VIA ELECTRONIC MAIL

February 5, 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. 9**
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 fourth quarter of calendar year 2018 (October 1 through December 31) as part of the corrective measures implementation at the former Kop-Flex, Inc. facility property located at 7555 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 (Consent Order) for the Site. The report also describes the activities planned for the first quarter of calendar year 2019 (January 1 through March 31).

This progress report is being submitted to the U.S. Environmental Protection Agency (EPA) pursuant to Section VI.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 RAP approved by the Maryland Department of the Environment (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
Senior Technical Manager
Water & Environment

REJ:rlo
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Encl.

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

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

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

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

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

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

Quarterly Progress Report No. 9

Former Kop-Flex Facility Site

October 2018 through December 2018

Site Name:	Former Kop-Flex Facility
Site Address:	7555 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 OCTOBER 2018 – DECEMBER 2018 REPORTING PERIOD

1.1 REPORTING

- In accordance with Section XIII.A.2 of the Consent Order, EMERSUB 16, LLC submitted a Cost Estimate Update for the completion of the stipulated corrective measure activities to the EPA on October 26, 2018.

- A fully executed version of the Environmental Covenant (EC) approved by EPA and MDE was received by EMERSUB 16 on December 18, 2018. The EC was forwarded to the current property owner, Harmans Road Associates, LLC, for recordation in the deed on file with the Clerk of the Circuit Court Land Records Department in Anne Arundel County, Maryland.

1.2 HYDRAULIC CONTAINMENT SYSTEM OPERATION

- The hydraulic containment system (System) operated continuously from October 1, 2018 through December 31, 2018, except for a temporary, 5-day shut-down period (November 21st through 25th) due to an inoperable boiler and a 2-day period (December 3rd through December 5th) to conduct a reset of the regeneration sequencing for the resin vessels. Additional information regarding the System downtime is provided in the 2018 Corrective Measures Assessment Report – Groundwater Collection and Treatment System.

- During the reporting period, a total of approximately 7.93 million gallons of volatile organic compound (VOC)-containing groundwater were recovered and treated by the system, with a combined average withdrawal rate of approximately 67.1 gallons per minute (GPM) from the shallow and deep recovery wells.

- During system operation, water samples were collected for chemical analysis in October (influent) and October through December (effluent) to monitor and evaluate VOC concentrations in the treatment system. The total concentration of VOCs (including 1,4-dioxane) for the system influent was 593 micrograms per liter (µg/l). The influent VOC concentrations in the combined recovery well discharge continued to exhibit higher levels of chlorinated ethanes and ethenes compared to 1,4-dioxane. Analysis of the treated water (i.e., effluent) indicated non-detect concentrations of chlorinated VOCs and non-detect to very low concentrations of 1,4-dioxane, which were below the Site cleanup goal of 15 µg/l for 1,4-dioxane. As of the end of December 2018, a total of 197 pounds of chlorinated VOCs and 72 pounds of 1,4-dioxane had been recovered from the aquifer system during system operation. (A more detailed discussion of the treatment system sampling results is provided in the 2018 Corrective Measures Assessment Report.)

- Samples of the treated effluent were also 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 compliance with the effluent limitations specified in the Permit.

1.3 INSPECTION OF ENGINEERING CONTROLS

— On December 10, 2018, an inspection of the engineering controls implemented at the Site was conducted in accordance with Section 4.0 of the revised Use Restriction Implementation Plan (URIP) (May 2018). EPA has not yet approved the revised URIP. The engineering controls include a hard cap, which consists of concrete floor slabs for the former and new buildings and a small portion of the concrete pavement adjacent to the south warehouse building and the passive, sub-slab vapor venting systems installed in both warehouse buildings. A representative of ECS Mid-Atlantic, the property owner's environmental consultant, accompanied WSP personnel during the inspection activities.

— Based on the observed site conditions, the engineering controls at the Site are in good condition. WSP did recommend that the gaps in the expansion joint caulk in both buildings and exposed saw-cuts and cracks in the floor slab in the northern building be sealed with caulk. WSP also recommended repair of an apparent sinkhole in the asphalt pavement around the storm sewer catch basin located between the two warehouse buildings.

