-07-0	
Toluene-d8 (S)	107	%	50-150	1		05/28/19 18:47	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-41D **Lab ID: 92430510012** Collected: 05/21/19 15:15 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/29/19 16:59	67-64-1	
Benzene	ND	ug/L	1.0	1		05/29/19 16:59	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/29/19 16:59	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/29/19 16:59	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/19 16:59	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/19 16:59	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/19 16:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/19 16:59	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/19 16:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/19 16:59	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/29/19 16:59	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/29/19 16:59	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/29/19 16:59	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 16:59	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 16:59	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/29/19 16:59	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/19 16:59	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/19 16:59	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/19 16:59	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:59	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:59	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:59	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/29/19 16:59	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/29/19 16:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/19 16:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/29/19 16:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 16:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 16:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 16:59	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/29/19 16:59	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 16:59	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/29/19 16:59	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 16:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 16:59	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/29/19 16:59	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/29/19 16:59	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/29/19 16:59	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/29/19 16:59	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/29/19 16:59	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/29/19 16:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/19 16:59	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/29/19 16:59	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/29/19 16:59	91-20-3	
Styrene	ND	ug/L	1.0	1		05/29/19 16:59	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 16:59	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 16:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/19 16:59	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-41D **Lab ID: 92430510012** Collected: 05/21/19 15:15 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/29/19 16:59	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:59	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 16:59	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/29/19 16:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/19 16:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/19 16:59	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/19 16:59	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/19 16:59	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/19 16:59	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/19 16:59	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/29/19 16:59	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/29/19 16:59	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/29/19 16:59	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		05/29/19 16:59	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130	1		05/29/19 16:59	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		05/29/19 16:59	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**2.1**	ug/L	2.0	1		05/28/19 19:06	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	50-150	1		05/28/19 19:06	17060-07-0	
Toluene-d8 (S)	107	%	50-150	1		05/28/19 19:06	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: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-1D **Lab ID: 92430510013** Collected: 05/21/19 15:30 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 06:31	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 06:31	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 06:31	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 06:31	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 06:31	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 06:31	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 06:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 06:31	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 06:31	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 06:31	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 06:31	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 06:31	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 06:31	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 06:31	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 06:31	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 06:31	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 06:31	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 06:31	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 06:31	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:31	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:31	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:31	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 06:31	75-71-8	
1,1-Dichloroethane	**2.1**	ug/L	1.0	1		05/25/19 06:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/25/19 06:31	107-06-2	
1,1-Dichloroethene	**13.7**	ug/L	1.0	1		05/25/19 06:31	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 06:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 06:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 06:31	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 06:31	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 06:31	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 06:31	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 06:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 06:31	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 06:31	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 06:31	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 06:31	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 06:31	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 06:31	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 06:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 06:31	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/25/19 06:31	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 06:31	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 06:31	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 06:31	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 06:31	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 06:31	127-18-4	

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ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-1D **Lab ID: 92430510013** Collected: 05/21/19 15:30 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 06:31	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:31	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:31	120-82-1	
1,1,1-Trichloroethane	**1.1**	ug/L	1.0	1		05/25/19 06:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 06:31	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 06:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 06:31	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 06:31	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 06:31	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 06:31	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 06:31	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 06:31	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 06:31	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		05/25/19 06:31	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-130	1		05/25/19 06:31	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		05/25/19 06:31	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**12.8**	ug/L	2.0	1		05/28/19 19:26	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%	50-150	1		05/28/19 19:26	17060-07-0	
Toluene-d8 (S)	108	%	50-150	1		05/28/19 19:26	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
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ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-22D **Lab ID: 92430510014** Collected: 05/21/19 15:55 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 06:49	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 06:49	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 06:49	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 06:49	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 06:49	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 06:49	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 06:49	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 06:49	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 06:49	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 06:49	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 06:49	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 06:49	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 06:49	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 06:49	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 06:49	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 06:49	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 06:49	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 06:49	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 06:49	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:49	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:49	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:49	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 06:49	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/25/19 06:49	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/25/19 06:49	107-06-2	
1,1-Dichloroethene	**6.3**	ug/L	1.0	1		05/25/19 06:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 06:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 06:49	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 06:49	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 06:49	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 06:49	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 06:49	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 06:49	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 06:49	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 06:49	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 06:49	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 06:49	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 06:49	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 06:49	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 06:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 06:49	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/25/19 06:49	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 06:49	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 06:49	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 06:49	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 06:49	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 06:49	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-22D **Lab ID: 92430510014** Collected: 05/21/19 15:55 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 06:49	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:49	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 06:49	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/25/19 06:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 06:49	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 06:49	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 06:49	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 06:49	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 06:49	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 06:49	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 06:49	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 06:49	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 06:49	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		05/25/19 06:49	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-130	1		05/25/19 06:49	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		05/25/19 06:49	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**5.1**	ug/L	2.0	1		05/28/19 19:45	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%	50-150	1		05/28/19 19:45	17060-07-0	
Toluene-d8 (S)	106	%	50-150	1		05/28/19 19:45	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-04 **Lab ID: 92430510015** Collected: 05/21/19 16:05 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 07:07	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 07:07	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 07:07	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 07:07	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 07:07	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 07:07	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 07:07	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 07:07	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 07:07	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 07:07	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 07:07	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 07:07	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 07:07	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 07:07	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 07:07	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 07:07	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 07:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 07:07	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 07:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 07:07	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 07:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 07:07	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 07:07	75-71-8	
1,1-Dichloroethane	**57.7**	ug/L	1.0	1		05/25/19 07:07	75-34-3	
1,2-Dichloroethane	**1.1**	ug/L	1.0	1		05/25/19 07:07	107-06-2	
1,1-Dichloroethene	**142**	ug/L	1.0	1		05/25/19 07:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 07:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 07:07	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 07:07	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 07:07	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 07:07	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 07:07	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 07:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 07:07	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 07:07	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 07:07	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 07:07	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 07:07	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 07:07	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 07:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 07:07	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/25/19 07:07	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 07:07	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 07:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 07:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 07:07	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 07:07	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-04 **Lab ID: 92430510015** Collected: 05/21/19 16:05 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 07:07	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 07:07	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 07:07	120-82-1	
1,1,1-Trichloroethane	**1.7**	ug/L	1.0	1		05/25/19 07:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 07:07	79-00-5	
Trichloroethene	**1.1**	ug/L	1.0	1		05/25/19 07:07	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 07:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 07:07	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 07:07	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 07:07	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 07:07	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 07:07	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 07:07	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		05/25/19 07:07	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-130	1		05/25/19 07:07	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		05/25/19 07:07	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**111**	ug/L	4.0	2		05/29/19 10:52	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	50-150	2		05/29/19 10:52	17060-07-0	
Toluene-d8 (S)	103	%	50-150	2		05/29/19 10:52	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-20 **Lab ID: 92430510016** Collected: 05/21/19 16:20 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	50.0	2		05/30/19 21:13	67-64-1	
Benzene	ND	ug/L	2.0	2		05/30/19 21:13	71-43-2	
Bromobenzene	ND	ug/L	2.0	2		05/30/19 21:13	108-86-1	
Bromochloromethane	ND	ug/L	2.0	2		05/30/19 21:13	74-97-5	
Bromodichloromethane	ND	ug/L	2.0	2		05/30/19 21:13	75-27-4	
Bromoform	ND	ug/L	2.0	2		05/30/19 21:13	75-25-2	
Bromomethane	ND	ug/L	4.0	2		05/30/19 21:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2		05/30/19 21:13	78-93-3	
Carbon tetrachloride	ND	ug/L	2.0	2		05/30/19 21:13	56-23-5	
Chlorobenzene	ND	ug/L	2.0	2		05/30/19 21:13	108-90-7	
Chloroethane	ND	ug/L	2.0	2		05/30/19 21:13	75-00-3	
Chloroform	ND	ug/L	10.0	2		05/30/19 21:13	67-66-3	
Chloromethane	ND	ug/L	2.0	2		05/30/19 21:13	74-87-3	
2-Chlorotoluene	ND	ug/L	2.0	2		05/30/19 21:13	95-49-8	
4-Chlorotoluene	ND	ug/L	2.0	2		05/30/19 21:13	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	10.0	2		05/30/19 21:13	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	2		05/30/19 21:13	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	2.0	2		05/30/19 21:13	106-93-4	
Dibromomethane	ND	ug/L	2.0	2		05/30/19 21:13	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	2.0	2		05/30/19 21:13	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	2.0	2		05/30/19 21:13	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	2.0	2		05/30/19 21:13	106-46-7	
Dichlorodifluoromethane	ND	ug/L	2.0	2		05/30/19 21:13	75-71-8	
1,1-Dichloroethane	**157**	ug/L	2.0	2		05/30/19 21:13	75-34-3	
1,2-Dichloroethane	**6.5**	ug/L	2.0	2		05/30/19 21:13	107-06-2	
1,1-Dichloroethene	**226**	ug/L	2.0	2		05/30/19 21:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	2.0	2		05/30/19 21:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	2.0	2		05/30/19 21:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	2.0	2		05/30/19 21:13	78-87-5	
1,3-Dichloropropane	ND	ug/L	2.0	2		05/30/19 21:13	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.0	2		05/30/19 21:13	594-20-7	
1,1-Dichloropropene	ND	ug/L	2.0	2		05/30/19 21:13	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	2.0	2		05/30/19 21:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	2.0	2		05/30/19 21:13	10061-02-6	
Diisopropyl ether	ND	ug/L	2.0	2		05/30/19 21:13	108-20-3	
Ethylbenzene	ND	ug/L	2.0	2		05/30/19 21:13	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	2		05/30/19 21:13	87-68-3	
2-Hexanone	ND	ug/L	10.0	2		05/30/19 21:13	591-78-6	
p-Isopropyltoluene	ND	ug/L	2.0	2		05/30/19 21:13	99-87-6	
Methylene Chloride	ND	ug/L	10.0	2		05/30/19 21:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	2		05/30/19 21:13	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	2.0	2		05/30/19 21:13	1634-04-4	
Naphthalene	ND	ug/L	2.0	2		05/30/19 21:13	91-20-3	
Styrene	ND	ug/L	2.0	2		05/30/19 21:13	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	2		05/30/19 21:13	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	2		05/30/19 21:13	79-34-5	
Tetrachloroethene	ND	ug/L	2.0	2		05/30/19 21:13	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-20 **Lab ID: 92430510016** Collected: 05/21/19 16:20 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	2.0	2		05/30/19 21:13	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	2		05/30/19 21:13	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	2		05/30/19 21:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	2.0	2		05/30/19 21:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	2.0	2		05/30/19 21:13	79-00-5	
Trichloroethene	ND	ug/L	2.0	2		05/30/19 21:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	2.0	2		05/30/19 21:13	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.0	2		05/30/19 21:13	96-18-4	
Vinyl acetate	ND	ug/L	4.0	2		05/30/19 21:13	108-05-4	
Vinyl chloride	ND	ug/L	2.0	2		05/30/19 21:13	75-01-4	
Xylene (Total)	ND	ug/L	2.0	2		05/30/19 21:13	1330-20-7	
m&p-Xylene	ND	ug/L	4.0	2		05/30/19 21:13	179601-23-1	
o-Xylene	ND	ug/L	2.0	2		05/30/19 21:13	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	2		05/30/19 21:13	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	2		05/30/19 21:13	17060-07-0	
Toluene-d8 (S)	102	%	70-130	2		05/30/19 21:13	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**1620**	ug/L	40.0	20		05/29/19 11:12	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	50-150	20		05/29/19 11:12	17060-07-0	
Toluene-d8 (S)	104	%	50-150	20		05/29/19 11:12	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-09 **Lab ID: 92430510017** Collected: 05/21/19 16:30 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 08:55	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 08:55	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 08:55	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 08:55	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 08:55	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 08:55	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 08:55	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 08:55	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 08:55	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 08:55	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 08:55	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 08:55	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 08:55	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 08:55	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 08:55	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 08:55	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 08:55	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 08:55	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 08:55	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 08:55	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 08:55	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 08:55	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 08:55	75-71-8	
1,1-Dichloroethane	**3.6**	ug/L	1.0	1		05/25/19 08:55	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/25/19 08:55	107-06-2	
1,1-Dichloroethene	**70.8**	ug/L	1.0	1		05/25/19 08:55	75-35-4	M1
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 08:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 08:55	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 08:55	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 08:55	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 08:55	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 08:55	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 08:55	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 08:55	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 08:55	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 08:55	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 08:55	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 08:55	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 08:55	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 08:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 08:55	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/25/19 08:55	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 08:55	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 08:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 08:55	630-20-6	L1
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 08:55	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 08:55	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-09 **Lab ID: 92430510017** Collected: 05/21/19 16:30 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 08:55	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 08:55	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 08:55	120-82-1	
1,1,1-Trichloroethane	**1.2**	ug/L	1.0	1		05/25/19 08:55	71-55-6	M1
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 08:55	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 08:55	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 08:55	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 08:55	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 08:55	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 08:55	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 08:55	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 08:55	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 08:55	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		05/25/19 08:55	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	1		05/25/19 08:55	17060-07-0	
Toluene-d8 (S)	103	%	70-130	1		05/25/19 08:55	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**32.8**	ug/L	2.0	1		05/29/19 11:31	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	50-150	1		05/29/19 11:31	17060-07-0	
Toluene-d8 (S)	103	%	50-150	1		05/29/19 11:31	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-23D **Lab ID: 92430510018** Collected: 05/21/19 16:40 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 11:59	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 11:59	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 11:59	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 11:59	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 11:59	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 11:59	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 11:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 11:59	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 11:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 11:59	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 11:59	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 11:59	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 11:59	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 11:59	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 11:59	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 11:59	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 11:59	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 11:59	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 11:59	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 11:59	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 11:59	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 11:59	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 11:59	75-71-8	
1,1-Dichloroethane	**18.5**	ug/L	1.0	1		05/25/19 11:59	75-34-3	
1,2-Dichloroethane	**1.2**	ug/L	1.0	1		05/25/19 11:59	107-06-2	
1,1-Dichloroethene	**96.4**	ug/L	1.0	1		05/25/19 11:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 11:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 11:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 11:59	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 11:59	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 11:59	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 11:59	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 11:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 11:59	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 11:59	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 11:59	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 11:59	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 11:59	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 11:59	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 11:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 11:59	108-10-1	
Methyl-tert-butyl ether	**1.2**	ug/L	1.0	1		05/25/19 11:59	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 11:59	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 11:59	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 11:59	630-20-6	L1
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 11:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 11:59	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-23D **Lab ID: 92430510018** Collected: 05/21/19 16:40 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 11:59	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 11:59	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 11:59	120-82-1	
1,1,1-Trichloroethane	**8.6**	ug/L	1.0	1		05/25/19 11:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 11:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 11:59	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 11:59	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 11:59	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 11:59	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 11:59	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 11:59	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 11:59	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 11:59	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		05/25/19 11:59	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		05/25/19 11:59	17060-07-0	
Toluene-d8 (S)	104	%	70-130	1		05/25/19 11:59	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**70.7**	ug/L	5.0	2.5		05/29/19 11:51	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	50-150	2.5		05/29/19 11:51	17060-07-0	
Toluene-d8 (S)	105	%	50-150	2.5		05/29/19 11:51	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: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-16 **Lab ID: 92430510019** Collected: 05/22/19 09:25 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	250	10		05/30/19 21:31	67-64-1	
Benzene	ND	ug/L	10.0	10		05/30/19 21:31	71-43-2	
Bromobenzene	ND	ug/L	10.0	10		05/30/19 21:31	108-86-1	
Bromochloromethane	ND	ug/L	10.0	10		05/30/19 21:31	74-97-5	
Bromodichloromethane	ND	ug/L	10.0	10		05/30/19 21:31	75-27-4	
Bromoform	ND	ug/L	10.0	10		05/30/19 21:31	75-25-2	
Bromomethane	ND	ug/L	20.0	10		05/30/19 21:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	50.0	10		05/30/19 21:31	78-93-3	
Carbon tetrachloride	ND	ug/L	10.0	10		05/30/19 21:31	56-23-5	
Chlorobenzene	ND	ug/L	10.0	10		05/30/19 21:31	108-90-7	
Chloroethane	ND	ug/L	10.0	10		05/30/19 21:31	75-00-3	
Chloroform	ND	ug/L	50.0	10		05/30/19 21:31	67-66-3	
Chloromethane	ND	ug/L	10.0	10		05/30/19 21:31	74-87-3	
2-Chlorotoluene	ND	ug/L	10.0	10		05/30/19 21:31	95-49-8	
4-Chlorotoluene	ND	ug/L	10.0	10		05/30/19 21:31	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	50.0	10		05/30/19 21:31	96-12-8	
Dibromochloromethane	ND	ug/L	10.0	10		05/30/19 21:31	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	10.0	10		05/30/19 21:31	106-93-4	
Dibromomethane	ND	ug/L	10.0	10		05/30/19 21:31	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	10.0	10		05/30/19 21:31	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	10.0	10		05/30/19 21:31	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	10.0	10		05/30/19 21:31	106-46-7	
Dichlorodifluoromethane	ND	ug/L	10.0	10		05/30/19 21:31	75-71-8	
1,1-Dichloroethane	**343**	ug/L	10.0	10		05/30/19 21:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	10.0	10		05/30/19 21:31	107-06-2	
1,1-Dichloroethene	**1160**	ug/L	10.0	10		05/30/19 21:31	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	10.0	10		05/30/19 21:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	10.0	10		05/30/19 21:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	10.0	10		05/30/19 21:31	78-87-5	
1,3-Dichloropropane	ND	ug/L	10.0	10		05/30/19 21:31	142-28-9	
2,2-Dichloropropane	ND	ug/L	10.0	10		05/30/19 21:31	594-20-7	
1,1-Dichloropropene	ND	ug/L	10.0	10		05/30/19 21:31	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	10.0	10		05/30/19 21:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	10.0	10		05/30/19 21:31	10061-02-6	
Diisopropyl ether	ND	ug/L	10.0	10		05/30/19 21:31	108-20-3	
Ethylbenzene	ND	ug/L	10.0	10		05/30/19 21:31	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	10		05/30/19 21:31	87-68-3	
2-Hexanone	ND	ug/L	50.0	10		05/30/19 21:31	591-78-6	
p-Isopropyltoluene	ND	ug/L	10.0	10		05/30/19 21:31	99-87-6	
Methylene Chloride	ND	ug/L	50.0	10		05/30/19 21:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	10		05/30/19 21:31	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	10.0	10		05/30/19 21:31	1634-04-4	
Naphthalene	ND	ug/L	10.0	10		05/30/19 21:31	91-20-3	
Styrene	ND	ug/L	10.0	10		05/30/19 21:31	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	10.0	10		05/30/19 21:31	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0	10		05/30/19 21:31	79-34-5	
Tetrachloroethene	ND	ug/L	10.0	10		05/30/19 21:31	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-16 **Lab ID: 92430510019** Collected: 05/22/19 09:25 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	10.0	10		05/30/19 21:31	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	10.0	10		05/30/19 21:31	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	10		05/30/19 21:31	120-82-1	
1,1,1-Trichloroethane	**216**	ug/L	10.0	10		05/30/19 21:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	10.0	10		05/30/19 21:31	79-00-5	
Trichloroethene	**13.7**	ug/L	10.0	10		05/30/19 21:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	10		05/30/19 21:31	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	10.0	10		05/30/19 21:31	96-18-4	
Vinyl acetate	ND	ug/L	20.0	10		05/30/19 21:31	108-05-4	
Vinyl chloride	ND	ug/L	10.0	10		05/30/19 21:31	75-01-4	
Xylene (Total)	ND	ug/L	10.0	10		05/30/19 21:31	1330-20-7	
m&p-Xylene	ND	ug/L	20.0	10		05/30/19 21:31	179601-23-1	
o-Xylene	ND	ug/L	10.0	10		05/30/19 21:31	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	10		05/30/19 21:31	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	10		05/30/19 21:31	17060-07-0	
Toluene-d8 (S)	100	%	70-130	10		05/30/19 21:31	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**1230**	ug/L	40.0	20		05/29/19 12:10	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%	50-150	20		05/29/19 12:10	17060-07-0	
Toluene-d8 (S)	105	%	50-150	20		05/29/19 12:10	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: Kopflex Onsite
Pace Project No.: 92430510

Sample: DUP 052219 **Lab ID: 92430510020** Collected: 05/22/19 08:00 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/29/19 17:55	67-64-1	
Benzene	ND	ug/L	1.0	1		05/29/19 17:55	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/29/19 17:55	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/29/19 17:55	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/19 17:55	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/19 17:55	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/19 17:55	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/19 17:55	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/19 17:55	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/19 17:55	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/29/19 17:55	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/29/19 17:55	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/29/19 17:55	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 17:55	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 17:55	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/29/19 17:55	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/19 17:55	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/19 17:55	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/19 17:55	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:55	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:55	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:55	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/29/19 17:55	75-71-8	
1,1-Dichloroethane	**27.6**	ug/L	1.0	1		05/29/19 17:55	75-34-3	
1,2-Dichloroethane	**2.2**	ug/L	1.0	1		05/29/19 17:55	107-06-2	
1,1-Dichloroethene	**151**	ug/L	1.0	1		05/29/19 17:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 17:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 17:55	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 17:55	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/29/19 17:55	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 17:55	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/29/19 17:55	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 17:55	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 17:55	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/29/19 17:55	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/29/19 17:55	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/29/19 17:55	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/29/19 17:55	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/29/19 17:55	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/29/19 17:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/19 17:55	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/29/19 17:55	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/29/19 17:55	91-20-3	
Styrene	ND	ug/L	1.0	1		05/29/19 17:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 17:55	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 17:55	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/19 17:55	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: DUP 052219 **Lab ID: 92430510020** Collected: 05/22/19 08:00 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/29/19 17:55	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:55	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:55	120-82-1	
1,1,1-Trichloroethane	**12.2**	ug/L	1.0	1		05/29/19 17:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/19 17:55	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/19 17:55	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/19 17:55	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/19 17:55	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/19 17:55	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/19 17:55	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/29/19 17:55	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/29/19 17:55	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/29/19 17:55	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		05/29/19 17:55	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130	1		05/29/19 17:55	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		05/29/19 17:55	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**146**	ug/L	5.0	2.5		05/29/19 12:30	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	50-150	2.5		05/29/19 12:30	17060-07-0	
Toluene-d8 (S)	104	%	50-150	2.5		05/29/19 12:30	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: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-16D **Lab ID: 92430510021** Collected: 05/22/19 09:40 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 11:40	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 11:40	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 11:40	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 11:40	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 11:40	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 11:40	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 11:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 11:40	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 11:40	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 11:40	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 11:40	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 11:40	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 11:40	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 11:40	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 11:40	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 11:40	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 11:40	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 11:40	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 11:40	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 11:40	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 11:40	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 11:40	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 11:40	75-71-8	
1,1-Dichloroethane	**28.5**	ug/L	1.0	1		05/25/19 11:40	75-34-3	
1,2-Dichloroethane	**2.1**	ug/L	1.0	1		05/25/19 11:40	107-06-2	
1,1-Dichloroethene	**172**	ug/L	1.0	1		05/25/19 11:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 11:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 11:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 11:40	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 11:40	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 11:40	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 11:40	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 11:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 11:40	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 11:40	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 11:40	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 11:40	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 11:40	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 11:40	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 11:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 11:40	108-10-1	
Methyl-tert-butyl ether	**1.3**	ug/L	1.0	1		05/25/19 11:40	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 11:40	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 11:40	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 11:40	630-20-6	L1
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 11:40	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 11:40	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: MW-16D **Lab ID: 92430510021** Collected: 05/22/19 09:40 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 11:40	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 11:40	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 11:40	120-82-1	
1,1,1-Trichloroethane	**14.5**	ug/L	1.0	1		05/25/19 11:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 11:40	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 11:40	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 11:40	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 11:40	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 11:40	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 11:40	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 11:40	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 11:40	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 11:40	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		05/25/19 11:40	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		05/25/19 11:40	17060-07-0	
Toluene-d8 (S)	102	%	70-130	1		05/25/19 11:40	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**148**	ug/L	5.0	2.5		05/29/19 12:49	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	50-150	2.5		05/29/19 12:49	17060-07-0	
Toluene-d8 (S)	103	%	50-150	2.5		05/29/19 12:49	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: Kopflex Onsite
Pace Project No.: 92430510

Sample: Trip Blank **Lab ID: 92430510022** Collected: 05/22/19 00:00 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/25/19 03:50	67-64-1	
Benzene	ND	ug/L	1.0	1		05/25/19 03:50	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/25/19 03:50	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/25/19 03:50	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/25/19 03:50	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/25/19 03:50	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/25/19 03:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/25/19 03:50	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/25/19 03:50	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/25/19 03:50	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/25/19 03:50	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/25/19 03:50	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/25/19 03:50	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 03:50	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/25/19 03:50	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/25/19 03:50	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/25/19 03:50	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/25/19 03:50	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/25/19 03:50	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 03:50	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 03:50	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/25/19 03:50	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/25/19 03:50	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/25/19 03:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/25/19 03:50	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/25/19 03:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 03:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/25/19 03:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 03:50	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/25/19 03:50	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/25/19 03:50	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/25/19 03:50	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 03:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/25/19 03:50	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/25/19 03:50	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/25/19 03:50	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/25/19 03:50	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/25/19 03:50	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/25/19 03:50	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/25/19 03:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/25/19 03:50	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/25/19 03:50	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/25/19 03:50	91-20-3	
Styrene	ND	ug/L	1.0	1		05/25/19 03:50	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 03:50	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/25/19 03:50	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/25/19 03:50	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex Onsite
Pace Project No.: 92430510

Sample: Trip Blank **Lab ID: 92430510022** Collected: 05/22/19 00:00 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/25/19 03:50	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 03:50	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/25/19 03:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/25/19 03:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/25/19 03:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/25/19 03:50	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/25/19 03:50	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/25/19 03:50	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/25/19 03:50	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/25/19 03:50	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/25/19 03:50	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/25/19 03:50	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/25/19 03:50	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		05/25/19 03:50	460-00-4	
1,2-Dichloroethane-d4 (S)	87	%	70-130	1		05/25/19 03:50	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		05/25/19 03:50	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		05/29/19 13:09	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	96	%	50-150	1		05/29/19 13:09	17060-07-0	
Toluene-d8 (S)	101	%	50-150	1		05/29/19 13:09	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: Kopflex Onsite
Pace Project No.: 92430510

QC Batch: 477434 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92430510017, 92430510018, 92430510021

METHOD BLANK: 2585600 Matrix: Water
Associated Lab Samples: 92430510017, 92430510018, 92430510021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	05/25/19 05:51	
1,1,1-Trichloroethane	ug/L	ND	1.0	05/25/19 05:51	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/25/19 05:51	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/25/19 05:51	
1,1-Dichloroethane	ug/L	ND	1.0	05/25/19 05:51	
1,1-Dichloroethene	ug/L	ND	1.0	05/25/19 05:51	
1,1-Dichloropropene	ug/L	ND	1.0	05/25/19 05:51	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	05/25/19 05:51	
1,2,3-Trichloropropane	ug/L	ND	1.0	05/25/19 05:51	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	05/25/19 05:51	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	05/25/19 05:51	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	05/25/19 05:51	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/25/19 05:51	
1,2-Dichloroethane	ug/L	ND	1.0	05/25/19 05:51	
1,2-Dichloropropane	ug/L	ND	1.0	05/25/19 05:51	
1,3-Dichlorobenzene	ug/L	ND	1.0	05/25/19 05:51	
1,3-Dichloropropane	ug/L	ND	1.0	05/25/19 05:51	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/25/19 05:51	
2,2-Dichloropropane	ug/L	ND	1.0	05/25/19 05:51	
2-Butanone (MEK)	ug/L	ND	5.0	05/25/19 05:51	
2-Chlorotoluene	ug/L	ND	1.0	05/25/19 05:51	
2-Hexanone	ug/L	ND	5.0	05/25/19 05:51	
4-Chlorotoluene	ug/L	ND	1.0	05/25/19 05:51	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	05/25/19 05:51	
Acetone	ug/L	ND	25.0	05/25/19 05:51	
Benzene	ug/L	ND	1.0	05/25/19 05:51	
Bromobenzene	ug/L	ND	1.0	05/25/19 05:51	
Bromochloromethane	ug/L	ND	1.0	05/25/19 05:51	
Bromodichloromethane	ug/L	ND	1.0	05/25/19 05:51	
Bromoform	ug/L	ND	1.0	05/25/19 05:51	
Bromomethane	ug/L	ND	2.0	05/25/19 05:51	
Carbon tetrachloride	ug/L	ND	1.0	05/25/19 05:51	
Chlorobenzene	ug/L	ND	1.0	05/25/19 05:51	
Chloroethane	ug/L	ND	1.0	05/25/19 05:51	
Chloroform	ug/L	ND	5.0	05/25/19 05:51	
Chloromethane	ug/L	ND	1.0	05/25/19 05:51	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/25/19 05:51	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/25/19 05:51	
Dibromochloromethane	ug/L	ND	1.0	05/25/19 05:51	
Dibromomethane	ug/L	ND	1.0	05/25/19 05:51	
Dichlorodifluoromethane	ug/L	ND	1.0	05/25/19 05:51	

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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: Kopflex Onsite
Pace Project No.: 92430510

METHOD BLANK: 2585600 Matrix: Water
Associated Lab Samples: 92430510017, 92430510018, 92430510021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	05/25/19 05:51	
Ethylbenzene	ug/L	ND	1.0	05/25/19 05:51	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	05/25/19 05:51	
m&p-Xylene	ug/L	ND	2.0	05/25/19 05:51	
Methyl-tert-butyl ether	ug/L	ND	1.0	05/25/19 05:51	
Methylene Chloride	ug/L	ND	5.0	05/25/19 05:51	
Naphthalene	ug/L	ND	1.0	05/25/19 05:51	
o-Xylene	ug/L	ND	1.0	05/25/19 05:51	
p-Isopropyltoluene	ug/L	ND	1.0	05/25/19 05:51	
Styrene	ug/L	ND	1.0	05/25/19 05:51	
Tetrachloroethene	ug/L	ND	1.0	05/25/19 05:51	
Toluene	ug/L	ND	1.0	05/25/19 05:51	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/25/19 05:51	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/25/19 05:51	
Trichloroethene	ug/L	ND	1.0	05/25/19 05:51	
Trichlorofluoromethane	ug/L	ND	1.0	05/25/19 05:51	
Vinyl acetate	ug/L	ND	2.0	05/25/19 05:51	
Vinyl chloride	ug/L	ND	1.0	05/25/19 05:51	
Xylene (Total)	ug/L	ND	1.0	05/25/19 05:51	
1,2-Dichloroethane-d4 (S)	%	95	70-130	05/25/19 05:51	
4-Bromofluorobenzene (S)	%	104	70-130	05/25/19 05:51	
Toluene-d8 (S)	%	107	70-130	05/25/19 05:51	

LABORATORY CONTROL SAMPLE: 2585601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	66.4	133	70-130	L1
1,1,1-Trichloroethane	ug/L	50	60.6	121	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.5	99	70-130	
1,1,2-Trichloroethane	ug/L	50	57.5	115	70-130	
1,1-Dichloroethane	ug/L	50	50.2	100	70-130	
1,1-Dichloroethene	ug/L	50	53.9	108	70-130	
1,1-Dichloropropene	ug/L	50	46.8	94	70-130	
1,2,3-Trichlorobenzene	ug/L	50	56.6	113	70-130	
1,2,3-Trichloropropane	ug/L	50	41.5	83	70-130	
1,2,4-Trichlorobenzene	ug/L	50	55.9	112	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	58.9	118	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	61.4	123	70-130	
1,2-Dichlorobenzene	ug/L	50	52.6	105	70-130	
1,2-Dichloroethane	ug/L	50	56.8	114	70-130	
1,2-Dichloropropane	ug/L	50	51.5	103	70-130	
1,3-Dichlorobenzene	ug/L	50	52.2	104	70-130	
1,3-Dichloropropane	ug/L	50	58.5	117	70-131	
1,4-Dichlorobenzene	ug/L	50	53.0	106	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: Kopflex Onsite
Pace Project No.: 92430510

LABORATORY CONTROL SAMPLE: 2585601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	53.1	106	69-130	
2-Butanone (MEK)	ug/L	100	102	102	64-135	
2-Chlorotoluene	ug/L	50	53.0	106	70-130	
2-Hexanone	ug/L	100	101	101	66-135	
4-Chlorotoluene	ug/L	50	52.9	106	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.0	98	70-130	
Acetone	ug/L	100	96.7	97	61-157	
Benzene	ug/L	50	52.2	104	70-130	
Bromobenzene	ug/L	50	54.5	109	70-130	
Bromochloromethane	ug/L	50	53.4	107	70-130	
Bromodichloromethane	ug/L	50	60.8	122	70-130	
Bromoform	ug/L	50	64.3	129	70-130	
Bromomethane	ug/L	50	52.7	105	38-130	
Carbon tetrachloride	ug/L	50	62.3	125	70-130	
Chlorobenzene	ug/L	50	52.1	104	70-130	
Chloroethane	ug/L	50	48.9	98	37-142	
Chloroform	ug/L	50	53.7	107	70-130	
Chloromethane	ug/L	50	48.8	98	48-130	
cis-1,2-Dichloroethene	ug/L	50	49.3	99	70-130	
cis-1,3-Dichloropropene	ug/L	50	51.8	104	70-130	
Dibromochloromethane	ug/L	50	57.0	114	70-130	
Dibromomethane	ug/L	50	56.3	113	70-130	
Dichlorodifluoromethane	ug/L	50	60.1	120	53-134	
Diisopropyl ether	ug/L	50	45.6	91	70-135	
Ethylbenzene	ug/L	50	53.3	107	70-130	
Hexachloro-1,3-butadiene	ug/L	50	55.2	110	68-132	
m&p-Xylene	ug/L	100	112	112	70-130	
Methyl-tert-butyl ether	ug/L	50	51.9	104	70-130	
Methylene Chloride	ug/L	50	46.2	92	67-132	
Naphthalene	ug/L	50	57.0	114	70-130	
o-Xylene	ug/L	50	55.0	110	70-130	
p-Isopropyltoluene	ug/L	50	55.2	110	70-130	
Styrene	ug/L	50	55.5	111	70-130	
Tetrachloroethene	ug/L	50	56.5	113	69-130	
Toluene	ug/L	50	49.9	100	70-130	
trans-1,2-Dichloroethene	ug/L	50	50.9	102	70-130	
trans-1,3-Dichloropropene	ug/L	50	54.5	109	70-130	
Trichloroethene	ug/L	50	58.7	117	70-130	
Trichlorofluoromethane	ug/L	50	57.8	116	63-130	
Vinyl acetate	ug/L	100	94.7	95	55-143	
Vinyl chloride	ug/L	50	51.9	104	70-131	
Xylene (Total)	ug/L	150	167	112	70-130	
1,2-Dichloroethane-d4 (S)	%			107	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			96	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: Kopflex Onsite
Pace Project No.: 92430510

MATRIX SPIKE SAMPLE: 2585602

Parameter	Units	92430510017 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	26.1	131	73-134	
1,1,1-Trichloroethane	ug/L	1.2	20	30.0	144	82-143	M1
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.8	99	70-136	
1,1,2-Trichloroethane	ug/L	ND	20	22.6	113	70-135	
1,1-Dichloroethane	ug/L	3.6	20	24.3	104	70-139	
1,1-Dichloroethene	ug/L	70.8	20	79.0	41	70-154	M1
1,1-Dichloropropene	ug/L	ND	20	21.0	105	70-149	
1,2,3-Trichlorobenzene	ug/L	ND	20	22.7	113	70-135	
1,2,3-Trichloropropane	ug/L	ND	20	17.0	85	71-137	
1,2,4-Trichlorobenzene	ug/L	ND	20	22.3	111	73-140	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	22.2	111	65-134	
1,2-Dibromoethane (EDB)	ug/L	ND	20	23.6	118	70-137	
1,2-Dichlorobenzene	ug/L	ND	20	21.1	106	70-133	
1,2-Dichloroethane	ug/L	ND	20	25.8	126	70-137	
1,2-Dichloropropane	ug/L	ND	20	20.2	101	70-140	
1,3-Dichlorobenzene	ug/L	ND	20	21.7	109	70-135	
1,3-Dichloropropane	ug/L	ND	20	22.0	110	70-143	
1,4-Dichlorobenzene	ug/L	ND	20	21.5	108	70-133	
2,2-Dichloropropane	ug/L	ND	20	27.5	137	61-148	
2-Butanone (MEK)	ug/L	ND	40	37.3	93	60-139	
2-Chlorotoluene	ug/L	ND	20	22.1	111	70-144	
2-Hexanone	ug/L	ND	40	38.7	97	65-138	
4-Chlorotoluene	ug/L	ND	20	21.5	107	70-137	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	38.0	95	65-135	
Acetone	ug/L	ND	40	41.2	103	60-148	
Benzene	ug/L	ND	20	21.2	106	70-151	
Bromobenzene	ug/L	ND	20	22.3	111	70-136	
Bromochloromethane	ug/L	ND	20	22.6	113	70-141	
Bromodichloromethane	ug/L	ND	20	25.4	127	70-138	
Bromoform	ug/L	ND	20	23.3	117	63-130	
Bromomethane	ug/L	ND	20	24.9	124	15-152	
Carbon tetrachloride	ug/L	ND	20	28.4	142	70-143	
Chlorobenzene	ug/L	ND	20	21.5	108	70-138	
Chloroethane	ug/L	ND	20	21.3	107	52-163	
Chloroform	ug/L	ND	20	24.1	119	70-139	
Chloromethane	ug/L	ND	20	20.2	101	41-139	
cis-1,2-Dichloroethene	ug/L	ND	20	22.6	113	70-141	
cis-1,3-Dichloropropene	ug/L	ND	20	21.2	106	70-137	
Dibromochloromethane	ug/L	ND	20	22.7	114	70-134	
Dibromomethane	ug/L	ND	20	23.9	119	70-138	
Dichlorodifluoromethane	ug/L	ND	20	26.2	131	47-155	
Diisopropyl ether	ug/L	ND	20	18.1	90	63-144	
Ethylbenzene	ug/L	ND	20	22.5	113	66-153	
Hexachloro-1,3-butadiene	ug/L	ND	20	23.1	115	65-149	
m&p-Xylene	ug/L	ND	40	46.8	117	69-152	
Methyl-tert-butyl ether	ug/L	ND	20	20.6	103	54-156	
Methylene Chloride	ug/L	ND	20	20.3	101	42-159	

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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: Kopflex Onsite
Pace Project No.: 92430510

MATRIX SPIKE SAMPLE: 2585602

Parameter	Units	92430510017 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	ND	20	21.7	109	61-148	
o-Xylene	ug/L	ND	20	22.6	113	70-148	
p-Isopropyltoluene	ug/L	ND	20	23.3	116	70-146	
Styrene	ug/L	ND	20	21.9	110	70-135	
Tetrachloroethene	ug/L	ND	20	23.5	118	59-143	
Toluene	ug/L	ND	20	20.6	103	59-148	
trans-1,2-Dichloroethene	ug/L	ND	20	22.8	114	70-146	
trans-1,3-Dichloropropene	ug/L	ND	20	21.6	108	70-135	
Trichloroethene	ug/L	ND	20	24.2	121	70-147	
Trichlorofluoromethane	ug/L	ND	20	27.8	139	70-148	
Vinyl acetate	ug/L	ND	40	36.5	91	49-151	
Vinyl chloride	ug/L	ND	20	22.3	111	70-156	
Xylene (Total)	ug/L	ND	60	69.3	116	63-158	
1,2-Dichloroethane-d4 (S)	%				121	70-130	
4-Bromofluorobenzene (S)	%				104	70-130	
Toluene-d8 (S)	%				97	70-130	

SAMPLE DUPLICATE: 2585603

Parameter	Units	92430318009 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,1-Dichloropropene	ug/L	ND	ND		30	
1,2,3-Trichlorobenzene	ug/L	ND	ND		30	
1,2,3-Trichloropropane	ug/L	ND	ND		30	
1,2,4-Trichlorobenzene	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,3-Dichlorobenzene	ug/L	ND	ND		30	
1,3-Dichloropropane	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
2,2-Dichloropropane	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Chlorotoluene	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	ND		30	
4-Chlorotoluene	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	

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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: Kopflex Onsite
Pace Project No.: 92430510

SAMPLE DUPLICATE: 2585603

Parameter	Units	92430318009 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	ND	ND		30	
Bromobenzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	.7J		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	ND	ND		30	
Chloromethane	ug/L	6.6	7.6	13	30	
cis-1,2-Dichloroethene	ug/L	ND	ND		30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dibromomethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Hexachloro-1,3-butadiene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	3.1	3.3	6	30	
Methylene Chloride	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
p-Isopropyltoluene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl acetate	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	101	104			
4-Bromofluorobenzene (S)	%	103	104			
Toluene-d8 (S)	%	103	103			

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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: Kopflex Onsite
Pace Project No.: 92430510

QC Batch: 477444 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92430510003, 92430510005, 92430510006, 92430510007, 92430510008, 92430510009, 92430510011, 92430510013, 92430510014, 92430510015, 92430510022

METHOD BLANK: 2585658 Matrix: Water
Associated Lab Samples: 92430510003, 92430510005, 92430510006, 92430510007, 92430510008, 92430510009, 92430510011, 92430510013, 92430510014, 92430510015, 92430510022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	05/25/19 00:51	
1,1,1-Trichloroethane	ug/L	ND	1.0	05/25/19 00:51	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/25/19 00:51	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/25/19 00:51	
1,1-Dichloroethane	ug/L	ND	1.0	05/25/19 00:51	
1,1-Dichloroethene	ug/L	ND	1.0	05/25/19 00:51	
1,1-Dichloropropene	ug/L	ND	1.0	05/25/19 00:51	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	05/25/19 00:51	
1,2,3-Trichloropropane	ug/L	ND	1.0	05/25/19 00:51	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	05/25/19 00:51	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	05/25/19 00:51	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	05/25/19 00:51	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/25/19 00:51	
1,2-Dichloroethane	ug/L	ND	1.0	05/25/19 00:51	
1,2-Dichloropropane	ug/L	ND	1.0	05/25/19 00:51	
1,3-Dichlorobenzene	ug/L	ND	1.0	05/25/19 00:51	
1,3-Dichloropropane	ug/L	ND	1.0	05/25/19 00:51	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/25/19 00:51	
2,2-Dichloropropane	ug/L	ND	1.0	05/25/19 00:51	
2-Butanone (MEK)	ug/L	ND	5.0	05/25/19 00:51	
2-Chlorotoluene	ug/L	ND	1.0	05/25/19 00:51	
2-Hexanone	ug/L	ND	5.0	05/25/19 00:51	
4-Chlorotoluene	ug/L	ND	1.0	05/25/19 00:51	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	05/25/19 00:51	
Acetone	ug/L	ND	25.0	05/25/19 00:51	
Benzene	ug/L	ND	1.0	05/25/19 00:51	
Bromobenzene	ug/L	ND	1.0	05/25/19 00:51	
Bromochloromethane	ug/L	ND	1.0	05/25/19 00:51	
Bromodichloromethane	ug/L	ND	1.0	05/25/19 00:51	
Bromoform	ug/L	ND	1.0	05/25/19 00:51	
Bromomethane	ug/L	ND	2.0	05/25/19 00:51	
Carbon tetrachloride	ug/L	ND	1.0	05/25/19 00:51	
Chlorobenzene	ug/L	ND	1.0	05/25/19 00:51	
Chloroethane	ug/L	ND	1.0	05/25/19 00:51	
Chloroform	ug/L	ND	5.0	05/25/19 00:51	
Chloromethane	ug/L	ND	1.0	05/25/19 00:51	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/25/19 00:51	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/25/19 00:51	
Dibromochloromethane	ug/L	ND	1.0	05/25/19 00:51	
Dibromomethane	ug/L	ND	1.0	05/25/19 00:51	

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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: Kopflex Onsite
Pace Project No.: 92430510

METHOD BLANK: 2585658 Matrix: Water

Associated Lab Samples: 92430510003, 92430510005, 92430510006, 92430510007, 92430510008, 92430510009, 92430510011, 92430510013, 92430510014, 92430510015, 92430510022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	ND	1.0	05/25/19 00:51	
Diisopropyl ether	ug/L	ND	1.0	05/25/19 00:51	
Ethylbenzene	ug/L	ND	1.0	05/25/19 00:51	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	05/25/19 00:51	
m&p-Xylene	ug/L	ND	2.0	05/25/19 00:51	
Methyl-tert-butyl ether	ug/L	ND	1.0	05/25/19 00:51	
Methylene Chloride	ug/L	ND	5.0	05/25/19 00:51	
Naphthalene	ug/L	ND	1.0	05/25/19 00:51	
o-Xylene	ug/L	ND	1.0	05/25/19 00:51	
p-Isopropyltoluene	ug/L	ND	1.0	05/25/19 00:51	
Styrene	ug/L	ND	1.0	05/25/19 00:51	
Tetrachloroethene	ug/L	ND	1.0	05/25/19 00:51	
Toluene	ug/L	ND	1.0	05/25/19 00:51	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/25/19 00:51	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/25/19 00:51	
Trichloroethene	ug/L	ND	1.0	05/25/19 00:51	
Trichlorofluoromethane	ug/L	ND	1.0	05/25/19 00:51	
Vinyl acetate	ug/L	ND	2.0	05/25/19 00:51	
Vinyl chloride	ug/L	ND	1.0	05/25/19 00:51	
Xylene (Total)	ug/L	ND	1.0	05/25/19 00:51	
1,2-Dichloroethane-d4 (S)	%	87	70-130	05/25/19 00:51	
4-Bromofluorobenzene (S)	%	95	70-130	05/25/19 00:51	
Toluene-d8 (S)	%	99	70-130	05/25/19 00:51	