1.4 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 aquifer system. During the reporting period, water level measurements were collected from all monitoring wells and recovery well piezometers the week of November 5, 2018, as part of the semi-annual groundwater monitoring event. An additional groundwater elevation measurement was collected at monitoring well MW-22D in late November 2018 due to an apparent significant difference in the water level at the time of the original November gauging event; the second measurement was consistent with historical data from this monitoring well. The data for the most recent and previous measurement events are provided in Table 1.

  A discussion of the groundwater level monitoring data is provided below, with additional information presented in the 2018 Corrective Measures Assessment Report – Groundwater Collection and Treatment System. Groundwater elevation data from monitoring well MW-22D was excluded from the discussion due to the inconsistent measurement.

— Water level contour maps depicting the water table and hydraulic head conditions in the lower portion of the shallow, unconfined zone are provided in Figures 1 and 2, respectively. Evaluation of 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. The slight mounding effect around wells MW-04 and MW-09 most likely reflects enhanced recharge to the groundwater system associated with the storm water management area in this portion of the site. Average rainfall accumulation in Hanover, Maryland during early November was higher than normal.

  As with previous measurement events, 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 to the north toward wells MW-39 and MW-43 (Figure 2). The inflow area for the shallow recovery wells encompasses the inferred plume area in the western portion of the site.

  The potentiometric surface contour map for the confined portion of the Lower Patapsco aquifer generated from the November 2018 water level data is provided in Figure 3. The head distribution, which reflects a steady state pumping condition, shows the continued existence of an elongated hydraulic sink along the southern property boundary in response to groundwater withdrawals from the deep recovery wells. Evaluation of the head distribution indicates drawdown of the potentiometric surface extending south onto the adjoining Williams Scotsman property. The inflow area for the deeper recovery wells encompasses the inferred width of the deep plume area onsite.

1.5 GROUNDWATER QUALITY MONITORING

— In accordance with the Groundwater Monitoring Plan, groundwater quality samples were collected from the shallow and deep recovery wells and all onsite monitoring wells included in the monitoring program, except for two wells in the shallow unconfined water bearing zone (MW-03 and MW-44) and two wells in the deep confined water bearing zone (MW-27D and MW-41D). Samples from the shallow and deep monitoring wells were collected using the HydraSleeve sampler deployed to the same

depths as previous monitoring events. Following the equilibration period, samples were obtained by carefully removing the HydraSleeve sampler from the well and 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 Pace Analytical Services laboratory in Huntersville, North Carolina, and analyzed for VOCs using EPA SW-846 Test Method 8260B and 1,4-dioxane using modified EPA Method 8260B with selective 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. Copies of the certified laboratory analytical reports for the samples are included in Enclosure A.

- For the shallow zone monitoring wells, the chlorinated VOC and 1,4-dioxane concentrations for the May 2018 samples are generally similar to levels detected in the November 2018 samples with the exception of increased concentrations at MW-43 and a decreased 1,4-dioxane concentration at MW-04. In the deep monitoring well samples, the chlorinated VOC and 1,4-dioxane concentrations for the November 2018 samples are generally similar to levels detected in the May 2018 samples with the exception of decreased 1,4-dioxane concentrations at MW-01D and MW-21D. A more detailed evaluation of the groundwater quality data is presented in the 2018 Corrective Measures Assessment Report – Groundwater Collection and Treatment System.

2.0 PLANNED ONSITE ACTIVITIES FOR THE FIRST QUARTER OF 2019

- Continue with the operation and maintenance activities for the hydraulic containment system and collect data, as necessary, for inclusion in the 2019 operation, maintenance, and monitoring report, as required under Section 14.2 of the 2015 RAP.
- Conduct the necessary effluent monitoring and reporting activities for the system discharge pursuant to the State Discharge/NPDES Permit.
- Report the findings of the December 2018 engineering controls inspections to EPA and MDE pursuant to the revised URIP.
- Submit the 2018 Corrective Measures Assessment Report – Groundwater Collection and Treatment System to EPA and MDE.