LABORATORY CONTROL SAMPLE: 2585659

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	54.0	108	70-130	
1,1,1-Trichloroethane	ug/L	50	44.7	89	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	52.2	104	70-130	
1,1,2-Trichloroethane	ug/L	50	52.9	106	70-130	
1,1-Dichloroethane	ug/L	50	48.5	97	70-130	
1,1-Dichloroethene	ug/L	50	48.1	96	70-130	
1,1-Dichloropropene	ug/L	50	44.7	89	70-130	
1,2,3-Trichlorobenzene	ug/L	50	56.5	113	70-130	
1,2,3-Trichloropropane	ug/L	50	53.6	107	70-130	
1,2,4-Trichlorobenzene	ug/L	50	56.2	112	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	52.2	104	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	54.9	110	70-130	
1,2-Dichlorobenzene	ug/L	50	54.0	108	70-130	
1,2-Dichloroethane	ug/L	50	43.1	86	70-130	
1,2-Dichloropropane	ug/L	50	50.8	102	70-130	
1,3-Dichlorobenzene	ug/L	50	53.3	107	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: Kopflex Onsite
Pace Project No.: 92430510

LABORATORY CONTROL SAMPLE: 2585659

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichloropropane	ug/L	50	52.2	104	70-131	
1,4-Dichlorobenzene	ug/L	50	54.3	109	70-130	
2,2-Dichloropropane	ug/L	50	45.7	91	69-130	
2-Butanone (MEK)	ug/L	100	93.4	93	64-135	
2-Chlorotoluene	ug/L	50	50.3	101	70-130	
2-Hexanone	ug/L	100	99.3	99	66-135	
4-Chlorotoluene	ug/L	50	50.4	101	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	91.8	92	70-130	
Acetone	ug/L	100	88.3	88	61-157	
Benzene	ug/L	50	50.8	102	70-130	
Bromobenzene	ug/L	50	57.4	115	70-130	
Bromochloromethane	ug/L	50	48.0	96	70-130	
Bromodichloromethane	ug/L	50	45.5	91	70-130	
Bromoform	ug/L	50	47.4	95	70-130	
Bromomethane	ug/L	50	46.2	92	38-130	
Carbon tetrachloride	ug/L	50	44.5	89	70-130	
Chlorobenzene	ug/L	50	53.4	107	70-130	
Chloroethane	ug/L	50	48.9	98	37-142	
Chloroform	ug/L	50	43.6	87	70-130	
Chloromethane	ug/L	50	56.7	113	48-130	
cis-1,2-Dichloroethene	ug/L	50	47.1	94	70-130	
cis-1,3-Dichloropropene	ug/L	50	49.4	99	70-130	
Dibromochloromethane	ug/L	50	49.4	99	70-130	
Dibromomethane	ug/L	50	54.2	108	70-130	
Dichlorodifluoromethane	ug/L	50	44.2	88	53-134	
Diisopropyl ether	ug/L	50	47.4	95	70-135	
Ethylbenzene	ug/L	50	51.8	104	70-130	
Hexachloro-1,3-butadiene	ug/L	50	47.4	95	68-132	
m&p-Xylene	ug/L	100	103	103	70-130	
Methyl-tert-butyl ether	ug/L	50	47.2	94	70-130	
Methylene Chloride	ug/L	50	46.2	92	67-132	
Naphthalene	ug/L	50	53.3	107	70-130	
o-Xylene	ug/L	50	54.4	109	70-130	
p-Isopropyltoluene	ug/L	50	51.9	104	70-130	
Styrene	ug/L	50	53.2	106	70-130	
Tetrachloroethene	ug/L	50	53.5	107	69-130	
Toluene	ug/L	50	50.0	100	70-130	
trans-1,2-Dichloroethene	ug/L	50	45.0	90	70-130	
trans-1,3-Dichloropropene	ug/L	50	48.2	96	70-130	
Trichloroethene	ug/L	50	51.8	104	70-130	
Trichlorofluoromethane	ug/L	50	42.2	84	63-130	
Vinyl acetate	ug/L	100	93.8	94	55-143	
Vinyl chloride	ug/L	50	50.0	100	70-131	
Xylene (Total)	ug/L	150	157	105	70-130	
1,2-Dichloroethane-d4 (S)	%			86	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	
Toluene-d8 (S)	%			97	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: Kopflex Onsite
Pace Project No.: 92430510

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2585660 2585661

Parameter	Units	92430510005 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	17.6	19.8	88	99	73-134	12	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	16.2	18.5	81	92	82-143	13	30	M1
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	17.4	19.1	87	95	70-136	9	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	17.9	19.8	90	99	70-135	10	30	
1,1-Dichloroethane	ug/L	ND	20	20	17.7	19.6	88	98	70-139	10	30	
1,1-Dichloroethene	ug/L	ND	20	20	17.8	19.5	89	97	70-154	9	30	
1,1-Dichloropropene	ug/L	ND	20	20	16.0	17.4	80	87	70-149	8	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	18.1	19.6	90	98	70-135	8	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	17.8	19.7	89	99	71-137	10	30	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	17.6	18.9	88	94	73-140	7	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	15.8	17.4	79	87	65-134	10	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	18.0	20.0	90	100	70-137	11	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	18.2	19.9	91	100	70-133	9	30	
1,2-Dichloroethane	ug/L	ND	20	20	15.1	16.6	75	83	70-137	10	30	
1,2-Dichloropropane	ug/L	ND	20	20	17.6	19.7	88	99	70-140	11	30	
1,3-Dichlorobenzene	ug/L	ND	20	20	18.2	20.0	91	100	70-135	9	30	
1,3-Dichloropropane	ug/L	ND	20	20	18.2	19.9	91	99	70-143	9	30	
1,4-Dichlorobenzene	ug/L	ND	20	20	18.5	20.1	93	100	70-133	8	30	
2,2-Dichloropropane	ug/L	ND	20	20	13.3	15.5	67	77	61-148	15	30	
2-Butanone (MEK)	ug/L	ND	40	40	33.0	37.0	82	92	60-139	11	30	
2-Chlorotoluene	ug/L	ND	20	20	17.6	19.0	88	95	70-144	8	30	
2-Hexanone	ug/L	ND	40	40	33.5	36.4	84	91	65-138	9	30	
4-Chlorotoluene	ug/L	ND	20	20	17.4	19.1	87	96	70-137	10	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	40	31.3	34.3	78	86	65-135	9	30	
Acetone	ug/L	ND	40	40	35.2	38.9	88	97	60-148	10	30	
Benzene	ug/L	ND	20	20	18.2	20.4	91	102	70-151	11	30	
Bromobenzene	ug/L	ND	20	20	19.5	21.3	98	107	70-136	9	30	
Bromochloromethane	ug/L	ND	20	20	19.9	20.9	99	105	70-141	5	30	
Bromodichloromethane	ug/L	ND	20	20	15.2	16.7	76	84	70-138	10	30	
Bromoform	ug/L	ND	20	20	13.3	15.2	67	76	63-130	13	30	
Bromomethane	ug/L	ND	20	20	11.2	14.3	56	71	15-152	25	30	
Carbon tetrachloride	ug/L	ND	20	20	16.0	18.1	80	91	70-143	12	30	
Chlorobenzene	ug/L	ND	20	20	18.4	19.5	92	98	70-138	6	30	
Chloroethane	ug/L	ND	20	20	21.1	23.8	106	119	52-163	12	30	
Chloroform	ug/L	ND	20	20	14.0	16.0	70	80	70-139	13	30	
Chloromethane	ug/L	ND	20	20	20.7	24.3	103	122	41-139	16	30	
cis-1,2-Dichloroethene	ug/L	ND	20	20	17.0	18.5	85	93	70-141	9	30	
cis-1,3-Dichloropropene	ug/L	ND	20	20	16.4	17.7	82	89	70-137	8	30	
Dibromochloromethane	ug/L	ND	20	20	15.1	17.3	76	87	70-134	13	30	
Dibromomethane	ug/L	ND	20	20	19.0	20.7	95	104	70-138	8	30	
Dichlorodifluoromethane	ug/L	ND	20	20	18.6	20.3	93	102	47-155	9	30	
Diisopropyl ether	ug/L	ND	20	20	16.3	18.3	81	92	63-144	12	30	
Ethylbenzene	ug/L	ND	20	20	18.3	19.4	91	97	66-153	6	30	
Hexachloro-1,3-butadiene	ug/L	ND	20	20	15.5	18.2	78	91	65-149	16	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: Kopflex Onsite
Pace Project No.: 92430510

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2585660 2585661

Parameter	Units	92430510005 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	36.1	38.2	90	95	69-152	6	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	16.7	18.6	82	91	54-156	11	30	
Methylene Chloride	ug/L	ND	20	20	16.9	18.9	85	94	42-159	11	30	
Naphthalene	ug/L	ND	20	20	17.0	18.6	85	93	61-148	9	30	
o-Xylene	ug/L	ND	20	20	18.6	19.6	93	98	70-148	5	30	
p-Isopropyltoluene	ug/L	ND	20	20	18.0	19.5	90	97	70-146	8	30	
Styrene	ug/L	ND	20	20	17.8	19.1	89	96	70-135	7	30	
Tetrachloroethene	ug/L	ND	20	20	18.9	19.6	95	98	59-143	4	30	
Toluene	ug/L	ND	20	20	18.5	19.9	92	99	59-148	7	30	
trans-1,2-Dichloroethene	ug/L	ND	20	20	17.4	18.8	87	94	70-146	8	30	
trans-1,3-Dichloropropene	ug/L	ND	20	20	15.4	16.9	77	85	70-135	9	30	
Trichloroethene	ug/L	ND	20	20	18.9	20.0	95	100	70-147	6	30	
Trichlorofluoromethane	ug/L	ND	20	20	18.2	19.9	91	99	70-148	9	30	
Vinyl acetate	ug/L	ND	40	40	22.3	24.8	56	62	49-151	11	30	
Vinyl chloride	ug/L	ND	20	20	19.5	21.5	98	107	70-156	10	30	
Xylene (Total)	ug/L	ND	60	60	54.7	57.8	91	96	63-158	5	30	
1,2-Dichloroethane-d4 (S)	%						84	85	70-130			
4-Bromofluorobenzene (S)	%						96	94	70-130			
Toluene-d8 (S)	%						97	99	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: Kopflex Onsite
Pace Project No.: 92430510

QC Batch: 477483 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92430510002, 92430510010

METHOD BLANK: 2585971 Matrix: Water
Associated Lab Samples: 92430510002, 92430510010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	05/25/19 02:32	
1,1,1-Trichloroethane	ug/L	ND	1.0	05/25/19 02:32	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/25/19 02:32	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/25/19 02:32	
1,1-Dichloroethane	ug/L	ND	1.0	05/25/19 02:32	
1,1-Dichloroethene	ug/L	ND	1.0	05/25/19 02:32	
1,1-Dichloropropene	ug/L	ND	1.0	05/25/19 02:32	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	05/25/19 02:32	
1,2,3-Trichloropropane	ug/L	ND	1.0	05/25/19 02:32	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	05/25/19 02:32	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	05/25/19 02:32	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	05/25/19 02:32	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/25/19 02:32	
1,2-Dichloroethane	ug/L	ND	1.0	05/25/19 02:32	
1,2-Dichloropropane	ug/L	ND	1.0	05/25/19 02:32	
1,3-Dichlorobenzene	ug/L	ND	1.0	05/25/19 02:32	
1,3-Dichloropropane	ug/L	ND	1.0	05/25/19 02:32	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/25/19 02:32	
2,2-Dichloropropane	ug/L	ND	1.0	05/25/19 02:32	
2-Butanone (MEK)	ug/L	ND	5.0	05/25/19 02:32	
2-Chlorotoluene	ug/L	ND	1.0	05/25/19 02:32	
2-Hexanone	ug/L	ND	5.0	05/25/19 02:32	
4-Chlorotoluene	ug/L	ND	1.0	05/25/19 02:32	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	05/25/19 02:32	
Acetone	ug/L	ND	25.0	05/25/19 02:32	
Benzene	ug/L	ND	1.0	05/25/19 02:32	
Bromobenzene	ug/L	ND	1.0	05/25/19 02:32	
Bromochloromethane	ug/L	ND	1.0	05/25/19 02:32	
Bromodichloromethane	ug/L	ND	1.0	05/25/19 02:32	
Bromoform	ug/L	ND	1.0	05/25/19 02:32	
Bromomethane	ug/L	ND	2.0	05/25/19 02:32	
Carbon tetrachloride	ug/L	ND	1.0	05/25/19 02:32	
Chlorobenzene	ug/L	ND	1.0	05/25/19 02:32	
Chloroethane	ug/L	ND	1.0	05/25/19 02:32	
Chloroform	ug/L	ND	5.0	05/25/19 02:32	
Chloromethane	ug/L	ND	1.0	05/25/19 02:32	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/25/19 02:32	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/25/19 02:32	
Dibromochloromethane	ug/L	ND	1.0	05/25/19 02:32	
Dibromomethane	ug/L	ND	1.0	05/25/19 02:32	
Dichlorodifluoromethane	ug/L	ND	1.0	05/25/19 02:32	

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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: Kopflex Onsite
Pace Project No.: 92430510

METHOD BLANK: 2585971 Matrix: Water
Associated Lab Samples: 92430510002, 92430510010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	05/25/19 02:32	
Ethylbenzene	ug/L	ND	1.0	05/25/19 02:32	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	05/25/19 02:32	
m&p-Xylene	ug/L	ND	2.0	05/25/19 02:32	
Methyl-tert-butyl ether	ug/L	ND	1.0	05/25/19 02:32	
Methylene Chloride	ug/L	ND	5.0	05/25/19 02:32	
Naphthalene	ug/L	ND	1.0	05/25/19 02:32	
o-Xylene	ug/L	ND	1.0	05/25/19 02:32	
p-Isopropyltoluene	ug/L	ND	1.0	05/25/19 02:32	
Styrene	ug/L	ND	1.0	05/25/19 02:32	
Tetrachloroethene	ug/L	ND	1.0	05/25/19 02:32	
Toluene	ug/L	ND	1.0	05/25/19 02:32	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/25/19 02:32	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/25/19 02:32	
Trichloroethene	ug/L	ND	1.0	05/25/19 02:32	
Trichlorofluoromethane	ug/L	ND	1.0	05/25/19 02:32	
Vinyl acetate	ug/L	ND	2.0	05/25/19 02:32	
Vinyl chloride	ug/L	ND	1.0	05/25/19 02:32	
Xylene (Total)	ug/L	ND	1.0	05/25/19 02:32	
1,2-Dichloroethane-d4 (S)	%	99	70-130	05/25/19 02:32	
4-Bromofluorobenzene (S)	%	99	70-130	05/25/19 02:32	
Toluene-d8 (S)	%	103	70-130	05/25/19 02:32	

LABORATORY CONTROL SAMPLE: 2585972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.6	107	70-130	
1,1,1-Trichloroethane	ug/L	50	58.2	116	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.5	99	70-130	
1,1,2-Trichloroethane	ug/L	50	55.8	112	70-130	
1,1-Dichloroethane	ug/L	50	58.4	117	70-130	
1,1-Dichloroethene	ug/L	50	60.5	121	70-130	
1,1-Dichloropropene	ug/L	50	54.9	110	70-130	
1,2,3-Trichlorobenzene	ug/L	50	47.7	95	70-130	
1,2,3-Trichloropropane	ug/L	50	49.9	100	70-130	
1,2,4-Trichlorobenzene	ug/L	50	51.4	103	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	54.5	109	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	50.4	101	70-130	
1,2-Dichlorobenzene	ug/L	50	51.5	103	70-130	
1,2-Dichloroethane	ug/L	50	54.6	109	70-130	
1,2-Dichloropropane	ug/L	50	53.3	107	70-130	
1,3-Dichlorobenzene	ug/L	50	49.3	99	70-130	
1,3-Dichloropropane	ug/L	50	50.2	100	70-131	
1,4-Dichlorobenzene	ug/L	50	49.9	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: Kopflex Onsite
Pace Project No.: 92430510

LABORATORY CONTROL SAMPLE: 2585972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	55.2	110	69-130	
2-Butanone (MEK)	ug/L	100	102	102	64-135	
2-Chlorotoluene	ug/L	50	48.0	96	70-130	
2-Hexanone	ug/L	100	96.6	97	66-135	
4-Chlorotoluene	ug/L	50	48.2	96	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	70-130	
Acetone	ug/L	100	98.2	98	61-157	
Benzene	ug/L	50	57.4	115	70-130	
Bromobenzene	ug/L	50	51.4	103	70-130	
Bromochloromethane	ug/L	50	60.1	120	70-130	
Bromodichloromethane	ug/L	50	59.5	119	70-130	
Bromoform	ug/L	50	51.1	102	70-130	
Bromomethane	ug/L	50	57.1	114	38-130	
Carbon tetrachloride	ug/L	50	57.0	114	70-130	
Chlorobenzene	ug/L	50	52.0	104	70-130	
Chloroethane	ug/L	50	63.4	127	37-142	
Chloroform	ug/L	50	56.7	113	70-130	
Chloromethane	ug/L	50	56.9	114	48-130	
cis-1,2-Dichloroethene	ug/L	50	57.6	115	70-130	
cis-1,3-Dichloropropene	ug/L	50	59.1	118	70-130	
Dibromochloromethane	ug/L	50	57.0	114	70-130	
Dibromomethane	ug/L	50	60.5	121	70-130	
Dichlorodifluoromethane	ug/L	50	56.5	113	53-134	
Diisopropyl ether	ug/L	50	55.6	111	70-135	
Ethylbenzene	ug/L	50	51.0	102	70-130	
Hexachloro-1,3-butadiene	ug/L	50	49.3	99	68-132	
m&p-Xylene	ug/L	100	105	105	70-130	
Methyl-tert-butyl ether	ug/L	50	59.6	119	70-130	
Methylene Chloride	ug/L	50	52.9	106	67-132	
Naphthalene	ug/L	50	49.7	99	70-130	
o-Xylene	ug/L	50	53.3	107	70-130	
p-Isopropyltoluene	ug/L	50	50.3	101	70-130	
Styrene	ug/L	50	54.9	110	70-130	
Tetrachloroethene	ug/L	50	55.8	112	69-130	
Toluene	ug/L	50	54.4	109	70-130	
trans-1,2-Dichloroethene	ug/L	50	58.8	118	70-130	
trans-1,3-Dichloropropene	ug/L	50	57.4	115	70-130	
Trichloroethene	ug/L	50	58.2	116	70-130	
Trichlorofluoromethane	ug/L	50	53.7	107	63-130	
Vinyl acetate	ug/L	100	110	110	55-143	
Vinyl chloride	ug/L	50	61.2	122	70-131	
Xylene (Total)	ug/L	150	158	106	70-130	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			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: Kopflex Onsite
Pace Project No.: 92430510

MATRIX SPIKE SAMPLE: 2586075

Parameter	Units	92430507023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	24.4	122	73-134	
1,1,1-Trichloroethane	ug/L	ND	20	26.7	133	82-143	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.7	98	70-136	
1,1,2-Trichloroethane	ug/L	ND	20	21.8	109	70-135	
1,1-Dichloroethane	ug/L	ND	20	20.9	104	70-139	
1,1-Dichloroethene	ug/L	ND	20	24.0	120	70-154	
1,1-Dichloropropene	ug/L	ND	20	18.8	94	70-149	
1,2,3-Trichlorobenzene	ug/L	ND	20	21.9	109	70-135	
1,2,3-Trichloropropane	ug/L	ND	20	16.6	83	71-137	
1,2,4-Trichlorobenzene	ug/L	ND	20	21.8	109	73-140	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	22.8	114	65-134	
1,2-Dibromoethane (EDB)	ug/L	ND	20	22.2	111	70-137	
1,2-Dichlorobenzene	ug/L	ND	20	20.9	104	70-133	
1,2-Dichloroethane	ug/L	ND	20	24.4	122	70-137	
1,2-Dichloropropane	ug/L	ND	20	19.2	96	70-140	
1,3-Dichlorobenzene	ug/L	ND	20	21.0	105	70-135	
1,3-Dichloropropane	ug/L	ND	20	21.5	108	70-143	
1,4-Dichlorobenzene	ug/L	ND	20	20.8	104	70-133	
2,2-Dichloropropane	ug/L	ND	20	26.0	130	61-148	
2-Butanone (MEK)	ug/L	ND	40	34.8	87	60-139	
2-Chlorotoluene	ug/L	ND	20	20.8	104	70-144	
2-Hexanone	ug/L	ND	40	39.2	98	65-138	
4-Chlorotoluene	ug/L	ND	20	21.7	109	70-137	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	37.0	92	65-135	
Acetone	ug/L	ND	40	43.9	110	60-148	
Benzene	ug/L	ND	20	20.2	101	70-151	
Bromobenzene	ug/L	ND	20	21.8	109	70-136	
Bromochloromethane	ug/L	ND	20	23.1	116	70-141	
Bromodichloromethane	ug/L	ND	20	24.5	123	70-138	
Bromoform	ug/L	ND	20	24.6	123	63-130	
Bromomethane	ug/L	ND	20	23.8	119	15-152	
Carbon tetrachloride	ug/L	ND	20	27.6	138	70-143	
Chlorobenzene	ug/L	ND	20	20.8	104	70-138	
Chloroethane	ug/L	ND	20	21.7	108	52-163	
Chloroform	ug/L	ND	20	23.4	117	70-139	
Chloromethane	ug/L	ND	20	20.6	103	41-139	
cis-1,2-Dichloroethene	ug/L	ND	20	21.3	107	70-141	
cis-1,3-Dichloropropene	ug/L	ND	20	19.6	98	70-137	
Dibromochloromethane	ug/L	ND	20	21.5	108	70-134	
Dibromomethane	ug/L	ND	20	24.6	123	70-138	
Dichlorodifluoromethane	ug/L	ND	20	25.4	127	47-155	
Diisopropyl ether	ug/L	ND	20	17.4	87	63-144	
Ethylbenzene	ug/L	ND	20	21.8	109	66-153	
Hexachloro-1,3-butadiene	ug/L	ND	20	22.2	111	65-149	
m&p-Xylene	ug/L	ND	40	47.7	119	69-152	
Methyl-tert-butyl ether	ug/L	ND	20	20.0	100	54-156	
Methylene Chloride	ug/L	ND	20	19.9	99	42-159	

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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: Kopflex Onsite
Pace Project No.: 92430510

MATRIX SPIKE SAMPLE: 2586075

Parameter	Units	92430507023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	ND	20	21.4	107	61-148	
o-Xylene	ug/L	ND	20	22.1	110	70-148	
p-Isopropyltoluene	ug/L	ND	20	22.5	113	70-146	
Styrene	ug/L	ND	20	22.2	111	70-135	
Tetrachloroethene	ug/L	ND	20	23.2	116	59-143	
Toluene	ug/L	ND	20	20.3	102	59-148	
trans-1,2-Dichloroethene	ug/L	ND	20	22.3	111	70-146	
trans-1,3-Dichloropropene	ug/L	ND	20	21.1	105	70-135	
Trichloroethene	ug/L	ND	20	23.0	115	70-147	
Trichlorofluoromethane	ug/L	ND	20	27.0	135	70-148	
Vinyl acetate	ug/L	ND	40	33.8	84	49-151	
Vinyl chloride	ug/L	ND	20	21.2	106	70-156	
Xylene (Total)	ug/L	ND	60	69.8	116	63-158	
1,2-Dichloroethane-d4 (S)	%				116	70-130	
4-Bromofluorobenzene (S)	%				104	70-130	
Toluene-d8 (S)	%				96	70-130	

SAMPLE DUPLICATE: 2586074

Parameter	Units	92430507022 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,1-Dichloropropene	ug/L	ND	ND		30	
1,2,3-Trichlorobenzene	ug/L	ND	ND		30	
1,2,3-Trichloropropane	ug/L	ND	ND		30	
1,2,4-Trichlorobenzene	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,3-Dichlorobenzene	ug/L	ND	ND		30	
1,3-Dichloropropane	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
2,2-Dichloropropane	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Chlorotoluene	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	ND		30	
4-Chlorotoluene	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	

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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: Kopflex Onsite
Pace Project No.: 92430510

SAMPLE DUPLICATE: 2586074

Parameter	Units	92430507022 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	ND	ND		30	
Bromobenzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	ND	ND		30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	ND	ND		30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dibromomethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Hexachloro-1,3-butadiene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
p-Isopropyltoluene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl acetate	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	99	103			
4-Bromofluorobenzene (S)	%	104	103			
Toluene-d8 (S)	%	102	104			

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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: Kopflex Onsite
Pace Project No.: 92430510

QC Batch: 477900 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92430510001, 92430510004, 92430510012

METHOD BLANK: 2587369 Matrix: Water
Associated Lab Samples: 92430510001, 92430510004, 92430510012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	05/29/19 11:25	
1,1,1-Trichloroethane	ug/L	ND	1.0	05/29/19 11:25	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/29/19 11:25	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/29/19 11:25	
1,1-Dichloroethane	ug/L	ND	1.0	05/29/19 11:25	
1,1-Dichloroethene	ug/L	ND	1.0	05/29/19 11:25	
1,1-Dichloropropene	ug/L	ND	1.0	05/29/19 11:25	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	05/29/19 11:25	
1,2,3-Trichloropropane	ug/L	ND	1.0	05/29/19 11:25	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	05/29/19 11:25	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	05/29/19 11:25	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	05/29/19 11:25	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/29/19 11:25	
1,2-Dichloroethane	ug/L	ND	1.0	05/29/19 11:25	
1,2-Dichloropropane	ug/L	ND	1.0	05/29/19 11:25	
1,3-Dichlorobenzene	ug/L	ND	1.0	05/29/19 11:25	
1,3-Dichloropropane	ug/L	ND	1.0	05/29/19 11:25	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/29/19 11:25	
2,2-Dichloropropane	ug/L	ND	1.0	05/29/19 11:25	
2-Butanone (MEK)	ug/L	ND	5.0	05/29/19 11:25	
2-Chlorotoluene	ug/L	ND	1.0	05/29/19 11:25	
2-Hexanone	ug/L	ND	5.0	05/29/19 11:25	
4-Chlorotoluene	ug/L	ND	1.0	05/29/19 11:25	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	05/29/19 11:25	
Acetone	ug/L	ND	25.0	05/29/19 11:25	
Benzene	ug/L	ND	1.0	05/29/19 11:25	
Bromobenzene	ug/L	ND	1.0	05/29/19 11:25	
Bromochloromethane	ug/L	ND	1.0	05/29/19 11:25	
Bromodichloromethane	ug/L	ND	1.0	05/29/19 11:25	
Bromoform	ug/L	ND	1.0	05/29/19 11:25	
Bromomethane	ug/L	ND	2.0	05/29/19 11:25	
Carbon tetrachloride	ug/L	ND	1.0	05/29/19 11:25	
Chlorobenzene	ug/L	ND	1.0	05/29/19 11:25	
Chloroethane	ug/L	ND	1.0	05/29/19 11:25	
Chloroform	ug/L	ND	5.0	05/29/19 11:25	
Chloromethane	ug/L	ND	1.0	05/29/19 11:25	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/29/19 11:25	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/29/19 11:25	
Dibromochloromethane	ug/L	ND	1.0	05/29/19 11:25	
Dibromomethane	ug/L	ND	1.0	05/29/19 11:25	
Dichlorodifluoromethane	ug/L	ND	1.0	05/29/19 11:25	

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: Kopflex Onsite
Pace Project No.: 92430510

METHOD BLANK: 2587369 Matrix: Water
Associated Lab Samples: 92430510001, 92430510004, 92430510012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	05/29/19 11:25	
Ethylbenzene	ug/L	ND	1.0	05/29/19 11:25	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	05/29/19 11:25	
m&p-Xylene	ug/L	ND	2.0	05/29/19 11:25	
Methyl-tert-butyl ether	ug/L	ND	1.0	05/29/19 11:25	
Methylene Chloride	ug/L	ND	5.0	05/29/19 11:25	
Naphthalene	ug/L	ND	1.0	05/29/19 11:25	
o-Xylene	ug/L	ND	1.0	05/29/19 11:25	
p-Isopropyltoluene	ug/L	ND	1.0	05/29/19 11:25	
Styrene	ug/L	ND	1.0	05/29/19 11:25	
Tetrachloroethene	ug/L	ND	1.0	05/29/19 11:25	
Toluene	ug/L	ND	1.0	05/29/19 11:25	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/29/19 11:25	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/29/19 11:25	
Trichloroethene	ug/L	ND	1.0	05/29/19 11:25	
Trichlorofluoromethane	ug/L	ND	1.0	05/29/19 11:25	
Vinyl acetate	ug/L	ND	2.0	05/29/19 11:25	
Vinyl chloride	ug/L	ND	1.0	05/29/19 11:25	
Xylene (Total)	ug/L	ND	1.0	05/29/19 11:25	
1,2-Dichloroethane-d4 (S)	%	111	70-130	05/29/19 11:25	
4-Bromofluorobenzene (S)	%	96	70-130	05/29/19 11:25	
Toluene-d8 (S)	%	97	70-130	05/29/19 11:25	

LABORATORY CONTROL SAMPLE: 2587370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	54.3	109	70-130	
1,1,1-Trichloroethane	ug/L	50	49.9	100	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	45.1	90	70-130	
1,1,2-Trichloroethane	ug/L	50	46.6	93	70-130	
1,1-Dichloroethane	ug/L	50	45.7	91	70-130	
1,1-Dichloroethene	ug/L	50	48.5	97	70-130	
1,1-Dichloropropene	ug/L	50	44.5	89	70-130	
1,2,3-Trichlorobenzene	ug/L	50	54.6	109	70-130	
1,2,3-Trichloropropane	ug/L	50	40.1	80	70-130	
1,2,4-Trichlorobenzene	ug/L	50	52.6	105	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	55.0	110	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	49.4	99	70-130	
1,2-Dichlorobenzene	ug/L	50	50.2	100	70-130	
1,2-Dichloroethane	ug/L	50	47.4	95	70-130	
1,2-Dichloropropane	ug/L	50	44.4	89	70-130	
1,3-Dichlorobenzene	ug/L	50	50.4	101	70-130	
1,3-Dichloropropane	ug/L	50	47.7	95	70-131	
1,4-Dichlorobenzene	ug/L	50	49.4	99	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: Kopflex Onsite
Pace Project No.: 92430510

LABORATORY CONTROL SAMPLE: 2587370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	54.7	109	69-130	
2-Butanone (MEK)	ug/L	100	102	102	64-135	
2-Chlorotoluene	ug/L	50	49.8	100	70-130	
2-Hexanone	ug/L	100	109	109	66-135	
4-Chlorotoluene	ug/L	50	49.2	98	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	70-130	
Acetone	ug/L	100	121	121	61-157	
Benzene	ug/L	50	45.3	91	70-130	
Bromobenzene	ug/L	50	50.7	101	70-130	
Bromochloromethane	ug/L	50	40.9	82	70-130	
Bromodichloromethane	ug/L	50	53.1	106	70-130	
Bromoform	ug/L	50	54.6	109	70-130	
Bromomethane	ug/L	50	52.4	105	38-130	
Carbon tetrachloride	ug/L	50	54.9	110	70-130	
Chlorobenzene	ug/L	50	48.1	96	70-130	
Chloroethane	ug/L	50	44.5	89	37-142	
Chloroform	ug/L	50	51.7	103	70-130	
Chloromethane	ug/L	50	48.1	96	48-130	
cis-1,2-Dichloroethene	ug/L	50	46.7	93	70-130	
cis-1,3-Dichloropropene	ug/L	50	48.2	96	70-130	
Dibromochloromethane	ug/L	50	54.0	108	70-130	
Dibromomethane	ug/L	50	50.3	101	70-130	
Dichlorodifluoromethane	ug/L	50	48.3	97	53-134	
Diisopropyl ether	ug/L	50	45.9	92	70-135	
Ethylbenzene	ug/L	50	47.6	95	70-130	
Hexachloro-1,3-butadiene	ug/L	50	52.3	105	68-132	
m&p-Xylene	ug/L	100	99.5	99	70-130	
Methyl-tert-butyl ether	ug/L	50	47.8	96	70-130	
Methylene Chloride	ug/L	50	45.7	91	67-132	
Naphthalene	ug/L	50	50.6	101	70-130	
o-Xylene	ug/L	50	50.3	101	70-130	
p-Isopropyltoluene	ug/L	50	51.9	104	70-130	
Styrene	ug/L	50	48.1	96	70-130	
Tetrachloroethene	ug/L	50	50.8	102	69-130	
Toluene	ug/L	50	45.7	91	70-130	
trans-1,2-Dichloroethene	ug/L	50	45.5	91	70-130	
trans-1,3-Dichloropropene	ug/L	50	50.1	100	70-130	
Trichloroethene	ug/L	50	49.9	100	70-130	
Trichlorofluoromethane	ug/L	50	51.1	102	63-130	
Vinyl acetate	ug/L	100	114	114	55-143	
Vinyl chloride	ug/L	50	47.4	95	70-131	
Xylene (Total)	ug/L	150	150	100	70-130	
1,2-Dichloroethane-d4 (S)	%			108	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			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: Kopflex Onsite
Pace Project No.: 92430510

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2587371 2587372

Parameter	Units	92430465002 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	22.2	35.2	111	176	73-134	45	30	M1,R1
1,1,1-Trichloroethane	ug/L	ND	20	20	21.0	31.8	105	159	82-143	41	30	M1,R1
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	18.2	27.9	91	139	70-136	42	30	M1,R1
1,1,2-Trichloroethane	ug/L	ND	20	20	18.2	30.4	91	152	70-135	50	30	M1,R1
1,1-Dichloroethane	ug/L	ND	20	20	19.4	30.0	97	150	70-139	43	30	M1,R1
1,1-Dichloroethene	ug/L	ND	20	20	20.6	32.9	103	165	70-154	46	30	M1,R1
1,1-Dichloropropene	ug/L	ND	20	20	18.7	28.6	93	143	70-149	42	30	R1
1,2,3-Trichlorobenzene	ug/L	ND	20	20	19.3	40.0	97	200	70-135	70	30	M1,R1
1,2,3-Trichloropropane	ug/L	ND	20	20	19.4	24.1	97	120	71-137	21	30	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	20.6	39.6	103	198	73-140	63	30	M1,R1
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	21.0	29.7	105	149	65-134	34	30	M1,R1
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	20.0	32.4	100	162	70-137	47	30	M1,R1
1,2-Dichlorobenzene	ug/L	ND	20	20	19.9	32.9	100	165	70-133	49	30	M1,R1
1,2-Dichloroethane	ug/L	ND	20	20	19.8	30.7	99	153	70-137	43	30	M1,R1
1,2-Dichloropropane	ug/L	ND	20	20	18.1	29.0	90	145	70-140	46	30	M1,R1
1,3-Dichlorobenzene	ug/L	ND	20	20	20.6	33.5	103	167	70-135	48	30	M1,R1
1,3-Dichloropropane	ug/L	ND	20	20	19.5	31.3	97	156	70-143	47	30	M1,R1
1,4-Dichlorobenzene	ug/L	ND	20	20	20.0	32.9	100	164	70-133	49	30	M1,R1
2,2-Dichloropropane	ug/L	ND	20	20	22.4	36.1	112	180	61-148	47	30	M1,R1
2-Butanone (MEK)	ug/L	ND	40	40	39.3	45.7	98	114	60-139	15	30	
2-Chlorotoluene	ug/L	ND	20	20	20.8	33.2	104	166	70-144	46	30	M1,R1
2-Hexanone	ug/L	ND	40	40	40.9	53.4	102	134	65-138	27	30	
4-Chlorotoluene	ug/L	ND	20	20	20.3	32.9	102	165	70-137	47	30	M1,R1
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	40	38.7	53.2	97	133	65-135	32	30	R1
Acetone	ug/L	ND	40	40	47.5	53.1	119	133	60-148	11	30	
Benzene	ug/L	ND	20	20	18.7	30.8	93	154	70-151	49	30	M1,R1
Bromobenzene	ug/L	ND	20	20	21.1	33.6	106	168	70-136	46	30	M1,R1
Bromochloromethane	ug/L	ND	20	20	16.1	29.2	81	146	70-141	58	30	M1,R1
Bromodichloromethane	ug/L	ND	20	20	20.2	34.4	101	172	70-138	52	30	M1,R1
Bromoform	ug/L	ND	20	20	21.3	35.3	106	177	63-130	50	30	M1,R1
Bromomethane	ug/L	ND	20	20	21.2	34.8	106	174	15-152	49	30	M1,R1
Carbon tetrachloride	ug/L	ND	20	20	22.1	35.3	111	176	70-143	46	30	M1,R1
Chlorobenzene	ug/L	ND	20	20	19.8	32.5	99	163	70-138	49	30	M1,R1
Chloroethane	ug/L	ND	20	20	21.8	35.2	109	176	52-163	47	30	M1,R1
Chloroform	ug/L	ND	20	20	19.7	31.5	98	157	70-139	46	30	M1,R1
Chloromethane	ug/L	ND	20	20	20.3	31.4	102	157	41-139	43	30	M1,R1
cis-1,2-Dichloroethene	ug/L	ND	20	20	19.2	31.5	96	157	70-141	48	30	M1,R1
cis-1,3-Dichloropropene	ug/L	ND	20	20	18.8	31.8	94	159	70-137	52	30	M1,R1
Dibromochloromethane	ug/L	ND	20	20	20.1	34.8	100	174	70-134	54	30	M1,R1
Dibromomethane	ug/L	ND	20	20	18.4	32.0	92	160	70-138	54	30	M1,R1
Dichlorodifluoromethane	ug/L	ND	20	20	21.5	32.2	108	161	47-155	40	30	M1,R1
Diisopropyl ether	ug/L	ND	20	20	18.8	30.7	94	153	63-144	48	30	M1,R1
Ethylbenzene	ug/L	ND	20	20	20.3	32.7	102	164	66-153	47	30	M1,R1
Hexachloro-1,3-butadiene	ug/L	ND	20	20	20.6	39.0	103	195	65-149	62	30	M1,R1

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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: Kopflex Onsite
Pace Project No.: 92430510

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2587371 2587372

Parameter	Units	92430465002 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	40.6	66.1	102	165	69-152	48	30	M1,R1
Methyl-tert-butyl ether	ug/L	ND	20	20	19.1	32.0	96	160	54-156	50	30	M1,R1
Methylene Chloride	ug/L	ND	20	20	19.3	29.8	96	149	42-159	43	30	R1
Naphthalene	ug/L	ND	20	20	19.0	31.7	95	159	61-148	50	30	M1,R1
o-Xylene	ug/L	ND	20	20	20.2	32.7	101	164	70-148	47	30	M1,R1
p-Isopropyltoluene	ug/L	ND	20	20	21.5	33.4	108	167	70-146	43	30	M1,R1
Styrene	ug/L	ND	20	20	19.7	31.9	98	159	70-135	47	30	M1,R1
Tetrachloroethene	ug/L	ND	20	20	20.8	33.7	104	168	59-143	47	30	M1,R1
Toluene	ug/L	ND	20	20	18.7	30.9	94	154	59-148	49	30	M1,R1
trans-1,2-Dichloroethene	ug/L	ND	20	20	19.4	30.8	97	154	70-146	45	30	M1,R1
trans-1,3-Dichloropropene	ug/L	ND	20	20	19.6	33.5	98	167	70-135	52	30	M1,R1
Trichloroethene	ug/L	ND	20	20	20.2	33.4	101	167	70-147	49	30	M1,R1
Trichlorofluoromethane	ug/L	ND	20	20	20.9	34.3	104	171	70-148	49	30	M1,R1
Vinyl acetate	ug/L	ND	40	40	45.1	69.7	113	174	49-151	43	30	M1,R1
Vinyl chloride	ug/L	ND	20	20	20.0	31.5	100	157	70-156	44	30	M1,R1
Xylene (Total)	ug/L	ND	60	60	60.8	98.8	101	165	63-158	48	30	MS,RS
1,2-Dichloroethane-d4 (S)	%						114	108	70-130			
4-Bromofluorobenzene (S)	%						94	97	70-130			
Toluene-d8 (S)	%						99	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: Kopflex Onsite
Pace Project No.: 92430510

QC Batch: 477901 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92430510020

METHOD BLANK: 2587378 Matrix: Water
Associated Lab Samples: 92430510020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	05/29/19 11:06	
1,1,1-Trichloroethane	ug/L	ND	1.0	05/29/19 11:06	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/29/19 11:06	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/29/19 11:06	
1,1-Dichloroethane	ug/L	ND	1.0	05/29/19 11:06	
1,1-Dichloroethene	ug/L	ND	1.0	05/29/19 11:06	
1,1-Dichloropropene	ug/L	ND	1.0	05/29/19 11:06	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	05/29/19 11:06	
1,2,3-Trichloropropane	ug/L	ND	1.0	05/29/19 11:06	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	05/29/19 11:06	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	05/29/19 11:06	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	05/29/19 11:06	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/29/19 11:06	
1,2-Dichloroethane	ug/L	ND	1.0	05/29/19 11:06	
1,2-Dichloropropane	ug/L	ND	1.0	05/29/19 11:06	
1,3-Dichlorobenzene	ug/L	ND	1.0	05/29/19 11:06	
1,3-Dichloropropane	ug/L	ND	1.0	05/29/19 11:06	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/29/19 11:06	
2,2-Dichloropropane	ug/L	ND	1.0	05/29/19 11:06	
2-Butanone (MEK)	ug/L	ND	5.0	05/29/19 11:06	
2-Chlorotoluene	ug/L	ND	1.0	05/29/19 11:06	
2-Hexanone	ug/L	ND	5.0	05/29/19 11:06	
4-Chlorotoluene	ug/L	ND	1.0	05/29/19 11:06	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	05/29/19 11:06	
Acetone	ug/L	ND	25.0	05/29/19 11:06	
Benzene	ug/L	ND	1.0	05/29/19 11:06	
Bromobenzene	ug/L	ND	1.0	05/29/19 11:06	
Bromochloromethane	ug/L	ND	1.0	05/29/19 11:06	
Bromodichloromethane	ug/L	ND	1.0	05/29/19 11:06	
Bromoform	ug/L	ND	1.0	05/29/19 11:06	
Bromomethane	ug/L	ND	2.0	05/29/19 11:06	
Carbon tetrachloride	ug/L	ND	1.0	05/29/19 11:06	
Chlorobenzene	ug/L	ND	1.0	05/29/19 11:06	
Chloroethane	ug/L	ND	1.0	05/29/19 11:06	
Chloroform	ug/L	ND	5.0	05/29/19 11:06	
Chloromethane	ug/L	ND	1.0	05/29/19 11:06	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/29/19 11:06	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/29/19 11:06	
Dibromochloromethane	ug/L	ND	1.0	05/29/19 11:06	
Dibromomethane	ug/L	ND	1.0	05/29/19 11:06	
Dichlorodifluoromethane	ug/L	ND	1.0	05/29/19 11:06	

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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: Kopflex Onsite
Pace Project No.: 92430510

METHOD BLANK: 2587378 Matrix: Water
Associated Lab Samples: 92430510020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	05/29/19 11:06	
Ethylbenzene	ug/L	ND	1.0	05/29/19 11:06	
Hexachloro-1,3-butadiene	ug/L	1.3	1.0	05/29/19 11:06	
m&p-Xylene	ug/L	ND	2.0	05/29/19 11:06	
Methyl-tert-butyl ether	ug/L	ND	1.0	05/29/19 11:06	
Methylene Chloride	ug/L	ND	5.0	05/29/19 11:06	
Naphthalene	ug/L	ND	1.0	05/29/19 11:06	
o-Xylene	ug/L	ND	1.0	05/29/19 11:06	
p-Isopropyltoluene	ug/L	ND	1.0	05/29/19 11:06	
Styrene	ug/L	ND	1.0	05/29/19 11:06	
Tetrachloroethene	ug/L	ND	1.0	05/29/19 11:06	
Toluene	ug/L	ND	1.0	05/29/19 11:06	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/29/19 11:06	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/29/19 11:06	
Trichloroethene	ug/L	ND	1.0	05/29/19 11:06	
Trichlorofluoromethane	ug/L	ND	1.0	05/29/19 11:06	
Vinyl acetate	ug/L	ND	2.0	05/29/19 11:06	
Vinyl chloride	ug/L	ND	1.0	05/29/19 11:06	
Xylene (Total)	ug/L	ND	1.0	05/29/19 11:06	
1,2-Dichloroethane-d4 (S)	%	112	70-130	05/29/19 11:06	
4-Bromofluorobenzene (S)	%	94	70-130	05/29/19 11:06	
Toluene-d8 (S)	%	97	70-130	05/29/19 11:06	

LABORATORY CONTROL SAMPLE: 2587379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.5	107	70-130	
1,1,1-Trichloroethane	ug/L	50	48.7	97	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	45.5	91	70-130	
1,1,2-Trichloroethane	ug/L	50	46.2	92	70-130	
1,1-Dichloroethane	ug/L	50	44.6	89	70-130	
1,1-Dichloroethene	ug/L	50	48.1	96	70-130	
1,1-Dichloropropene	ug/L	50	41.2	82	70-130	
1,2,3-Trichlorobenzene	ug/L	50	54.5	109	70-130	
1,2,3-Trichloropropane	ug/L	50	41.0	82	70-130	
1,2,4-Trichlorobenzene	ug/L	50	55.0	110	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	52.5	105	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	49.2	98	70-130	
1,2-Dichlorobenzene	ug/L	50	49.5	99	70-130	
1,2-Dichloroethane	ug/L	50	47.9	96	70-130	
1,2-Dichloropropane	ug/L	50	43.5	87	70-130	
1,3-Dichlorobenzene	ug/L	50	48.8	98	70-130	
1,3-Dichloropropane	ug/L	50	47.1	94	70-131	
1,4-Dichlorobenzene	ug/L	50	48.3	97	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: Kopflex Onsite
Pace Project No.: 92430510