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-39

MW-38R
106.73

RW-1S

MW-42
107.35

MW-18

RW-2S

MW-5R
107.99

RW-3S

MW-44

MW-43

MW-09
115.94

MW-16

MW-20

MW-04
115.24

MW-45
114.72

RW-1D

RW-2D

MW-01
115.81

106 107 108 109 110 111 112 113 114 115 116

N

LEGEND

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

0 140 280
SCALE IN FEET

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

Drawn By: TDH
Checked: MML 1/11/2019
Approved: RGD
DWG Name: 314V1545.010-008

FORMER KOP-FLEX FACILITY SITE
HANOVER, MARYLAND

PREPARED FOR
EMERSUB 16 LLC
ST. LOUIS, MISSOURI

FIGURE 1

WATER TABLE CONTOUR MAP (NOVEMBER 2018)

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

STONY RUN

POND

WILLIAMS SCOTSMAN, INC.

NORTH WAREHOUSE

SOUTH WAREHOUSE

TREATMENT EQUIPMENT BUILDING

MW-03 107.17

MW-09

MW-43 102.2

MW-39 101.51

MW-38R

RW-1S 98.93

RW-2S 96.02

MW-42

MW-18 101.97

MW-5R

RW-3S 101.01

MW-44 111.32

RW-1D

RW-2D

MW-01

MW-04

MW-20 113.66

MW-16 113.04

106

108

110

112

114

98

100

102

104

N

LEGEND

- PROPERTY LINE
- STREAM/EDGE OF WATER
- FENCE LINE
- STORMWATER MANAGEMENT AREA
- SHALLOW MONITORING WELL
- SHALLOW EXTRACTION WELL
- DEEP 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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Checked: MML 1/11/2019
Approved: PGD
DWG Name: 314V1545.010-009

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 (NOVEMBER 2018)

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

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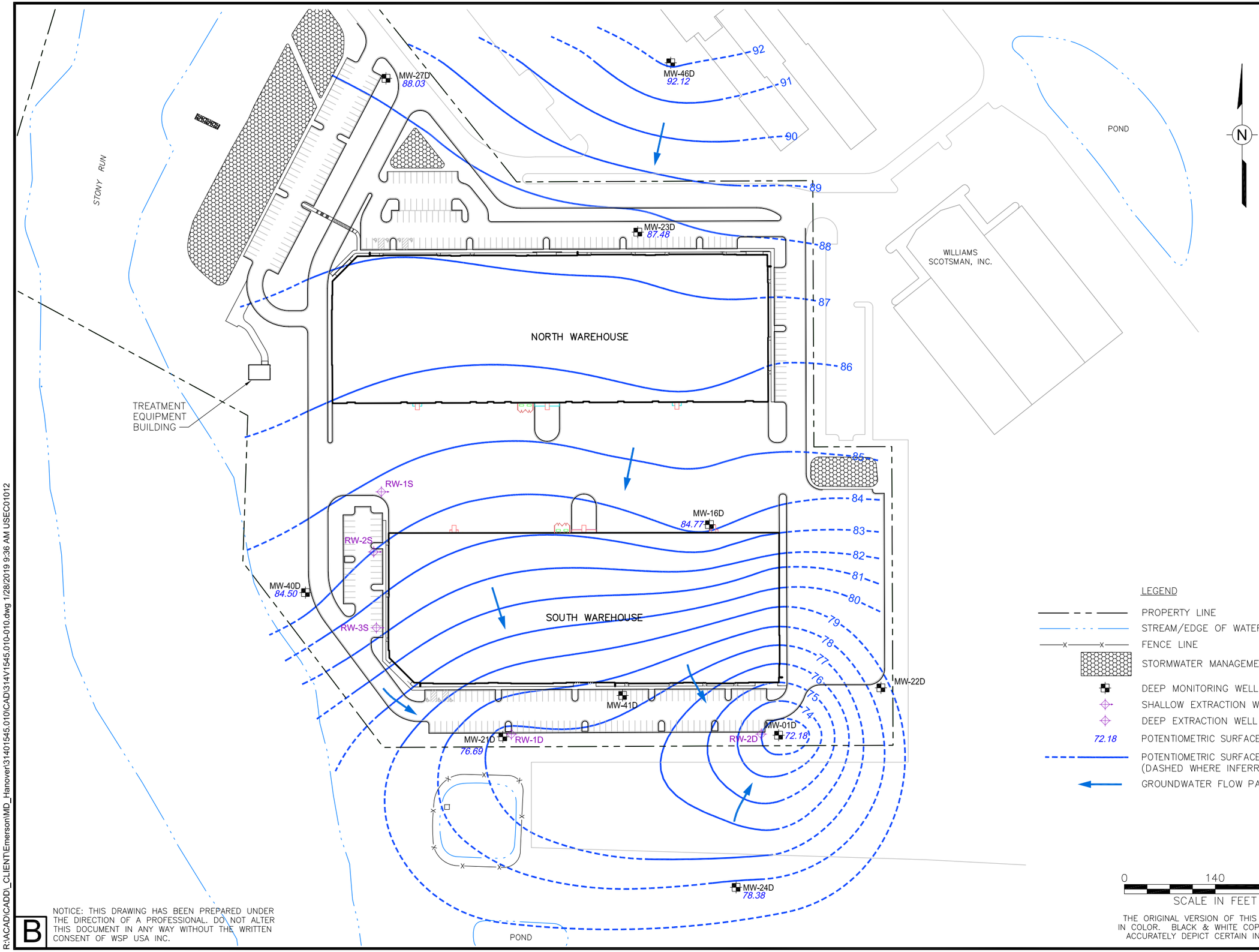