LABORATORY CONTROL SAMPLE: 2587379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	52.9	106	69-130	
2-Butanone (MEK)	ug/L	100	100	100	64-135	
2-Chlorotoluene	ug/L	50	47.8	96	70-130	
2-Hexanone	ug/L	100	106	106	66-135	
4-Chlorotoluene	ug/L	50	48.1	96	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	70-130	
Acetone	ug/L	100	114	114	61-157	
Benzene	ug/L	50	44.1	88	70-130	
Bromobenzene	ug/L	50	48.8	98	70-130	
Bromochloromethane	ug/L	50	41.1	82	70-130	
Bromodichloromethane	ug/L	50	53.6	107	70-130	
Bromoform	ug/L	50	56.1	112	70-130	
Bromomethane	ug/L	50	49.9	100	38-130	
Carbon tetrachloride	ug/L	50	53.7	107	70-130	
Chlorobenzene	ug/L	50	46.8	94	70-130	
Chloroethane	ug/L	50	41.1	82	37-142	
Chloroform	ug/L	50	47.1	94	70-130	
Chloromethane	ug/L	50	48.1	96	48-130	
cis-1,2-Dichloroethene	ug/L	50	46.0	92	70-130	
cis-1,3-Dichloropropene	ug/L	50	49.0	98	70-130	
Dibromochloromethane	ug/L	50	54.5	109	70-130	
Dibromomethane	ug/L	50	51.3	103	70-130	
Dichlorodifluoromethane	ug/L	50	42.8	86	53-134	
Diisopropyl ether	ug/L	50	45.2	90	70-135	
Ethylbenzene	ug/L	50	47.0	94	70-130	
Hexachloro-1,3-butadiene	ug/L	50	53.6	107	68-132	
m&p-Xylene	ug/L	100	96.5	97	70-130	
Methyl-tert-butyl ether	ug/L	50	49.3	99	70-130	
Methylene Chloride	ug/L	50	43.5	87	67-132	
Naphthalene	ug/L	50	51.6	103	70-130	
o-Xylene	ug/L	50	47.1	94	70-130	
p-Isopropyltoluene	ug/L	50	50.2	100	70-130	
Styrene	ug/L	50	45.9	92	70-130	
Tetrachloroethene	ug/L	50	47.6	95	69-130	
Toluene	ug/L	50	44.1	88	70-130	
trans-1,2-Dichloroethene	ug/L	50	44.9	90	70-130	
trans-1,3-Dichloropropene	ug/L	50	52.2	104	70-130	
Trichloroethene	ug/L	50	47.8	96	70-130	
Trichlorofluoromethane	ug/L	50	48.5	97	63-130	
Vinyl acetate	ug/L	100	117	117	55-143	
Vinyl chloride	ug/L	50	44.2	88	70-131	
Xylene (Total)	ug/L	150	144	96	70-130	
1,2-Dichloroethane-d4 (S)	%			112	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			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: Kopflex Onsite
Pace Project No.: 92430510

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2587380 2587381

Parameter	Units	92430523003 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	18.7	20.6	94	103	73-134	10	30	
1,1,1-Trichloroethane	ug/L	9.4	20	20	28.4	30.0	95	103	82-143	5	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	17.7	19.3	89	97	70-136	9	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	18.6	19.5	93	97	70-135	5	30	
1,1-Dichloroethane	ug/L	2.1	20	20	21.8	23.0	98	105	70-139	5	30	
1,1-Dichloroethene	ug/L	2.7	20	20	24.4	24.3	108	108	70-154	1	30	
1,1-Dichloropropene	ug/L	ND	20	20	18.2	19.1	91	96	70-149	5	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	18.1	19.4	91	97	70-135	7	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	18.6	19.9	93	99	71-137	7	30	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	18.2	19.1	91	96	73-140	5	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	16.0	17.8	80	89	65-134	11	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	18.4	19.6	92	98	70-137	7	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	17.6	18.5	88	93	70-133	5	30	
1,2-Dichloroethane	ug/L	ND	20	20	18.9	20.9	94	104	70-137	10	30	
1,2-Dichloropropane	ug/L	ND	20	20	18.7	19.5	93	97	70-140	4	30	
1,3-Dichlorobenzene	ug/L	ND	20	20	17.7	18.6	89	93	70-135	5	30	
1,3-Dichloropropane	ug/L	ND	20	20	18.8	19.8	94	99	70-143	5	30	
1,4-Dichlorobenzene	ug/L	ND	20	20	17.6	18.9	88	95	70-133	7	30	
2,2-Dichloropropane	ug/L	ND	20	20	18.2	18.9	91	94	61-148	4	30	
2-Butanone (MEK)	ug/L	ND	40	40	38.1	40.7	95	102	60-139	7	30	
2-Chlorotoluene	ug/L	ND	20	20	17.6	18.1	88	90	70-144	3	30	
2-Hexanone	ug/L	ND	40	40	35.5	38.6	89	97	65-138	8	30	
4-Chlorotoluene	ug/L	ND	20	20	17.7	18.4	89	92	70-137	4	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	40	35.5	37.3	89	93	65-135	5	30	
Acetone	ug/L	ND	40	40	45.0	47.1	113	118	60-148	5	30	
Benzene	ug/L	ND	20	20	19.3	20.3	96	101	70-151	5	30	
Bromobenzene	ug/L	ND	20	20	18.6	19.1	93	95	70-136	3	30	
Bromochloromethane	ug/L	ND	20	20	22.3	22.5	112	112	70-141	1	30	
Bromodichloromethane	ug/L	ND	20	20	18.4	19.2	92	96	70-138	5	30	
Bromoform	ug/L	ND	20	20	16.6	18.5	83	93	63-130	11	30	
Bromomethane	ug/L	ND	20	20	10.5	11.3	53	56	15-152	7	30	
Carbon tetrachloride	ug/L	ND	20	20	18.5	19.3	93	97	70-143	4	30	
Chlorobenzene	ug/L	ND	20	20	18.3	19.2	92	96	70-138	5	30	
Chloroethane	ug/L	ND	20	20	19.6	20.8	98	104	52-163	6	30	
Chloroform	ug/L	ND	20	20	18.8	19.5	94	97	70-139	3	30	
Chloromethane	ug/L	ND	20	20	16.2	18.0	81	90	41-139	11	30	
cis-1,2-Dichloroethene	ug/L	ND	20	20	19.2	20.4	96	102	70-141	6	30	
cis-1,3-Dichloropropene	ug/L	ND	20	20	18.4	19.2	92	96	70-137	4	30	
Dibromochloromethane	ug/L	ND	20	20	17.3	18.9	87	95	70-134	9	30	
Dibromomethane	ug/L	ND	20	20	18.6	19.4	93	97	70-138	4	30	
Dichlorodifluoromethane	ug/L	ND	20	20	18.9	19.9	94	100	47-155	5	30	
Diisopropyl ether	ug/L	ND	20	20	18.8	19.9	94	99	63-144	5	30	
Ethylbenzene	ug/L	ND	20	20	18.8	19.9	94	99	66-153	6	30	
Hexachloro-1,3-butadiene	ug/L	ND	20	20	18.8	19.7	94	99	65-149	5	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: Kopflex Onsite
Pace Project No.: 92430510

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2587380 2587381

Parameter	Units	92430523003 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	36.9	39.1	92	98	69-152	6	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	18.3	18.9	92	94	54-156	3	30	
Methylene Chloride	ug/L	ND	20	20	20.1	20.9	101	104	42-159	4	30	
Naphthalene	ug/L	ND	20	20	16.9	18.2	85	91	61-148	7	30	
o-Xylene	ug/L	ND	20	20	18.5	19.4	93	97	70-148	5	30	
p-Isopropyltoluene	ug/L	ND	20	20	18.4	19.4	92	97	70-146	5	30	
Styrene	ug/L	ND	20	20	18.1	19.3	91	96	70-135	6	30	
Tetrachloroethene	ug/L	ND	20	20	18.8	19.9	94	99	59-143	6	30	
Toluene	ug/L	ND	20	20	18.6	19.3	93	96	59-148	4	30	
trans-1,2-Dichloroethene	ug/L	ND	20	20	19.5	20.9	98	105	70-146	7	30	
trans-1,3-Dichloropropene	ug/L	ND	20	20	18.4	19.2	92	96	70-135	4	30	
Trichloroethene	ug/L	ND	20	20	18.5	19.8	93	99	70-147	7	30	
Trichlorofluoromethane	ug/L	ND	20	20	19.2	19.8	96	99	70-148	3	30	
Vinyl acetate	ug/L	ND	40	40	32.9	34.3	82	86	49-151	4	30	
Vinyl chloride	ug/L	ND	20	20	19.2	20.6	96	103	70-156	7	30	
Xylene (Total)	ug/L	ND	60	60	55.4	58.6	92	98	63-158	6	30	
1,2-Dichloroethane-d4 (S)	%						95	101	70-130			
4-Bromofluorobenzene (S)	%						99	101	70-130			
Toluene-d8 (S)	%						99	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: Kopflex Onsite
Pace Project No.: 92430510

QC Batch: 478156 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92430510016, 92430510019

METHOD BLANK: 2588592 Matrix: Water
Associated Lab Samples: 92430510016, 92430510019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	05/30/19 15:34	
1,1,1-Trichloroethane	ug/L	ND	1.0	05/30/19 15:34	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/30/19 15:34	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/30/19 15:34	
1,1-Dichloroethane	ug/L	ND	1.0	05/30/19 15:34	
1,1-Dichloroethene	ug/L	ND	1.0	05/30/19 15:34	
1,1-Dichloropropene	ug/L	ND	1.0	05/30/19 15:34	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	05/30/19 15:34	
1,2,3-Trichloropropane	ug/L	ND	1.0	05/30/19 15:34	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	05/30/19 15:34	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	05/30/19 15:34	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	05/30/19 15:34	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/30/19 15:34	
1,2-Dichloroethane	ug/L	ND	1.0	05/30/19 15:34	
1,2-Dichloropropane	ug/L	ND	1.0	05/30/19 15:34	
1,3-Dichlorobenzene	ug/L	ND	1.0	05/30/19 15:34	
1,3-Dichloropropane	ug/L	ND	1.0	05/30/19 15:34	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/30/19 15:34	
2,2-Dichloropropane	ug/L	ND	1.0	05/30/19 15:34	
2-Butanone (MEK)	ug/L	ND	5.0	05/30/19 15:34	
2-Chlorotoluene	ug/L	ND	1.0	05/30/19 15:34	
2-Hexanone	ug/L	ND	5.0	05/30/19 15:34	
4-Chlorotoluene	ug/L	ND	1.0	05/30/19 15:34	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	05/30/19 15:34	
Acetone	ug/L	ND	25.0	05/30/19 15:34	
Benzene	ug/L	ND	1.0	05/30/19 15:34	
Bromobenzene	ug/L	ND	1.0	05/30/19 15:34	
Bromochloromethane	ug/L	ND	1.0	05/30/19 15:34	
Bromodichloromethane	ug/L	ND	1.0	05/30/19 15:34	
Bromoform	ug/L	ND	1.0	05/30/19 15:34	
Bromomethane	ug/L	ND	2.0	05/30/19 15:34	
Carbon tetrachloride	ug/L	ND	1.0	05/30/19 15:34	
Chlorobenzene	ug/L	ND	1.0	05/30/19 15:34	
Chloroethane	ug/L	ND	1.0	05/30/19 15:34	
Chloroform	ug/L	ND	5.0	05/30/19 15:34	
Chloromethane	ug/L	ND	1.0	05/30/19 15:34	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/30/19 15:34	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/30/19 15:34	
Dibromochloromethane	ug/L	ND	1.0	05/30/19 15:34	
Dibromomethane	ug/L	ND	1.0	05/30/19 15:34	
Dichlorodifluoromethane	ug/L	ND	1.0	05/30/19 15:34	

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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: Kopflex Onsite
Pace Project No.: 92430510

METHOD BLANK: 2588592 Matrix: Water
Associated Lab Samples: 92430510016, 92430510019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	05/30/19 15:34	
Ethylbenzene	ug/L	ND	1.0	05/30/19 15:34	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	05/30/19 15:34	
m&p-Xylene	ug/L	ND	2.0	05/30/19 15:34	
Methyl-tert-butyl ether	ug/L	ND	1.0	05/30/19 15:34	
Methylene Chloride	ug/L	ND	5.0	05/30/19 15:34	
Naphthalene	ug/L	ND	1.0	05/30/19 15:34	
o-Xylene	ug/L	ND	1.0	05/30/19 15:34	
p-Isopropyltoluene	ug/L	ND	1.0	05/30/19 15:34	
Styrene	ug/L	ND	1.0	05/30/19 15:34	
Tetrachloroethene	ug/L	ND	1.0	05/30/19 15:34	
Toluene	ug/L	ND	1.0	05/30/19 15:34	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/30/19 15:34	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/30/19 15:34	
Trichloroethene	ug/L	ND	1.0	05/30/19 15:34	
Trichlorofluoromethane	ug/L	ND	1.0	05/30/19 15:34	
Vinyl acetate	ug/L	ND	2.0	05/30/19 15:34	
Vinyl chloride	ug/L	ND	1.0	05/30/19 15:34	
Xylene (Total)	ug/L	ND	1.0	05/30/19 15:34	
1,2-Dichloroethane-d4 (S)	%	100	70-130	05/30/19 15:34	
4-Bromofluorobenzene (S)	%	101	70-130	05/30/19 15:34	
Toluene-d8 (S)	%	101	70-130	05/30/19 15:34	

LABORATORY CONTROL SAMPLE: 2588593

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	46.8	94	70-130	
1,1,1-Trichloroethane	ug/L	50	44.6	89	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	43.4	87	70-130	
1,1,2-Trichloroethane	ug/L	50	46.4	93	70-130	
1,1-Dichloroethane	ug/L	50	44.6	89	70-130	
1,1-Dichloroethene	ug/L	50	49.0	98	70-130	
1,1-Dichloropropene	ug/L	50	41.7	83	70-130	
1,2,3-Trichlorobenzene	ug/L	50	46.1	92	70-130	
1,2,3-Trichloropropane	ug/L	50	44.6	89	70-130	
1,2,4-Trichlorobenzene	ug/L	50	45.9	92	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	44.9	90	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	44.8	90	70-130	
1,2-Dichlorobenzene	ug/L	50	43.0	86	70-130	
1,2-Dichloroethane	ug/L	50	46.3	93	70-130	
1,2-Dichloropropane	ug/L	50	45.1	90	70-130	
1,3-Dichlorobenzene	ug/L	50	42.8	86	70-130	
1,3-Dichloropropane	ug/L	50	44.3	89	70-131	
1,4-Dichlorobenzene	ug/L	50	42.7	85	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: Kopflex Onsite
Pace Project No.: 92430510

LABORATORY CONTROL SAMPLE: 2588593

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	43.9	88	69-130	
2-Butanone (MEK)	ug/L	100	86.3	86	64-135	
2-Chlorotoluene	ug/L	50	42.7	85	70-130	
2-Hexanone	ug/L	100	88.1	88	66-135	
4-Chlorotoluene	ug/L	50	42.6	85	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	89.8	90	70-130	
Acetone	ug/L	100	93.3	93	61-157	
Benzene	ug/L	50	45.3	91	70-130	
Bromobenzene	ug/L	50	45.2	90	70-130	
Bromochloromethane	ug/L	50	53.0	106	70-130	
Bromodichloromethane	ug/L	50	45.8	92	70-130	
Bromoform	ug/L	50	46.0	92	70-130	
Bromomethane	ug/L	50	43.4	87	38-130	
Carbon tetrachloride	ug/L	50	43.6	87	70-130	
Chlorobenzene	ug/L	50	43.3	87	70-130	
Chloroethane	ug/L	50	41.8	84	37-142	
Chloroform	ug/L	50	42.4	85	70-130	
Chloromethane	ug/L	50	42.5	85	48-130	
cis-1,2-Dichloroethene	ug/L	50	43.6	87	70-130	
cis-1,3-Dichloropropene	ug/L	50	46.0	92	70-130	
Dibromochloromethane	ug/L	50	45.2	90	70-130	
Dibromomethane	ug/L	50	43.8	88	70-130	
Dichlorodifluoromethane	ug/L	50	42.9	86	53-134	
Diisopropyl ether	ug/L	50	45.5	91	70-135	
Ethylbenzene	ug/L	50	43.5	87	70-130	
Hexachloro-1,3-butadiene	ug/L	50	48.2	96	68-132	
m&p-Xylene	ug/L	100	86.7	87	70-130	
Methyl-tert-butyl ether	ug/L	50	44.1	88	70-130	
Methylene Chloride	ug/L	50	46.8	94	67-132	
Naphthalene	ug/L	50	45.1	90	70-130	
o-Xylene	ug/L	50	44.1	88	70-130	
p-Isopropyltoluene	ug/L	50	44.1	88	70-130	
Styrene	ug/L	50	43.8	88	70-130	
Tetrachloroethene	ug/L	50	43.6	87	69-130	
Toluene	ug/L	50	43.3	87	70-130	
trans-1,2-Dichloroethene	ug/L	50	45.8	92	70-130	
trans-1,3-Dichloropropene	ug/L	50	46.5	93	70-130	
Trichloroethene	ug/L	50	44.0	88	70-130	
Trichlorofluoromethane	ug/L	50	40.6	81	63-130	
Vinyl acetate	ug/L	100	94.4	94	55-143	
Vinyl chloride	ug/L	50	45.4	91	70-131	
Xylene (Total)	ug/L	150	131	87	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			101	70-130	

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REPORT OF LABORATORY ANALYSIS

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(704)875-9092

QUALITY CONTROL DATA

Project: Kopflex Onsite
Pace Project No.: 92430510

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2588594 2588595

Parameter	Units	92430507013 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	500	500	490	495	98	99	73-134	1	30	
1,1,1-Trichloroethane	ug/L	ND	500	500	491	511	98	102	82-143	4	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	500	500	469	455	94	91	70-136	3	30	
1,1,2-Trichloroethane	ug/L	ND	500	500	479	478	96	96	70-135	0	30	
1,1-Dichloroethane	ug/L	ND	500	500	518	508	104	102	70-139	2	30	
1,1-Dichloroethene	ug/L	ND	500	500	559	525	112	105	70-154	6	30	
1,1-Dichloropropene	ug/L	ND	500	500	490	489	98	98	70-149	0	30	
1,2,3-Trichlorobenzene	ug/L	ND	500	500	472	450	94	90	70-135	5	30	
1,2,3-Trichloropropane	ug/L	ND	500	500	485	476	97	95	71-137	2	30	
1,2,4-Trichlorobenzene	ug/L	ND	500	500	483	460	97	92	73-140	5	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	500	500	461	447	92	89	65-134	3	30	
1,2-Dibromoethane (EDB)	ug/L	ND	500	500	483	468	97	94	70-137	3	30	
1,2-Dichlorobenzene	ug/L	ND	500	500	468	448	94	90	70-133	4	30	
1,2-Dichloroethane	ug/L	ND	500	500	497	513	99	103	70-137	3	30	
1,2-Dichloropropane	ug/L	ND	500	500	499	466	100	93	70-140	7	30	
1,3-Dichlorobenzene	ug/L	ND	500	500	476	451	95	90	70-135	5	30	
1,3-Dichloropropane	ug/L	ND	500	500	484	471	97	94	70-143	3	30	
1,4-Dichlorobenzene	ug/L	ND	500	500	469	443	94	89	70-133	6	30	
2,2-Dichloropropane	ug/L	ND	500	500	450	459	90	92	61-148	2	30	
2-Butanone (MEK)	ug/L	ND	1000	1000	953	968	95	97	60-139	2	30	
2-Chlorotoluene	ug/L	ND	500	500	519	501	104	100	70-144	4	30	
2-Hexanone	ug/L	ND	1000	1000	960	917	96	92	65-138	5	30	
4-Chlorotoluene	ug/L	ND	500	500	478	469	96	94	70-137	2	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	1000	1000	943	919	94	92	65-135	3	30	
Acetone	ug/L	ND	1000	1000	1020	1000	102	100	60-148	2	30	
Benzene	ug/L	2750	500	500	3400	3310	130	113	70-151	2	30	
Bromobenzene	ug/L	ND	500	500	490	474	98	95	70-136	3	30	
Bromochloromethane	ug/L	ND	500	500	486	494	97	99	70-141	2	30	
Bromodichloromethane	ug/L	ND	500	500	501	475	100	95	70-138	5	30	
Bromoform	ug/L	ND	500	500	444	433	89	87	63-130	2	30	
Bromomethane	ug/L	ND	500	500	392	417	78	83	15-152	6	30	
Carbon tetrachloride	ug/L	ND	500	500	503	480	101	96	70-143	5	30	
Chlorobenzene	ug/L	ND	500	500	490	478	96	93	70-138	3	30	
Chloroethane	ug/L	ND	500	500	521	516	104	103	52-163	1	30	
Chloroform	ug/L	ND	500	500	502	527	95	100	70-139	5	30	
Chloromethane	ug/L	ND	500	500	507	518	101	104	41-139	2	30	
cis-1,2-Dichloroethene	ug/L	ND	500	500	512	502	102	100	70-141	2	30	
cis-1,3-Dichloropropene	ug/L	ND	500	500	484	465	97	93	70-137	4	30	
Dibromochloromethane	ug/L	ND	500	500	468	453	94	91	70-134	3	30	
Dibromomethane	ug/L	ND	500	500	477	463	95	93	70-138	3	30	
Dichlorodifluoromethane	ug/L	ND	500	500	516	507	103	101	47-155	2	30	
Diisopropyl ether	ug/L	ND	500	500	469	497	94	99	63-144	6	30	
Ethylbenzene	ug/L	174	500	500	690	676	103	100	66-153	2	30	
Hexachloro-1,3-butadiene	ug/L	ND	500	500	485	471	97	94	65-149	3	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Kopflex Onsite
Pace Project No.: 92430510

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2588594 2588595

Parameter	Units	92430507013 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	400	1000	1000	1420	1390	101	99	69-152	2	30	
Methyl-tert-butyl ether	ug/L	259	500	500	752	758	99	100	54-156	1	30	
Methylene Chloride	ug/L	ND	500	500	517	514	103	103	42-159	0	30	
Naphthalene	ug/L	274	500	500	779	749	101	95	61-148	4	30	
o-Xylene	ug/L	371	500	500	887	868	103	99	70-148	2	30	
p-Isopropyltoluene	ug/L	ND	500	500	507	502	97	96	70-146	1	30	
Styrene	ug/L	ND	500	500	490	475	98	95	70-135	3	30	
Tetrachloroethene	ug/L	ND	500	500	500	482	100	96	59-143	4	30	
Toluene	ug/L	189	500	500	679	665	98	95	59-148	2	30	
trans-1,2-Dichloroethene	ug/L	ND	500	500	534	504	107	101	70-146	6	30	
trans-1,3-Dichloropropene	ug/L	ND	500	500	479	474	96	95	70-135	1	30	
Trichloroethene	ug/L	ND	500	500	510	485	102	97	70-147	5	30	
Trichlorofluoromethane	ug/L	ND	500	500	489	526	98	105	70-148	7	30	
Vinyl acetate	ug/L	ND	1000	1000	998	1000	100	100	49-151	1	30	
Vinyl chloride	ug/L	ND	500	500	504	525	101	105	70-156	4	30	
Xylene (Total)	ug/L	771	1500	1500	2300	2250	102	99	63-158	2	30	
1,2-Dichloroethane-d4 (S)	%						95	97	70-130			
4-Bromofluorobenzene (S)	%						100	100	70-130			
Toluene-d8 (S)	%						100	99	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Kopflex Onsite
Pace Project No.: 92430510

QC Batch: 477655 Analysis Method: EPA 8260B Mod.
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92430510001, 92430510002, 92430510003, 92430510004, 92430510005, 92430510006, 92430510007, 92430510008, 92430510009, 92430510010, 92430510011, 92430510012, 92430510013, 92430510014

METHOD BLANK: 2586506 Matrix: Water
Associated Lab Samples: 92430510001, 92430510002, 92430510003, 92430510004, 92430510005, 92430510006, 92430510007, 92430510008, 92430510009, 92430510010, 92430510011, 92430510012, 92430510013, 92430510014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/28/19 11:59	
1,2-Dichloroethane-d4 (S)	%	98	50-150	05/28/19 11:59	
Toluene-d8 (S)	%	102	50-150	05/28/19 11:59	

LABORATORY CONTROL SAMPLE: 2586507

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.7	104	70-130	
1,2-Dichloroethane-d4 (S)	%			101	50-150	
Toluene-d8 (S)	%			102	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2586508 2586509

Parameter	Units	2618974001 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	0.011 mg/L	20	20	29.8	29.3	96	93	50-150	2	30	
1,2-Dichloroethane-d4 (S)	%						102	102	50-150		30	
Toluene-d8 (S)	%						106	106	50-150		30	

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REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Kopflex Onsite
Pace Project No.: 92430510

QC Batch: 477873 Analysis Method: EPA 8260B Mod.
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92430510015, 92430510016, 92430510017, 92430510018, 92430510019, 92430510020, 92430510021, 92430510022

METHOD BLANK: 2587225 Matrix: Water
Associated Lab Samples: 92430510015, 92430510016, 92430510017, 92430510018, 92430510019, 92430510020, 92430510021, 92430510022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/29/19 10:33	
1,2-Dichloroethane-d4 (S)	%	97	50-150	05/29/19 10:33	
Toluene-d8 (S)	%	104	50-150	05/29/19 10:33	

LABORATORY CONTROL SAMPLE: 2587226

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	19.4	97	70-130	
1,2-Dichloroethane-d4 (S)	%			98	50-150	
Toluene-d8 (S)	%			103	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2587227 2587228

Parameter	Units	92430510015 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	111	40	40	146	151	87	99	50-150	3	30	
1,2-Dichloroethane-d4 (S)	%						100	101	50-150		30	
Toluene-d8 (S)	%						104	104	50-150		30	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Kopflex Onsite
Pace Project No.: 92430510

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.
R1	RPD value was outside control limits.
RS	The RPD value in one of the constituent analytes was outside the control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Kopflex Onsite
Pace Project No.: 92430510

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92430510001	MW-27D	EPA 8260B	477900		
92430510002	MW-03	EPA 8260B	477483		
92430510003	MW-43	EPA 8260B	477444		
92430510004	MW-05R	EPA 8260B	477900		
92430510005	MW-39	EPA 8260B	477444		
92430510006	MW-42	EPA 8260B	477444		
92430510007	MW-18	EPA 8260B	477444		
92430510008	MW-40D	EPA 8260B	477444		
92430510009	MW-38R	EPA 8260B	477444		
92430510010	MW-44	EPA 8260B	477483		
92430510011	MW-21D	EPA 8260B	477444		
92430510012	MW-41D	EPA 8260B	477900		
92430510013	MW-1D	EPA 8260B	477444		
92430510014	MW-22D	EPA 8260B	477444		
92430510015	MW-04	EPA 8260B	477444		
92430510016	MW-20	EPA 8260B	478156		
92430510017	MW-09	EPA 8260B	477434		
92430510018	MW-23D	EPA 8260B	477434		
92430510019	MW-16	EPA 8260B	478156		
92430510020	DUP 052219	EPA 8260B	477901		
92430510021	MW-16D	EPA 8260B	477434		
92430510022	Trip Blank	EPA 8260B	477444		
92430510001	MW-27D	EPA 8260B Mod.	477655		
92430510002	MW-03	EPA 8260B Mod.	477655		
92430510003	MW-43	EPA 8260B Mod.	477655		
92430510004	MW-05R	EPA 8260B Mod.	477655		
92430510005	MW-39	EPA 8260B Mod.	477655		
92430510006	MW-42	EPA 8260B Mod.	477655		
92430510007	MW-18	EPA 8260B Mod.	477655		
92430510008	MW-40D	EPA 8260B Mod.	477655		
92430510009	MW-38R	EPA 8260B Mod.	477655		
92430510010	MW-44	EPA 8260B Mod.	477655		
92430510011	MW-21D	EPA 8260B Mod.	477655		
92430510012	MW-41D	EPA 8260B Mod.	477655		
92430510013	MW-1D	EPA 8260B Mod.	477655		
92430510014	MW-22D	EPA 8260B Mod.	477655		
92430510015	MW-04	EPA 8260B Mod.	477873		
92430510016	MW-20	EPA 8260B Mod.	477873		
92430510017	MW-09	EPA 8260B Mod.	477873		
92430510018	MW-23D	EPA 8260B Mod.	477873		
92430510019	MW-16	EPA 8260B Mod.	477873		

REPORT OF LABORATORY ANALYSIS

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Kopflex Onsite
Pace Project No.: 92430510

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92430510020	**DUP 052219**	EPA 8260B Mod.	477873		
92430510021	**MW-16D**	EPA 8260B Mod.	477873		
92430510022	**Trip Blank**	EPA 8260B Mod.	477873		

Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

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

Sample Condition Upon Receipt

Client Name: Herndon

Project

WO# : 92430510

92430510

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

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

Date/Initials Person Examining Contents: D 5-24-19

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

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

Thermometer: ☑ IR Gun ID: 92T048 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp (°C): 3.4 **Correction Factor:** Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): _____

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

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ Date: 5/24

Project Manager SRF Review: _____ Date: 5/24

***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 bottle**

Project # WO#: 92430510

PM: PTE Due Date: 06/03/19

CLIENT: 92-WSP

Pg 1

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									\	\			
2	\				\	\	\	\			\		\	\	\	6									\	\			
3	\				\	\	\	\			\		\	\	\	6									\	\			
4	\				\	\	\	\			\		\	\	\	6									\	\			
5	\				\	\	\	\			\		\	\	\	6									\	\			
6	\				\	\	\	\			\		\	\	\	6									\	\			
7	\				\	\	\	\			\		\	\	\	6									\	\			
8	\				\	\	\	\			\		\	\	\	6									\	\			
9	\				\	\	\	\			\		\	\	\	6									\	\			
10	\				\	\	\	\			\		\	\	\										\	\			
11	\				\	\	\	\			\		\	\	\										\	\			
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 bottle**

Project # WO#: 92430510

PM: PTE Due Date: 06/03/19

CLIENT: 92-WSP

pg 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	\				\	\	\	\			\		\	\	\										\	\			
2	\				\	\	\	\			\		\	\	\	6									\	\			
3	\				\	\	\	\			\		\	\	\	6									\	\			
4	\				\	\	\	\			\		\	\	\	6									\	\			
5	\				\	\	\	\			\		\	\	\	6									\	\			
6	\				\	\	\	\			\		\	\	\	6									\	\			
7	\				\	\	\	\			\		\	\	\	6									\	\			
8	\				\	\	\	\			\		\	\	\	6									\	\			
9	\				\	\	\	\			\		\	\	\	6									\	\			
10	\				\	\	\	\			\		\	\	\	6									\	\			
11	\				\	\	\	\			\		\	\	\	4	2								\	\			
12	\				\	\	\	\			\		\	\	\										\	\			

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.

Onsite

CHAIN-OF-CUSTODY RECORD

WSP USA Office Address	Herndon, VA
Project Name	Kapflex
WSP USA Contact Name	Eric Johnson
Project Location	Hanover, MD
WSP USA Contact E-mail	eric.johnson@wsp.com
Project Number & Task	31401545.010/14
WSP USA Contact Phone	571 232 5045
Sampler(s) Name(s)	CL
Sampler(s) Signature(s)	

No. 009925

Laboratory Name & Location: Pace, NC

Laboratory Project Manager: Taylor Etell

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

92430510

Sample Identification	Matrix	Collection Start* Date	Collection Start* Time	Collection Stop* Date	Collection Stop* Time	Number of Containers	Requested Analyses & Preservatives: VOCs 8260	1,4-dioxane 8260 SIMS	Sample Comments
MW-27D	AQ	5/21/19		09	05	6	X	X	-001
MW-03				09	20	6	X	X	-002
MW-43				09	35	6	X	X	-003
MW-05R				09	45	6	X	X	-004
MW-39				10	05	6	X	X	-005
MW-42				10	15	6	X	X	-006
MW-18				10	25	6	X	X	-007
MW-40D				10	35	6	X	X	-008
MW-38R				11	00	6	X	X	-009
~~RW-15~~				~~11~~	~~15~~	~~6~~			ignore
~~RW-25~~				~~11~~	~~25~~	~~6~~			ignore
MW-44				11	55	6	X	X	-010
~~RW-35~~				~~11~~	~~35~~	6			ignore
MW-21D				14	55	6	X	X	-011
MW-41D				15	15	6	X	X	-012

	Date	Time		Date	Time		
Relinquished By (Signature)	5/23/19	1430	Received By (Signature) Fedex			Shipment Method: Fedex	Tracking Number(s): 8127 8179 4630
Relinquished By (Signature)	Date	Time	Received By (Signature)	Date: 5-24-19	Time: 9:50	Number of Packages: 3	Custody Seal Number(s)

*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)

ONSITE

CHAIN-OF-CUSTODY RECORD

WSP | Parsons Brinckerhoff Office Address: Herndon, VA

Project Name: Kopflex

Project Location: Hanover MD

Project Number & Task: 31401545.010/4

Sampler(s) Name(s): CC

Sampler(s) Signature(s):

WSP | Parsons Brinckerhoff Contact Name: Eric Johnson

WSP | Parsons Brinckerhoff Contact E-mail: Eric.Johnson@wspgroup.com

WSP | Parsons Brinckerhoff Contact Phone: 571 232 5045

No. 004541

Laboratory Name & Location: Pace, NC

Laboratory Project Manager: Taylor Ezell

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

Requested Analyses & Preservatives

Sample Identification	Matrix	Collection Start* Date	Collection Start* Time	Collection Stop* Date	Collection Stop* Time	Number of Containers	8260 VOC	8260 SIM 1,4-dioxane	Sample Comments
MW-1D	AQ	5/21/19		15	30	6	X	X	-013
MW-22D				15	55	6	X	X	-014
MW-04				16	05	6	X	X	-015
MW-20				16	20	6	X	X	-016
MW-09				16	30	6	X	X	-017
MW-23D				16	40	6	X	X	-018
~~MW-16D~~									ignore
MW-16	AQ	5/22/19		09	25	6	X	X	-019
DUP052219				08	00	6	X	X	-020
MW-16D				09	40	~~6~~	X	X	-021
Trip Blank		lab	provided			4	X	X	-022

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Shipment Method	Tracking Number(s)
	5/23/19	1430	FedEx			FedEx	8127 8179 4641
Relinquished By (Signature)	**Date**	**Time**	**Received By (Signature)**	**Date**	**Time**	**Number of Packages**	**Custody Seal Number(s)**
				5-24-19	9:50	3	

*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)

ENCLOSURE C – LABORATORY ANALYTICAL REPORT, SEMI-ANNUAL (MAY 2019) GROUNDWATER MONITORING EVENT, RECOVERY WELL SAMPLES

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

June 03, 2019

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

RE: Project: Kopflex System Wells
Pace Project No.: 92430523

Dear Eric Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on May 24, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

cc: Molly Long, WSP

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

CERTIFICATIONS

Project: Kopflex System Wells
Pace Project No.: 92430523

Charlotte Certification IDs

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

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: Kopflex System Wells
Pace Project No.: 92430523

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92430523001	**RW-1S**	Water	05/21/19 11:15	05/24/19 09:50
92430523002	**RW-2S**	Water	05/21/19 11:25	05/24/19 09:50
92430523003	**RW-3S**	Water	05/21/19 11:35	05/24/19 09:50
92430523004	**RW-1D**	Water	05/21/19 15:05	05/24/19 09:50
92430523005	**RW-2D**	Water	05/21/19 15:40	05/24/19 09:50
92430523006	**Trip Blank**	Water	05/21/19 00:00	05/24/19 09:50

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Kopflex System Wells
Pace Project No.: 92430523

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92430523001	**RW-1S**	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430523002	**RW-2S**	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430523003	**RW-3S**	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430523004	**RW-1D**	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430523005	**RW-2D**	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C
92430523006	**Trip Blank**	EPA 8260B	DLK	63	PASI-C
		EPA 8260B Mod.	SAS	3	PASI-C

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

ANALYTICAL RESULTS

Project: Kopflex System Wells
Pace Project No.: 92430523

Sample: RW-1S **Lab ID: 92430523001** Collected: 05/21/19 11:15 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	62.5	2.5		05/30/19 23:46	67-64-1	
Benzene	ND	ug/L	2.5	2.5		05/30/19 23:46	71-43-2	
Bromobenzene	ND	ug/L	2.5	2.5		05/30/19 23:46	108-86-1	
Bromochloromethane	ND	ug/L	2.5	2.5		05/30/19 23:46	74-97-5	
Bromodichloromethane	ND	ug/L	2.5	2.5		05/30/19 23:46	75-27-4	
Bromoform	ND	ug/L	2.5	2.5		05/30/19 23:46	75-25-2	
Bromomethane	ND	ug/L	5.0	2.5		05/30/19 23:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	12.5	2.5		05/30/19 23:46	78-93-3	
Carbon tetrachloride	ND	ug/L	2.5	2.5		05/30/19 23:46	56-23-5	
Chlorobenzene	ND	ug/L	2.5	2.5		05/30/19 23:46	108-90-7	
Chloroethane	**20.2**	ug/L	2.5	2.5		05/30/19 23:46	75-00-3	
Chloroform	ND	ug/L	12.5	2.5		05/30/19 23:46	67-66-3	
Chloromethane	ND	ug/L	2.5	2.5		05/30/19 23:46	74-87-3	
2-Chlorotoluene	ND	ug/L	2.5	2.5		05/30/19 23:46	95-49-8	
4-Chlorotoluene	ND	ug/L	2.5	2.5		05/30/19 23:46	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	12.5	2.5		05/30/19 23:46	96-12-8	
Dibromochloromethane	ND	ug/L	2.5	2.5		05/30/19 23:46	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	2.5	2.5		05/30/19 23:46	106-93-4	
Dibromomethane	ND	ug/L	2.5	2.5		05/30/19 23:46	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	2.5	2.5		05/30/19 23:46	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	2.5	2.5		05/30/19 23:46	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	2.5	2.5		05/30/19 23:46	106-46-7	
Dichlorodifluoromethane	ND	ug/L	2.5	2.5		05/30/19 23:46	75-71-8	
1,1-Dichloroethane	**89.1**	ug/L	2.5	2.5		05/30/19 23:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	2.5	2.5		05/30/19 23:46	107-06-2	
1,1-Dichloroethene	**384**	ug/L	2.5	2.5		05/30/19 23:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	2.5	2.5		05/30/19 23:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	2.5	2.5		05/30/19 23:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	2.5	2.5		05/30/19 23:46	78-87-5	
1,3-Dichloropropane	ND	ug/L	2.5	2.5		05/30/19 23:46	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.5	2.5		05/30/19 23:46	594-20-7	
1,1-Dichloropropene	ND	ug/L	2.5	2.5		05/30/19 23:46	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	2.5	2.5		05/30/19 23:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	2.5	2.5		05/30/19 23:46	10061-02-6	
Diisopropyl ether	ND	ug/L	2.5	2.5		05/30/19 23:46	108-20-3	
Ethylbenzene	ND	ug/L	2.5	2.5		05/30/19 23:46	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.5	2.5		05/30/19 23:46	87-68-3	
2-Hexanone	ND	ug/L	12.5	2.5		05/30/19 23:46	591-78-6	
p-Isopropyltoluene	ND	ug/L	2.5	2.5		05/30/19 23:46	99-87-6	
Methylene Chloride	ND	ug/L	12.5	2.5		05/30/19 23:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	12.5	2.5		05/30/19 23:46	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	2.5	2.5		05/30/19 23:46	1634-04-4	
Naphthalene	ND	ug/L	2.5	2.5		05/30/19 23:46	91-20-3	
Styrene	ND	ug/L	2.5	2.5		05/30/19 23:46	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.5	2.5		05/30/19 23:46	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.5	2.5		05/30/19 23:46	79-34-5	
Tetrachloroethene	ND	ug/L	2.5	2.5		05/30/19 23:46	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex System Wells
Pace Project No.: 92430523

Sample: RW-1S **Lab ID: 92430523001** Collected: 05/21/19 11:15 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	2.5	2.5		05/30/19 23:46	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.5	2.5		05/30/19 23:46	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.5	2.5		05/30/19 23:46	120-82-1	
1,1,1-Trichloroethane	**76.5**	ug/L	2.5	2.5		05/30/19 23:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	2.5	2.5		05/30/19 23:46	79-00-5	
Trichloroethene	**2.8**	ug/L	2.5	2.5		05/30/19 23:46	79-01-6	
Trichlorofluoromethane	ND	ug/L	2.5	2.5		05/30/19 23:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	2.5		05/30/19 23:46	96-18-4	
Vinyl acetate	ND	ug/L	5.0	2.5		05/30/19 23:46	108-05-4	
Vinyl chloride	**4.2**	ug/L	2.5	2.5		05/30/19 23:46	75-01-4	
Xylene (Total)	ND	ug/L	2.5	2.5		05/30/19 23:46	1330-20-7	
m&p-Xylene	ND	ug/L	5.0	2.5		05/30/19 23:46	179601-23-1	
o-Xylene	ND	ug/L	2.5	2.5		05/30/19 23:46	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	2.5		05/30/19 23:46	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	2.5		05/30/19 23:46	17060-07-0	
Toluene-d8 (S)	98	%	70-130	2.5		05/30/19 23:46	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**374**	ug/L	20.0	10		05/30/19 11:39	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	50-150	10		05/30/19 11:39	17060-07-0	
Toluene-d8 (S)	105	%	50-150	10		05/30/19 11:39	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: Kopflex System Wells
Pace Project No.: 92430523

Sample: RW-2S **Lab ID: 92430523002** Collected: 05/21/19 11:25 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	50.0	2		05/29/19 21:01	67-64-1	
Benzene	ND	ug/L	2.0	2		05/29/19 21:01	71-43-2	
Bromobenzene	ND	ug/L	2.0	2		05/29/19 21:01	108-86-1	
Bromochloromethane	ND	ug/L	2.0	2		05/29/19 21:01	74-97-5	
Bromodichloromethane	ND	ug/L	2.0	2		05/29/19 21:01	75-27-4	
Bromoform	ND	ug/L	2.0	2		05/29/19 21:01	75-25-2	
Bromomethane	ND	ug/L	4.0	2		05/29/19 21:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2		05/29/19 21:01	78-93-3	
Carbon tetrachloride	ND	ug/L	2.0	2		05/29/19 21:01	56-23-5	
Chlorobenzene	ND	ug/L	2.0	2		05/29/19 21:01	108-90-7	
Chloroethane	ND	ug/L	2.0	2		05/29/19 21:01	75-00-3	
Chloroform	ND	ug/L	10.0	2		05/29/19 21:01	67-66-3	
Chloromethane	ND	ug/L	2.0	2		05/29/19 21:01	74-87-3	
2-Chlorotoluene	ND	ug/L	2.0	2		05/29/19 21:01	95-49-8	
4-Chlorotoluene	ND	ug/L	2.0	2		05/29/19 21:01	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	10.0	2		05/29/19 21:01	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	2		05/29/19 21:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	2.0	2		05/29/19 21:01	106-93-4	
Dibromomethane	ND	ug/L	2.0	2		05/29/19 21:01	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	2.0	2		05/29/19 21:01	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	2.0	2		05/29/19 21:01	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	2.0	2		05/29/19 21:01	106-46-7	
Dichlorodifluoromethane	ND	ug/L	2.0	2		05/29/19 21:01	75-71-8	
1,1-Dichloroethane	**36.5**	ug/L	2.0	2		05/29/19 21:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	2.0	2		05/29/19 21:01	107-06-2	
1,1-Dichloroethene	**244**	ug/L	2.0	2		05/29/19 21:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	2.0	2		05/29/19 21:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	2.0	2		05/29/19 21:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	2.0	2		05/29/19 21:01	78-87-5	
1,3-Dichloropropane	ND	ug/L	2.0	2		05/29/19 21:01	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.0	2		05/29/19 21:01	594-20-7	
1,1-Dichloropropene	ND	ug/L	2.0	2		05/29/19 21:01	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	2.0	2		05/29/19 21:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	2.0	2		05/29/19 21:01	10061-02-6	
Diisopropyl ether	ND	ug/L	2.0	2		05/29/19 21:01	108-20-3	
Ethylbenzene	ND	ug/L	2.0	2		05/29/19 21:01	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	2		05/29/19 21:01	87-68-3	
2-Hexanone	ND	ug/L	10.0	2		05/29/19 21:01	591-78-6	
p-Isopropyltoluene	ND	ug/L	2.0	2		05/29/19 21:01	99-87-6	
Methylene Chloride	ND	ug/L	10.0	2		05/29/19 21:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	2		05/29/19 21:01	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	2.0	2		05/29/19 21:01	1634-04-4	
Naphthalene	ND	ug/L	2.0	2		05/29/19 21:01	91-20-3	
Styrene	ND	ug/L	2.0	2		05/29/19 21:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	2		05/29/19 21:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	2		05/29/19 21:01	79-34-5	
Tetrachloroethene	ND	ug/L	2.0	2		05/29/19 21:01	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex System Wells
Pace Project No.: 92430523

Sample: RW-2S **Lab ID: 92430523002** Collected: 05/21/19 11:25 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	2.0	2		05/29/19 21:01	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	2		05/29/19 21:01	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	2		05/29/19 21:01	120-82-1	
1,1,1-Trichloroethane	**314**	ug/L	2.0	2		05/29/19 21:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	2.0	2		05/29/19 21:01	79-00-5	
Trichloroethene	**3.6**	ug/L	2.0	2		05/29/19 21:01	79-01-6	
Trichlorofluoromethane	ND	ug/L	2.0	2		05/29/19 21:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.0	2		05/29/19 21:01	96-18-4	
Vinyl acetate	ND	ug/L	4.0	2		05/29/19 21:01	108-05-4	
Vinyl chloride	ND	ug/L	2.0	2		05/29/19 21:01	75-01-4	
Xylene (Total)	ND	ug/L	2.0	2		05/29/19 21:01	1330-20-7	
m&p-Xylene	ND	ug/L	4.0	2		05/29/19 21:01	179601-23-1	
o-Xylene	ND	ug/L	2.0	2		05/29/19 21:01	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	2		05/29/19 21:01	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130	2		05/29/19 21:01	17060-07-0	
Toluene-d8 (S)	96	%	70-130	2		05/29/19 21:01	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**448**	ug/L	20.0	10		05/30/19 11:58	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%	50-150	10		05/30/19 11:58	17060-07-0	
Toluene-d8 (S)	105	%	50-150	10		05/30/19 11:58	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