LEGEND

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

0 140 280
SCALE IN FEET

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B

Drawn By: TDH
Checked: MML 1/25/2019
Approved: PGD
DWG Name: 314V1545.010-010

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 (NOVEMBER 2018)

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

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TABLES

Table 1

Historical Water Level Measurements in
Monitoring Wells and Recovery Well Piezometers
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 to November 2018) (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 November 2018) (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	
			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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
MW-46D	Deep	124.8	NM	-	NM	-	NM	-	NM	-	NM	-	37.37	87.40	32.65	92.12
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
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

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

November 2018 Monitoring Well Sampling Results
Former Kop-Flex Facility
Hanover, Maryland (a)

		Shallow Wells									
Well ID:		**MW-04**	**MW-5R**	**MW-09**	**MW-16**	**MW-18**	**MW-20**	**MW-38R**	**MW-39**	**MW-42**	**MW-43**
Parameters	**Groundwater Cleanup Standards (µg/L) (b)**										
Chloroethane	3.6	1 U	1 U	1 U	**275**	1 U	2.5 U	1 U	1 U	1 U	1 U
Chloroform	80	1 U	1 U	1 U	50 U	1 U	2.5 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	90	23.3	1 U	4.5	**7,360**	1 U	**145**	6.9	1 U	1 U	13.8
1,2-Dichloroethane	5	1 U	1 U	1 U	50 U	1 U	**6.3**	1 U	1 U	1 U	1.2
1,1-Dichloroethene	7	**89.9**	1.3	**75.9**	**7,800**	1 U	**233**	1 U	1 U	1 U	**118**
1,4-Dioxane	15 (c)	1 U	2 U	**37.4**	**866**	2 U	**986**	**39.4**	2 U	10.3	**107**
Methyl tert-butyl ether	20	1 U	1 U	1 U	50 U	1 U	2.5 U	1 U	1 U	1 U	5.2
1,1,1-Trichloroethane	200	1.6	1.5	1.1	**6,420**	1 U	2.5 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.