ANALYTICAL RESULTS

Project: Kopflex System Wells
Pace Project No.: 92430523

Sample: RW-3S **Lab ID: 92430523003** Collected: 05/21/19 11:35 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/29/19 17:18	67-64-1	
Benzene	ND	ug/L	1.0	1		05/29/19 17:18	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/29/19 17:18	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/29/19 17:18	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/19 17:18	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/19 17:18	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/19 17:18	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/19 17:18	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/19 17:18	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/19 17:18	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/29/19 17:18	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/29/19 17:18	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/29/19 17:18	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 17:18	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 17:18	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/29/19 17:18	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/19 17:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/19 17:18	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/19 17:18	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:18	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/29/19 17:18	75-71-8	
1,1-Dichloroethane	**2.1**	ug/L	1.0	1		05/29/19 17:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/19 17:18	107-06-2	
1,1-Dichloroethene	**2.7**	ug/L	1.0	1		05/29/19 17:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 17:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 17:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 17:18	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/29/19 17:18	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 17:18	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/29/19 17:18	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 17:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 17:18	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/29/19 17:18	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/29/19 17:18	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/29/19 17:18	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/29/19 17:18	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/29/19 17:18	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/29/19 17:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/19 17:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/29/19 17:18	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/29/19 17:18	91-20-3	
Styrene	ND	ug/L	1.0	1		05/29/19 17:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 17:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 17:18	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/19 17:18	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex System Wells
Pace Project No.: 92430523

Sample: RW-3S **Lab ID: 92430523003** Collected: 05/21/19 11:35 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/29/19 17:18	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:18	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:18	120-82-1	
1,1,1-Trichloroethane	**9.4**	ug/L	1.0	1		05/29/19 17:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/19 17:18	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/19 17:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/19 17:18	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/19 17:18	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/19 17:18	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/19 17:18	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/29/19 17:18	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/29/19 17:18	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/29/19 17:18	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		05/29/19 17:18	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130	1		05/29/19 17:18	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		05/29/19 17:18	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**15.2**	ug/L	2.0	1		05/30/19 12:18	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%	50-150	1		05/30/19 12:18	17060-07-0	
Toluene-d8 (S)	107	%	50-150	1		05/30/19 12:18	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: Kopflex System Wells
Pace Project No.: 92430523

Sample: RW-1D **Lab ID: 92430523004** Collected: 05/21/19 15:05 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	50.0	2		05/31/19 00:04	67-64-1	
Benzene	ND	ug/L	2.0	2		05/31/19 00:04	71-43-2	
Bromobenzene	ND	ug/L	2.0	2		05/31/19 00:04	108-86-1	
Bromochloromethane	ND	ug/L	2.0	2		05/31/19 00:04	74-97-5	
Bromodichloromethane	ND	ug/L	2.0	2		05/31/19 00:04	75-27-4	
Bromoform	ND	ug/L	2.0	2		05/31/19 00:04	75-25-2	
Bromomethane	ND	ug/L	4.0	2		05/31/19 00:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2		05/31/19 00:04	78-93-3	
Carbon tetrachloride	ND	ug/L	2.0	2		05/31/19 00:04	56-23-5	
Chlorobenzene	ND	ug/L	2.0	2		05/31/19 00:04	108-90-7	
Chloroethane	**2.4**	ug/L	2.0	2		05/31/19 00:04	75-00-3	
Chloroform	ND	ug/L	10.0	2		05/31/19 00:04	67-66-3	
Chloromethane	ND	ug/L	2.0	2		05/31/19 00:04	74-87-3	
2-Chlorotoluene	ND	ug/L	2.0	2		05/31/19 00:04	95-49-8	
4-Chlorotoluene	ND	ug/L	2.0	2		05/31/19 00:04	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	10.0	2		05/31/19 00:04	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	2		05/31/19 00:04	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	2.0	2		05/31/19 00:04	106-93-4	
Dibromomethane	ND	ug/L	2.0	2		05/31/19 00:04	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	2.0	2		05/31/19 00:04	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	2.0	2		05/31/19 00:04	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	2.0	2		05/31/19 00:04	106-46-7	
Dichlorodifluoromethane	ND	ug/L	2.0	2		05/31/19 00:04	75-71-8	
1,1-Dichloroethane	**50.8**	ug/L	2.0	2		05/31/19 00:04	75-34-3	
1,2-Dichloroethane	ND	ug/L	2.0	2		05/31/19 00:04	107-06-2	
1,1-Dichloroethene	**224**	ug/L	2.0	2		05/31/19 00:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	2.0	2		05/31/19 00:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	2.0	2		05/31/19 00:04	156-60-5	
1,2-Dichloropropane	ND	ug/L	2.0	2		05/31/19 00:04	78-87-5	
1,3-Dichloropropane	ND	ug/L	2.0	2		05/31/19 00:04	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.0	2		05/31/19 00:04	594-20-7	
1,1-Dichloropropene	ND	ug/L	2.0	2		05/31/19 00:04	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	2.0	2		05/31/19 00:04	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	2.0	2		05/31/19 00:04	10061-02-6	
Diisopropyl ether	ND	ug/L	2.0	2		05/31/19 00:04	108-20-3	
Ethylbenzene	ND	ug/L	2.0	2		05/31/19 00:04	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	2		05/31/19 00:04	87-68-3	
2-Hexanone	ND	ug/L	10.0	2		05/31/19 00:04	591-78-6	
p-Isopropyltoluene	ND	ug/L	2.0	2		05/31/19 00:04	99-87-6	
Methylene Chloride	ND	ug/L	10.0	2		05/31/19 00:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	2		05/31/19 00:04	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	2.0	2		05/31/19 00:04	1634-04-4	
Naphthalene	ND	ug/L	2.0	2		05/31/19 00:04	91-20-3	
Styrene	ND	ug/L	2.0	2		05/31/19 00:04	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	2		05/31/19 00:04	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	2		05/31/19 00:04	79-34-5	
Tetrachloroethene	ND	ug/L	2.0	2		05/31/19 00:04	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex System Wells
Pace Project No.: 92430523

Sample: RW-1D **Lab ID: 92430523004** Collected: 05/21/19 15:05 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	2.0	2		05/31/19 00:04	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	2		05/31/19 00:04	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	2		05/31/19 00:04	120-82-1	
1,1,1-Trichloroethane	**5.9**	ug/L	2.0	2		05/31/19 00:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	2.0	2		05/31/19 00:04	79-00-5	
Trichloroethene	ND	ug/L	2.0	2		05/31/19 00:04	79-01-6	
Trichlorofluoromethane	ND	ug/L	2.0	2		05/31/19 00:04	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.0	2		05/31/19 00:04	96-18-4	
Vinyl acetate	ND	ug/L	4.0	2		05/31/19 00:04	108-05-4	
Vinyl chloride	ND	ug/L	2.0	2		05/31/19 00:04	75-01-4	
Xylene (Total)	ND	ug/L	2.0	2		05/31/19 00:04	1330-20-7	
m&p-Xylene	ND	ug/L	4.0	2		05/31/19 00:04	179601-23-1	
o-Xylene	ND	ug/L	2.0	2		05/31/19 00:04	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	2		05/31/19 00:04	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	2		05/31/19 00:04	17060-07-0	
Toluene-d8 (S)	99	%	70-130	2		05/31/19 00:04	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**112**	ug/L	5.0	2.5		05/30/19 12:37	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	50-150	2.5		05/30/19 12:37	17060-07-0	
Toluene-d8 (S)	105	%	50-150	2.5		05/30/19 12:37	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: Kopflex System Wells
Pace Project No.: 92430523

Sample: RW-2D **Lab ID: 92430523005** Collected: 05/21/19 15:40 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/29/19 17:37	67-64-1	
Benzene	ND	ug/L	1.0	1		05/29/19 17:37	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/29/19 17:37	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/29/19 17:37	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/19 17:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/19 17:37	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/19 17:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/19 17:37	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/19 17:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/19 17:37	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/29/19 17:37	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/29/19 17:37	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/29/19 17:37	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 17:37	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 17:37	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/29/19 17:37	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/19 17:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/19 17:37	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/19 17:37	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:37	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:37	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:37	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/29/19 17:37	75-71-8	
1,1-Dichloroethane	**16.9**	ug/L	1.0	1		05/29/19 17:37	75-34-3	
1,2-Dichloroethane	**1.3**	ug/L	1.0	1		05/29/19 17:37	107-06-2	
1,1-Dichloroethene	**115**	ug/L	1.0	1		05/29/19 17:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 17:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 17:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 17:37	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/29/19 17:37	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 17:37	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/29/19 17:37	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 17:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 17:37	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/29/19 17:37	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/29/19 17:37	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/29/19 17:37	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/29/19 17:37	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/29/19 17:37	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/29/19 17:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/19 17:37	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/29/19 17:37	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/29/19 17:37	91-20-3	
Styrene	ND	ug/L	1.0	1		05/29/19 17:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 17:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 17:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/19 17:37	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex System Wells
Pace Project No.: 92430523

Sample: RW-2D **Lab ID: 92430523005** Collected: 05/21/19 15:40 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/29/19 17:37	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:37	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 17:37	120-82-1	
1,1,1-Trichloroethane	**5.7**	ug/L	1.0	1		05/29/19 17:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/19 17:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/19 17:37	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/19 17:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/19 17:37	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/19 17:37	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/19 17:37	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/29/19 17:37	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/29/19 17:37	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/29/19 17:37	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		05/29/19 17:37	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130	1		05/29/19 17:37	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		05/29/19 17:37	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**72.7**	ug/L	5.0	2.5		05/30/19 12:57	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	50-150	2.5		05/30/19 12:57	17060-07-0	
Toluene-d8 (S)	105	%	50-150	2.5		05/30/19 12:57	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: Kopflex System Wells
Pace Project No.: 92430523

Sample: Trip Blank **Lab ID: 92430523006** Collected: 05/21/19 00:00 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		05/29/19 13:16	67-64-1	
Benzene	ND	ug/L	1.0	1		05/29/19 13:16	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/29/19 13:16	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/29/19 13:16	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/19 13:16	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/19 13:16	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/19 13:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/19 13:16	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/19 13:16	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/19 13:16	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/29/19 13:16	75-00-3	
Chloroform	ND	ug/L	5.0	1		05/29/19 13:16	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/29/19 13:16	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 13:16	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		05/29/19 13:16	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		05/29/19 13:16	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/19 13:16	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/19 13:16	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/19 13:16	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 13:16	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 13:16	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/19 13:16	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/29/19 13:16	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/29/19 13:16	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/19 13:16	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/29/19 13:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 13:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/19 13:16	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 13:16	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		05/29/19 13:16	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		05/29/19 13:16	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		05/29/19 13:16	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 13:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/19 13:16	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		05/29/19 13:16	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		05/29/19 13:16	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/29/19 13:16	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		05/29/19 13:16	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		05/29/19 13:16	99-87-6	
Methylene Chloride	ND	ug/L	5.0	1		05/29/19 13:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/19 13:16	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/29/19 13:16	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		05/29/19 13:16	91-20-3	
Styrene	ND	ug/L	1.0	1		05/29/19 13:16	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 13:16	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/19 13:16	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/19 13:16	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Kopflex System Wells
Pace Project No.: 92430523

Sample: Trip Blank **Lab ID: 92430523006** Collected: 05/21/19 00:00 Received: 05/24/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		05/29/19 13:16	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 13:16	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/29/19 13:16	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/29/19 13:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/19 13:16	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/19 13:16	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/19 13:16	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/19 13:16	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/19 13:16	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/19 13:16	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		05/29/19 13:16	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/29/19 13:16	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/29/19 13:16	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		05/29/19 13:16	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130	1		05/29/19 13:16	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		05/29/19 13:16	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		05/30/19 13:16	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	50-150	1		05/30/19 13:16	17060-07-0	
Toluene-d8 (S)	103	%	50-150	1		05/30/19 13:16	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: Kopflex System Wells
Pace Project No.: 92430523

QC Batch: 477901 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92430523002, 92430523003, 92430523005, 92430523006

METHOD BLANK: 2587378 Matrix: Water
Associated Lab Samples: 92430523002, 92430523003, 92430523005, 92430523006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	05/29/19 11:06	
1,1,1-Trichloroethane	ug/L	ND	1.0	05/29/19 11:06	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/29/19 11:06	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/29/19 11:06	
1,1-Dichloroethane	ug/L	ND	1.0	05/29/19 11:06	
1,1-Dichloroethene	ug/L	ND	1.0	05/29/19 11:06	
1,1-Dichloropropene	ug/L	ND	1.0	05/29/19 11:06	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	05/29/19 11:06	
1,2,3-Trichloropropane	ug/L	ND	1.0	05/29/19 11:06	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	05/29/19 11:06	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	05/29/19 11:06	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	05/29/19 11:06	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/29/19 11:06	
1,2-Dichloroethane	ug/L	ND	1.0	05/29/19 11:06	
1,2-Dichloropropane	ug/L	ND	1.0	05/29/19 11:06	
1,3-Dichlorobenzene	ug/L	ND	1.0	05/29/19 11:06	
1,3-Dichloropropane	ug/L	ND	1.0	05/29/19 11:06	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/29/19 11:06	
2,2-Dichloropropane	ug/L	ND	1.0	05/29/19 11:06	
2-Butanone (MEK)	ug/L	ND	5.0	05/29/19 11:06	
2-Chlorotoluene	ug/L	ND	1.0	05/29/19 11:06	
2-Hexanone	ug/L	ND	5.0	05/29/19 11:06	
4-Chlorotoluene	ug/L	ND	1.0	05/29/19 11:06	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	05/29/19 11:06	
Acetone	ug/L	ND	25.0	05/29/19 11:06	
Benzene	ug/L	ND	1.0	05/29/19 11:06	
Bromobenzene	ug/L	ND	1.0	05/29/19 11:06	
Bromochloromethane	ug/L	ND	1.0	05/29/19 11:06	
Bromodichloromethane	ug/L	ND	1.0	05/29/19 11:06	
Bromoform	ug/L	ND	1.0	05/29/19 11:06	
Bromomethane	ug/L	ND	2.0	05/29/19 11:06	
Carbon tetrachloride	ug/L	ND	1.0	05/29/19 11:06	
Chlorobenzene	ug/L	ND	1.0	05/29/19 11:06	
Chloroethane	ug/L	ND	1.0	05/29/19 11:06	
Chloroform	ug/L	ND	5.0	05/29/19 11:06	
Chloromethane	ug/L	ND	1.0	05/29/19 11:06	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/29/19 11:06	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/29/19 11:06	
Dibromochloromethane	ug/L	ND	1.0	05/29/19 11:06	
Dibromomethane	ug/L	ND	1.0	05/29/19 11:06	
Dichlorodifluoromethane	ug/L	ND	1.0	05/29/19 11:06	

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
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QUALITY CONTROL DATA

Project: Kopflex System Wells
Pace Project No.: 92430523

METHOD BLANK: 2587378 Matrix: Water
Associated Lab Samples: 92430523002, 92430523003, 92430523005, 92430523006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	05/29/19 11:06	
Ethylbenzene	ug/L	ND	1.0	05/29/19 11:06	
Hexachloro-1,3-butadiene	ug/L	1.3	1.0	05/29/19 11:06	
m&p-Xylene	ug/L	ND	2.0	05/29/19 11:06	
Methyl-tert-butyl ether	ug/L	ND	1.0	05/29/19 11:06	
Methylene Chloride	ug/L	ND	5.0	05/29/19 11:06	
Naphthalene	ug/L	ND	1.0	05/29/19 11:06	
o-Xylene	ug/L	ND	1.0	05/29/19 11:06	
p-Isopropyltoluene	ug/L	ND	1.0	05/29/19 11:06	
Styrene	ug/L	ND	1.0	05/29/19 11:06	
Tetrachloroethene	ug/L	ND	1.0	05/29/19 11:06	
Toluene	ug/L	ND	1.0	05/29/19 11:06	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/29/19 11:06	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/29/19 11:06	
Trichloroethene	ug/L	ND	1.0	05/29/19 11:06	
Trichlorofluoromethane	ug/L	ND	1.0	05/29/19 11:06	
Vinyl acetate	ug/L	ND	2.0	05/29/19 11:06	
Vinyl chloride	ug/L	ND	1.0	05/29/19 11:06	
Xylene (Total)	ug/L	ND	1.0	05/29/19 11:06	
1,2-Dichloroethane-d4 (S)	%	112	70-130	05/29/19 11:06	
4-Bromofluorobenzene (S)	%	94	70-130	05/29/19 11:06	
Toluene-d8 (S)	%	97	70-130	05/29/19 11:06	

LABORATORY CONTROL SAMPLE: 2587379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.5	107	70-130	
1,1,1-Trichloroethane	ug/L	50	48.7	97	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	45.5	91	70-130	
1,1,2-Trichloroethane	ug/L	50	46.2	92	70-130	
1,1-Dichloroethane	ug/L	50	44.6	89	70-130	
1,1-Dichloroethene	ug/L	50	48.1	96	70-130	
1,1-Dichloropropene	ug/L	50	41.2	82	70-130	
1,2,3-Trichlorobenzene	ug/L	50	54.5	109	70-130	
1,2,3-Trichloropropane	ug/L	50	41.0	82	70-130	
1,2,4-Trichlorobenzene	ug/L	50	55.0	110	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	52.5	105	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	49.2	98	70-130	
1,2-Dichlorobenzene	ug/L	50	49.5	99	70-130	
1,2-Dichloroethane	ug/L	50	47.9	96	70-130	
1,2-Dichloropropane	ug/L	50	43.5	87	70-130	
1,3-Dichlorobenzene	ug/L	50	48.8	98	70-130	
1,3-Dichloropropane	ug/L	50	47.1	94	70-131	
1,4-Dichlorobenzene	ug/L	50	48.3	97	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: Kopflex System Wells
Pace Project No.: 92430523

LABORATORY CONTROL SAMPLE: 2587379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	52.9	106	69-130	
2-Butanone (MEK)	ug/L	100	100	100	64-135	
2-Chlorotoluene	ug/L	50	47.8	96	70-130	
2-Hexanone	ug/L	100	106	106	66-135	
4-Chlorotoluene	ug/L	50	48.1	96	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	70-130	
Acetone	ug/L	100	114	114	61-157	
Benzene	ug/L	50	44.1	88	70-130	
Bromobenzene	ug/L	50	48.8	98	70-130	
Bromochloromethane	ug/L	50	41.1	82	70-130	
Bromodichloromethane	ug/L	50	53.6	107	70-130	
Bromoform	ug/L	50	56.1	112	70-130	
Bromomethane	ug/L	50	49.9	100	38-130	
Carbon tetrachloride	ug/L	50	53.7	107	70-130	
Chlorobenzene	ug/L	50	46.8	94	70-130	
Chloroethane	ug/L	50	41.1	82	37-142	
Chloroform	ug/L	50	47.1	94	70-130	
Chloromethane	ug/L	50	48.1	96	48-130	
cis-1,2-Dichloroethene	ug/L	50	46.0	92	70-130	
cis-1,3-Dichloropropene	ug/L	50	49.0	98	70-130	
Dibromochloromethane	ug/L	50	54.5	109	70-130	
Dibromomethane	ug/L	50	51.3	103	70-130	
Dichlorodifluoromethane	ug/L	50	42.8	86	53-134	
Diisopropyl ether	ug/L	50	45.2	90	70-135	
Ethylbenzene	ug/L	50	47.0	94	70-130	
Hexachloro-1,3-butadiene	ug/L	50	53.6	107	68-132	
m&p-Xylene	ug/L	100	96.5	97	70-130	
Methyl-tert-butyl ether	ug/L	50	49.3	99	70-130	
Methylene Chloride	ug/L	50	43.5	87	67-132	
Naphthalene	ug/L	50	51.6	103	70-130	
o-Xylene	ug/L	50	47.1	94	70-130	
p-Isopropyltoluene	ug/L	50	50.2	100	70-130	
Styrene	ug/L	50	45.9	92	70-130	
Tetrachloroethene	ug/L	50	47.6	95	69-130	
Toluene	ug/L	50	44.1	88	70-130	
trans-1,2-Dichloroethene	ug/L	50	44.9	90	70-130	
trans-1,3-Dichloropropene	ug/L	50	52.2	104	70-130	
Trichloroethene	ug/L	50	47.8	96	70-130	
Trichlorofluoromethane	ug/L	50	48.5	97	63-130	
Vinyl acetate	ug/L	100	117	117	55-143	
Vinyl chloride	ug/L	50	44.2	88	70-131	
Xylene (Total)	ug/L	150	144	96	70-130	
1,2-Dichloroethane-d4 (S)	%			112	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			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: Kopflex System Wells
Pace Project No.: 92430523

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2587380 2587381

Parameter	Units	92430523003 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	18.7	20.6	94	103	73-134	10	30	
1,1,1-Trichloroethane	ug/L	9.4	20	20	28.4	30.0	95	103	82-143	5	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	17.7	19.3	89	97	70-136	9	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	18.6	19.5	93	97	70-135	5	30	
1,1-Dichloroethane	ug/L	2.1	20	20	21.8	23.0	98	105	70-139	5	30	
1,1-Dichloroethene	ug/L	2.7	20	20	24.4	24.3	108	108	70-154	1	30	
1,1-Dichloropropene	ug/L	ND	20	20	18.2	19.1	91	96	70-149	5	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	18.1	19.4	91	97	70-135	7	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	18.6	19.9	93	99	71-137	7	30	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	18.2	19.1	91	96	73-140	5	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	16.0	17.8	80	89	65-134	11	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	18.4	19.6	92	98	70-137	7	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	17.6	18.5	88	93	70-133	5	30	
1,2-Dichloroethane	ug/L	ND	20	20	18.9	20.9	94	104	70-137	10	30	
1,2-Dichloropropane	ug/L	ND	20	20	18.7	19.5	93	97	70-140	4	30	
1,3-Dichlorobenzene	ug/L	ND	20	20	17.7	18.6	89	93	70-135	5	30	
1,3-Dichloropropane	ug/L	ND	20	20	18.8	19.8	94	99	70-143	5	30	
1,4-Dichlorobenzene	ug/L	ND	20	20	17.6	18.9	88	95	70-133	7	30	
2,2-Dichloropropane	ug/L	ND	20	20	18.2	18.9	91	94	61-148	4	30	
2-Butanone (MEK)	ug/L	ND	40	40	38.1	40.7	95	102	60-139	7	30	
2-Chlorotoluene	ug/L	ND	20	20	17.6	18.1	88	90	70-144	3	30	
2-Hexanone	ug/L	ND	40	40	35.5	38.6	89	97	65-138	8	30	
4-Chlorotoluene	ug/L	ND	20	20	17.7	18.4	89	92	70-137	4	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	40	35.5	37.3	89	93	65-135	5	30	
Acetone	ug/L	ND	40	40	45.0	47.1	113	118	60-148	5	30	
Benzene	ug/L	ND	20	20	19.3	20.3	96	101	70-151	5	30	
Bromobenzene	ug/L	ND	20	20	18.6	19.1	93	95	70-136	3	30	
Bromochloromethane	ug/L	ND	20	20	22.3	22.5	112	112	70-141	1	30	
Bromodichloromethane	ug/L	ND	20	20	18.4	19.2	92	96	70-138	5	30	
Bromoform	ug/L	ND	20	20	16.6	18.5	83	93	63-130	11	30	
Bromomethane	ug/L	ND	20	20	10.5	11.3	53	56	15-152	7	30	
Carbon tetrachloride	ug/L	ND	20	20	18.5	19.3	93	97	70-143	4	30	
Chlorobenzene	ug/L	ND	20	20	18.3	19.2	92	96	70-138	5	30	
Chloroethane	ug/L	ND	20	20	19.6	20.8	98	104	52-163	6	30	
Chloroform	ug/L	ND	20	20	18.8	19.5	94	97	70-139	3	30	
Chloromethane	ug/L	ND	20	20	16.2	18.0	81	90	41-139	11	30	
cis-1,2-Dichloroethene	ug/L	ND	20	20	19.2	20.4	96	102	70-141	6	30	
cis-1,3-Dichloropropene	ug/L	ND	20	20	18.4	19.2	92	96	70-137	4	30	
Dibromochloromethane	ug/L	ND	20	20	17.3	18.9	87	95	70-134	9	30	
Dibromomethane	ug/L	ND	20	20	18.6	19.4	93	97	70-138	4	30	
Dichlorodifluoromethane	ug/L	ND	20	20	18.9	19.9	94	100	47-155	5	30	
Diisopropyl ether	ug/L	ND	20	20	18.8	19.9	94	99	63-144	5	30	
Ethylbenzene	ug/L	ND	20	20	18.8	19.9	94	99	66-153	6	30	
Hexachloro-1,3-butadiene	ug/L	ND	20	20	18.8	19.7	94	99	65-149	5	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: Kopflex System Wells
Pace Project No.: 92430523

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2587380 2587381

Parameter	Units	92430523003 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	36.9	39.1	92	98	69-152	6	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	18.3	18.9	92	94	54-156	3	30	
Methylene Chloride	ug/L	ND	20	20	20.1	20.9	101	104	42-159	4	30	
Naphthalene	ug/L	ND	20	20	16.9	18.2	85	91	61-148	7	30	
o-Xylene	ug/L	ND	20	20	18.5	19.4	93	97	70-148	5	30	
p-Isopropyltoluene	ug/L	ND	20	20	18.4	19.4	92	97	70-146	5	30	
Styrene	ug/L	ND	20	20	18.1	19.3	91	96	70-135	6	30	
Tetrachloroethene	ug/L	ND	20	20	18.8	19.9	94	99	59-143	6	30	
Toluene	ug/L	ND	20	20	18.6	19.3	93	96	59-148	4	30	
trans-1,2-Dichloroethene	ug/L	ND	20	20	19.5	20.9	98	105	70-146	7	30	
trans-1,3-Dichloropropene	ug/L	ND	20	20	18.4	19.2	92	96	70-135	4	30	
Trichloroethene	ug/L	ND	20	20	18.5	19.8	93	99	70-147	7	30	
Trichlorofluoromethane	ug/L	ND	20	20	19.2	19.8	96	99	70-148	3	30	
Vinyl acetate	ug/L	ND	40	40	32.9	34.3	82	86	49-151	4	30	
Vinyl chloride	ug/L	ND	20	20	19.2	20.6	96	103	70-156	7	30	
Xylene (Total)	ug/L	ND	60	60	55.4	58.6	92	98	63-158	6	30	
1,2-Dichloroethane-d4 (S)	%						95	101	70-130			
4-Bromofluorobenzene (S)	%						99	101	70-130			
Toluene-d8 (S)	%						99	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: Kopflex System Wells
Pace Project No.: 92430523

QC Batch: 478157 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92430523001, 92430523004

METHOD BLANK: 2588596 Matrix: Water
Associated Lab Samples: 92430523001, 92430523004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	05/30/19 20:40	
1,1,1-Trichloroethane	ug/L	ND	1.0	05/30/19 20:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/30/19 20:40	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/30/19 20:40	
1,1-Dichloroethane	ug/L	ND	1.0	05/30/19 20:40	
1,1-Dichloroethene	ug/L	ND	1.0	05/30/19 20:40	
1,1-Dichloropropene	ug/L	ND	1.0	05/30/19 20:40	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	05/30/19 20:40	
1,2,3-Trichloropropane	ug/L	ND	1.0	05/30/19 20:40	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	05/30/19 20:40	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	05/30/19 20:40	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	05/30/19 20:40	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/30/19 20:40	
1,2-Dichloroethane	ug/L	ND	1.0	05/30/19 20:40	
1,2-Dichloropropane	ug/L	ND	1.0	05/30/19 20:40	
1,3-Dichlorobenzene	ug/L	ND	1.0	05/30/19 20:40	
1,3-Dichloropropane	ug/L	ND	1.0	05/30/19 20:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/30/19 20:40	
2,2-Dichloropropane	ug/L	ND	1.0	05/30/19 20:40	
2-Butanone (MEK)	ug/L	ND	5.0	05/30/19 20:40	
2-Chlorotoluene	ug/L	ND	1.0	05/30/19 20:40	
2-Hexanone	ug/L	ND	5.0	05/30/19 20:40	
4-Chlorotoluene	ug/L	ND	1.0	05/30/19 20:40	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	05/30/19 20:40	
Acetone	ug/L	ND	25.0	05/30/19 20:40	
Benzene	ug/L	ND	1.0	05/30/19 20:40	
Bromobenzene	ug/L	ND	1.0	05/30/19 20:40	
Bromochloromethane	ug/L	ND	1.0	05/30/19 20:40	
Bromodichloromethane	ug/L	ND	1.0	05/30/19 20:40	
Bromoform	ug/L	ND	1.0	05/30/19 20:40	
Bromomethane	ug/L	ND	2.0	05/30/19 20:40	
Carbon tetrachloride	ug/L	ND	1.0	05/30/19 20:40	
Chlorobenzene	ug/L	ND	1.0	05/30/19 20:40	
Chloroethane	ug/L	ND	1.0	05/30/19 20:40	
Chloroform	ug/L	ND	5.0	05/30/19 20:40	
Chloromethane	ug/L	ND	1.0	05/30/19 20:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/30/19 20:40	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/30/19 20:40	
Dibromochloromethane	ug/L	ND	1.0	05/30/19 20:40	
Dibromomethane	ug/L	ND	1.0	05/30/19 20:40	
Dichlorodifluoromethane	ug/L	ND	1.0	05/30/19 20:40	

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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: Kopflex System Wells
Pace Project No.: 92430523

METHOD BLANK: 2588596 Matrix: Water
Associated Lab Samples: 92430523001, 92430523004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	05/30/19 20:40	
Ethylbenzene	ug/L	ND	1.0	05/30/19 20:40	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	05/30/19 20:40	
m&p-Xylene	ug/L	ND	2.0	05/30/19 20:40	
Methyl-tert-butyl ether	ug/L	ND	1.0	05/30/19 20:40	
Methylene Chloride	ug/L	ND	5.0	05/30/19 20:40	
Naphthalene	ug/L	ND	1.0	05/30/19 20:40	
o-Xylene	ug/L	ND	1.0	05/30/19 20:40	
p-Isopropyltoluene	ug/L	ND	1.0	05/30/19 20:40	
Styrene	ug/L	ND	1.0	05/30/19 20:40	
Tetrachloroethene	ug/L	ND	1.0	05/30/19 20:40	
Toluene	ug/L	ND	1.0	05/30/19 20:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/30/19 20:40	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/30/19 20:40	
Trichloroethene	ug/L	ND	1.0	05/30/19 20:40	
Trichlorofluoromethane	ug/L	ND	1.0	05/30/19 20:40	
Vinyl acetate	ug/L	ND	2.0	05/30/19 20:40	
Vinyl chloride	ug/L	ND	1.0	05/30/19 20:40	
Xylene (Total)	ug/L	ND	1.0	05/30/19 20:40	
1,2-Dichloroethane-d4 (S)	%	97	70-130	05/30/19 20:40	
4-Bromofluorobenzene (S)	%	98	70-130	05/30/19 20:40	
Toluene-d8 (S)	%	99	70-130	05/30/19 20:40	

LABORATORY CONTROL SAMPLE: 2588597

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	49.6	99	70-130	
1,1,1-Trichloroethane	ug/L	50	46.8	94	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	47.1	94	70-130	
1,1,2-Trichloroethane	ug/L	50	53.0	106	70-130	
1,1-Dichloroethane	ug/L	50	48.9	98	70-130	
1,1-Dichloroethene	ug/L	50	49.8	100	70-130	
1,1-Dichloropropene	ug/L	50	45.9	92	70-130	
1,2,3-Trichlorobenzene	ug/L	50	52.8	106	70-130	
1,2,3-Trichloropropane	ug/L	50	48.6	97	70-130	
1,2,4-Trichlorobenzene	ug/L	50	52.8	106	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	48.3	97	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	49.8	100	70-130	
1,2-Dichlorobenzene	ug/L	50	49.4	99	70-130	
1,2-Dichloroethane	ug/L	50	46.9	94	70-130	
1,2-Dichloropropane	ug/L	50	50.4	101	70-130	
1,3-Dichlorobenzene	ug/L	50	47.9	96	70-130	
1,3-Dichloropropane	ug/L	50	49.2	98	70-131	
1,4-Dichlorobenzene	ug/L	50	48.2	96	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: Kopflex System Wells
Pace Project No.: 92430523

LABORATORY CONTROL SAMPLE: 2588597

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	46.4	93	69-130	
2-Butanone (MEK)	ug/L	100	92.4	92	64-135	
2-Chlorotoluene	ug/L	50	48.6	97	70-130	
2-Hexanone	ug/L	100	93.3	93	66-135	
4-Chlorotoluene	ug/L	50	47.6	95	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	100	100	70-130	
Acetone	ug/L	100	102	102	61-157	
Benzene	ug/L	50	48.5	97	70-130	
Bromobenzene	ug/L	50	49.8	100	70-130	
Bromochloromethane	ug/L	50	51.0	102	70-130	
Bromodichloromethane	ug/L	50	51.8	104	70-130	
Bromoform	ug/L	50	46.8	94	70-130	
Bromomethane	ug/L	50	50.1	100	38-130	
Carbon tetrachloride	ug/L	50	47.8	96	70-130	
Chlorobenzene	ug/L	50	47.4	95	70-130	
Chloroethane	ug/L	50	48.7	97	37-142	
Chloroform	ug/L	50	48.3	97	70-130	
Chloromethane	ug/L	50	48.7	97	48-130	
cis-1,2-Dichloroethene	ug/L	50	47.1	94	70-130	
cis-1,3-Dichloropropene	ug/L	50	50.1	100	70-130	
Dibromochloromethane	ug/L	50	48.4	97	70-130	
Dibromomethane	ug/L	50	50.0	100	70-130	
Dichlorodifluoromethane	ug/L	50	49.7	99	53-134	
Diisopropyl ether	ug/L	50	48.4	97	70-135	
Ethylbenzene	ug/L	50	47.2	94	70-130	
Hexachloro-1,3-butadiene	ug/L	50	50.1	100	68-132	
m&p-Xylene	ug/L	100	96.2	96	70-130	
Methyl-tert-butyl ether	ug/L	50	48.3	97	70-130	
Methylene Chloride	ug/L	50	44.5	89	67-132	
Naphthalene	ug/L	50	51.6	103	70-130	
o-Xylene	ug/L	50	48.5	97	70-130	
p-Isopropyltoluene	ug/L	50	49.5	99	70-130	
Styrene	ug/L	50	48.5	97	70-130	
Tetrachloroethene	ug/L	50	46.8	94	69-130	
Toluene	ug/L	50	48.5	97	70-130	
trans-1,2-Dichloroethene	ug/L	50	49.6	99	70-130	
trans-1,3-Dichloropropene	ug/L	50	50.3	101	70-130	
Trichloroethene	ug/L	50	48.2	96	70-130	
Trichlorofluoromethane	ug/L	50	47.9	96	63-130	
Vinyl acetate	ug/L	100	100	100	55-143	
Vinyl chloride	ug/L	50	49.8	100	70-131	
Xylene (Total)	ug/L	150	145	96	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	
Toluene-d8 (S)	%			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: Kopflex System Wells
Pace Project No.: 92430523

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2588598 2588599

Parameter	Units	92430465008 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	19.4	16.7	97	83	73-134	15	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	17.9	16.4	90	82	82-143	9	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	18.1	17.5	90	88	70-136	3	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	19.7	17.9	98	89	70-135	10	30	
1,1-Dichloroethane	ug/L	ND	20	20	19.4	18.3	97	92	70-139	6	30	
1,1-Dichloroethene	ug/L	ND	20	20	20.0	17.8	100	89	70-154	12	30	
1,1-Dichloropropene	ug/L	ND	20	20	17.6	14.5	88	73	70-149	19	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	17.6	14.0	88	70	70-135	23	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	21.5	20.2	107	101	71-137	6	30	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	18.5	14.1	92	70	73-140	27	30	M1
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	18.9	17.2	94	86	65-134	9	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	18.8	17.1	94	85	70-137	10	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	19.0	15.7	95	79	70-133	19	30	
1,2-Dichloroethane	ug/L	ND	20	20	18.5	16.7	92	83	70-137	10	30	
1,2-Dichloropropane	ug/L	ND	20	20	19.9	18.1	99	91	70-140	9	30	
1,3-Dichlorobenzene	ug/L	ND	20	20	19.1	14.9	96	75	70-135	25	30	
1,3-Dichloropropane	ug/L	ND	20	20	19.0	17.3	95	86	70-143	9	30	
1,4-Dichlorobenzene	ug/L	ND	20	20	18.7	15.1	94	76	70-133	21	30	
2,2-Dichloropropane	ug/L	ND	20	20	12.1	11.5	61	58	61-148	5	30	M1
2-Butanone (MEK)	ug/L	ND	40	40	36.9	35.8	92	89	60-139	3	30	
2-Chlorotoluene	ug/L	ND	20	20	19.0	15.1	95	76	70-144	23	30	
2-Hexanone	ug/L	ND	40	40	36.0	34.3	90	86	65-138	5	30	
4-Chlorotoluene	ug/L	ND	20	20	19.1	14.8	96	74	70-137	25	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	40	38.2	35.0	95	87	65-135	9	30	
Acetone	ug/L	ND	40	40	40.8	41.6	102	104	60-148	2	30	
Benzene	ug/L	ND	20	20	19.9	17.5	100	88	70-151	13	30	
Bromobenzene	ug/L	ND	20	20	19.7	16.3	98	82	70-136	19	30	
Bromochloromethane	ug/L	ND	20	20	19.7	18.4	99	92	70-141	7	30	
Bromodichloromethane	ug/L	ND	20	20	19.1	17.8	96	89	70-138	7	30	
Bromoform	ug/L	ND	20	20	18.1	16.9	90	85	63-130	7	30	
Bromomethane	ug/L	ND	20	20	16.6	15.5	83	77	15-152	7	30	
Carbon tetrachloride	ug/L	ND	20	20	18.2	14.8	91	74	70-143	21	30	
Chlorobenzene	ug/L	ND	20	20	18.9	15.7	95	78	70-138	19	30	
Chloroethane	ug/L	ND	20	20	21.7	15.5	109	77	52-163	34	30	R1
Chloroform	ug/L	ND	20	20	18.8	17.3	94	87	70-139	8	30	
Chloromethane	ug/L	ND	20	20	18.0	17.7	90	88	41-139	2	30	
cis-1,2-Dichloroethene	ug/L	ND	20	20	19.0	16.9	95	84	70-141	12	30	
cis-1,3-Dichloropropene	ug/L	ND	20	20	18.6	16.4	93	82	70-137	12	30	
Dibromochloromethane	ug/L	ND	20	20	17.3	16.2	87	81	70-134	7	30	
Dibromomethane	ug/L	ND	20	20	19.5	17.2	97	86	70-138	13	30	
Dichlorodifluoromethane	ug/L	ND	20	20	15.0	14.7	75	74	47-155	2	30	
Diisopropyl ether	ug/L	ND	20	20	18.4	17.2	92	86	63-144	7	30	
Ethylbenzene	ug/L	ND	20	20	18.7	15.0	93	75	66-153	22	30	
Hexachloro-1,3-butadiene	ug/L	ND	20	20	17.4	11.4	87	57	65-149	41	30	M1,R1

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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: Kopflex System Wells
Pace Project No.: 92430523

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2588598 2588599

Parameter	Units	92430465008 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	36.9	30.0	92	75	69-152	21	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	18.6	17.8	93	89	54-156	5	30	
Methylene Chloride	ug/L	ND	20	20	17.1	16.1	85	81	42-159	6	30	
Naphthalene	ug/L	ND	20	20	18.8	16.3	94	81	61-148	14	30	
o-Xylene	ug/L	ND	20	20	19.1	15.7	95	78	70-148	20	30	
p-Isopropyltoluene	ug/L	ND	20	20	18.8	13.6	94	68	70-146	32	30	M1,R1
Styrene	ug/L	ND	20	20	18.4	15.4	92	77	70-135	18	30	
Tetrachloroethene	ug/L	ND	20	20	17.8	13.9	89	70	59-143	25	30	
Toluene	ug/L	ND	20	20	19.2	16.3	96	81	59-148	17	30	
trans-1,2-Dichloroethene	ug/L	ND	20	20	19.6	18.0	98	90	70-146	9	30	
trans-1,3-Dichloropropene	ug/L	ND	20	20	17.9	16.2	90	81	70-135	10	30	
Trichloroethene	ug/L	ND	20	20	18.9	16.5	95	82	70-147	14	30	
Trichlorofluoromethane	ug/L	ND	20	20	16.9	15.2	84	76	70-148	11	30	
Vinyl acetate	ug/L	ND	40	40	21.8	20.4	55	51	49-151	7	30	
Vinyl chloride	ug/L	ND	20	20	18.5	17.8	93	89	70-156	4	30	
Xylene (Total)	ug/L	ND	60	60	56.0	45.7	93	76	63-158	20	30	
1,2-Dichloroethane-d4 (S)	%						92	94	70-130			
4-Bromofluorobenzene (S)	%						97	97	70-130			
Toluene-d8 (S)	%						102	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: Kopflex System Wells
Pace Project No.: 92430523

QC Batch: 478121 Analysis Method: EPA 8260B Mod.
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92430523001, 92430523002, 92430523003, 92430523004, 92430523005, 92430523006

METHOD BLANK: 2588461 Matrix: Water
Associated Lab Samples: 92430523001, 92430523002, 92430523003, 92430523004, 92430523005, 92430523006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	05/30/19 09:03	
1,2-Dichloroethane-d4 (S)	%	98	50-150	05/30/19 09:03	
Toluene-d8 (S)	%	103	50-150	05/30/19 09:03	

LABORATORY CONTROL SAMPLE: 2588462

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	18.9	94	70-130	
1,2-Dichloroethane-d4 (S)	%			96	50-150	
Toluene-d8 (S)	%			101	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2588463 2588464

Parameter	Units	92430519013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	19.3	20.0	97	100	50-150	4	30	
1,2-Dichloroethane-d4 (S)	%						102	102	50-150		30	
Toluene-d8 (S)	%						104	104	50-150		30	

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Kopflex System Wells
Pace Project No.: 92430523

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

Pace Analytical Services, LLC
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(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Kopflex System Wells
Pace Project No.: 92430523

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92430523001	**RW-1S**	EPA 8260B	478157		
92430523002	**RW-2S**	EPA 8260B	477901		
92430523003	**RW-3S**	EPA 8260B	477901		
92430523004	**RW-1D**	EPA 8260B	478157		
92430523005	**RW-2D**	EPA 8260B	477901		
92430523006	**Trip Blank**	EPA 8260B	477901		
92430523001	**RW-1S**	EPA 8260B Mod.	478121		
92430523002	**RW-2S**	EPA 8260B Mod.	478121		
92430523003	**RW-3S**	EPA 8260B Mod.	478121		
92430523004	**RW-1D**	EPA 8260B Mod.	478121		
92430523005	**RW-2D**	EPA 8260B Mod.	478121		
92430523006	**Trip Blank**	EPA 8260B Mod.	478121		

Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐

Sample Condition Upon Receipt

Client Name: Hernchn

Project #:

WO# : 92430523

92430523

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

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

Date/Initials Person Examining Contents: D 5-24-14

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

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

Thermometer: ☑ IR Gun ID: 92T048

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp (°C): 3.4 **Correction Factor:** Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): _____

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? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes	☐ No	☐ N/A	9.
Headspace in VOA Vials (>5-6mm)?	☑ Yes	☐ No	☐ N/A	10.
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☑ Yes	☐ No	☐ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: FN **Date:** 5/24

Project Manager SRF Review: FN **Date:** 5/24

***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 bottle**

Project #

WO#: 92430523

PM: PTE Due Date: 06/03/19

CLIENT: 92-WSP

Pg 1

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									\	\			
2	\				\	\	\	\			\		\	\	\	6									\	\			
3	\				\	\	\	\			\		\	\	\	6									\	\			
4	\				\	\	\	\			\		\	\	\	6									\	\			
5	\				\	\	\	\			\		\	\	\	6									\	\			
6	\				\	\	\	\			\		\	\	\	+FB									\	\			
7	\				\	\	\	\			\		\	\	\										\	\			
8	\				\	\	\	\			\		\	\	\										\	\			
9	\				\	\	\	\			\		\	\	\										\	\			
10	\				\	\	\	\			\		\	\	\										\	\			
11	\				\	\	\	\			\		\	\	\										\	\			
12	\				\	\	\	\			\		\	\	\										\	\			

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 besent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

System wells

CHAIN-OF-CUSTODY RECORD

WSP USA Office Address	Herndon, VA
Project Name	Kopflex
WSP USA Contact Name	Eric Johnson
Project Location	Hanover, MD
WSP USA Contact E-mail	eric.johnson @wsp.com
Project Number & Task	31401545.010/4
WSP USA Contact Phone	571 232 5045
Sampler(s) Name(s)	CC
Sampler(s) Signature(s)	

Requested Analyses & Preservatives

Sample Identification	Matrix	Collection Start* Date	Collection Start* Time	Collection Stop* Date	Collection Stop* Time	Number of Containers	VOCs 8260	1,4-dioxane 8260 SIM								Sample Comments
RW-1S	AQ	5/21/19		11	15	6	X	X								-001
RW-2S				11	25	6	X	X								-002
RW-3S				11	35	6	X	X								-003
RW-1D				15	05	6	X	X								-004
RW-2D				15	40	6	X	X								-005
TripBlank	lab provided					4	X	X								-006

No. 009926

wsp

Laboratory Name & Location: Pace, NC

Laboratory Project Manager: Taylor Etell

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

42430523

Relinquished By (Signature)	Date 5/23/19	Time 1420	Received By (Signature) FedEx	Date	Time	Shipment Method FedEx	Tracking Number(s)
Relinquished By (Signature)	Date	Time	Received By (Signature)	Date 5-24-19	Time 9:50	Number of Packages 3	Custody Seal Number(s)

*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)