Table 2

November 2018 Monitoring Well Sampling Results
Former Kop-Flex Facility
Hanover, Maryland (a)

		Deep Wells								
Well ID:		**MW-1D**	**MW-16D**	**DUP110718 (c)**	**MW-21D**	**MW-22D**	**MW-23D**	**MW-24D**	**MW-40D**	**MW-46D**
Parameters	**Groundwater Cleanup Standards (µg/L) (b)**									
Chloroethane	3.6	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U
Chloroform	80	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U
1,1-Dichloroethane	90	7.1	27.5	28.9	1 U	1 U	36.2	29.8	1 U	22.1 U
1,2-Dichloroethane	5	1 U	1.8	1.9	1 U	1 U	1.9	5 U	1 U	1.2
1,1-Dichloroethene	7	**38.8**	**161**	**180**	**30.0**	**9.7**	**185**	**560**	4.4	**99.6**
1,4-Dioxane	15 (c)	2 U	**158**	**135**	**18.0**	2 U	**146**	2 U	2.7	**96.7**
Methyl tert-butyl ether	20	1 U	1 U	3.4	1 U	1 U	1 U	5 U	1 U	1 U
1,1,1-Trichloroethane	200	3.3	12.5	14.3	1 U	1 U	17.0	5 U	1 U	7.7

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.

Table 3

November 2018 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	18.9	2 U	1 U	6.0	2 U
1,1-Dichloroethane	90	105	29.1	2.1	78.1	25.4
1,1-Dichloroethene	7	458	177	2.6	363	185
1,4-Dioxane	15	467	200	12.4	155	99.8
1,1,1-Trichloroethane	200	89.8	257	7.2	2.5 U	7.3

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 REPORTS, SEMI-ANNUAL GROUNDWATER MONITORING EVENT (NOVEMBER 2018)

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

November 15, 2018

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

RE: Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

Dear Eric Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on November 09, 2018. 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.: 92406701

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-ONSITE
Pace Project No.: 92406701

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92406701001	**MW-43**	Water	11/07/18 08:43	11/09/18 09:31
92406701002	**MW-39**	Water	11/07/18 08:55	11/09/18 09:31
92406701003	**MW-38R**	Water	11/07/18 10:24	11/09/18 09:31
92406701004	**MW-42**	Water	11/07/18 10:45	11/09/18 09:31
92406701005	**MW-18**	Water	11/07/18 10:48	11/09/18 09:31
92406701006	**MW-40D**	Water	11/07/18 10:49	11/09/18 09:31
92406701007	**MW-5R**	Water	11/07/18 11:20	11/09/18 09:31
92406701008	**MW-21D**	Water	11/07/18 13:15	11/09/18 09:31
92406701009	**MW-01D**	Water	11/07/18 13:40	11/09/18 09:31
92406701010	**MW-22D**	Water	11/07/18 14:00	11/09/18 09:31
92406701011	**MW-20**	Water	11/07/18 14:20	11/09/18 09:31
92406701012	**MW-04**	Water	11/07/18 14:30	11/09/18 09:31
92406701013	**MW-09**	Water	11/07/18 14:45	11/09/18 09:31
92406701014	**MW-23D**	Water	11/07/18 14:55	11/09/18 09:31
92406701015	**MW-24D**	Water	11/07/18 15:15	11/09/18 09:31
92406701016	**MW-16**	Water	11/07/18 15:40	11/09/18 09:31
92406701017	**MW-16D**	Water	11/07/18 16:00	11/09/18 09:31
92406701018	**DUP 110718**	Water	11/07/18 17:00	11/09/18 09:31
92406701019	**MW-46**	Water	11/07/18 16:10	11/09/18 09:31
92406701020	**TRIP BLANK A**	Water	11/07/18 00:00	11/09/18 09:31

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

SAMPLE ANALYTE COUNT

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92406701001	**MW-43**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701002	**MW-39**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701003	**MW-38R**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701004	**MW-42**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701005	**MW-18**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701006	**MW-40D**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701007	**MW-5R**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701008	**MW-21D**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701009	**MW-01D**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701010	**MW-22D**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701011	**MW-20**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701012	**MW-04**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701013	**MW-09**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701014	**MW-23D**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701015	**MW-24D**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701016	**MW-16**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701017	**MW-16D**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701018	**DUP 110718**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406701019	**MW-46**	EPA 8260B	GAW	63	PASI-C

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

SAMPLE ANALYTE COUNT

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260B Mod.	DLK	3	PASI-C
92406701020	**TRIP BLANK A**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C

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

ANALYTICAL RESULTS

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

Sample: MW-43 **Lab ID: 92406701001** Collected: 11/07/18 08:43 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 12:10	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 12:10	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 12:10	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 12:10	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 12:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 12:10	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 12:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 12:10	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 12:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 12:10	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 12:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 12:10	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 12:10	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 12:10	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 12:10	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 12:10	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 12:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 12:10	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 12:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:10	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:10	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:10	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 12:10	75-71-8	
1,1-Dichloroethane	**13.8**	ug/L	1.0	1		11/13/18 12:10	75-34-3	
1,2-Dichloroethane	**1.2**	ug/L	1.0	1		11/13/18 12:10	107-06-2	
1,1-Dichloroethene	**118**	ug/L	1.0	1		11/13/18 12:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 12:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 12:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 12:10	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 12:10	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 12:10	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 12:10	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 12:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 12:10	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 12:10	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 12:10	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 12:10	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 12:10	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 12:10	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 12:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 12:10	108-10-1	
Methyl-tert-butyl ether	**5.2**	ug/L	1.0	1		11/13/18 12:10	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 12:10	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 12:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 12:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 12:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 12:10	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.: 92406701

Sample: MW-43 **Lab ID: 92406701001** Collected: 11/07/18 08:43 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 12:10	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:10	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:10	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/13/18 12:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 12:10	79-00-5	
Trichloroethene	**1.3**	ug/L	1.0	1		11/13/18 12:10	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 12:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 12:10	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 12:10	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 12:10	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 12:10	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 12:10	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 12:10	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		11/13/18 12:10	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		11/13/18 12:10	17060-07-0	
Toluene-d8 (S)	109	%	70-130	1		11/13/18 12:10	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**107**	ug/L	5.0	2.5		11/12/18 14:02	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	115	%	50-150	2.5		11/12/18 14:02	17060-07-0	
Toluene-d8 (S)	115	%	50-150	2.5		11/12/18 14:02	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.: 92406701

Sample: MW-39 **Lab ID: 92406701002** Collected: 11/07/18 08:55 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 12:27	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 12:27	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 12:27	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 12:27	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 12:27	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 12:27	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 12:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 12:27	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 12:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 12:27	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 12:27	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 12:27	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 12:27	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 12:27	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 12:27	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 12:27	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 12:27	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 12:27	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 12:27	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:27	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:27	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:27	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 12:27	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/13/18 12:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/13/18 12:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/13/18 12:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 12:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 12:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 12:27	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 12:27	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 12:27	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 12:27	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 12:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 12:27	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 12:27	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 12:27	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 12:27	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 12:27	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 12:27	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 12:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 12:27	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 12:27	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 12:27	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 12:27	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 12:27	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 12:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 12:27	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.: 92406701

Sample: MW-39 **Lab ID: 92406701002** Collected: 11/07/18 08:55 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 12:27	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:27	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:27	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/13/18 12:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 12:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 12:27	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 12:27	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 12:27	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 12:27	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 12:27	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 12:27	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 12:27	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 12:27	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		11/13/18 12:27	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		11/13/18 12:27	17060-07-0	
Toluene-d8 (S)	106	%	70-130	1		11/13/18 12:27	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/11/18 19:51	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	112	%	50-150	1		11/11/18 19:51	17060-07-0	
Toluene-d8 (S)	113	%	50-150	1		11/11/18 19:51	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

Sample: MW-38R **Lab ID: 92406701003** Collected: 11/07/18 10:24 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 12:44	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 12:44	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 12:44	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 12:44	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 12:44	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 12:44	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 12:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 12:44	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 12:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 12:44	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 12:44	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 12:44	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 12:44	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 12:44	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 12:44	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 12:44	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 12:44	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 12:44	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 12:44	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:44	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:44	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:44	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 12:44	75-71-8	
1,1-Dichloroethane	**6.9**	ug/L	1.0	1		11/13/18 12:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/13/18 12:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/13/18 12:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 12:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 12:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 12:44	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 12:44	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 12:44	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 12:44	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 12:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 12:44	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 12:44	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 12:44	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 12:44	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 12:44	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 12:44	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 12:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 12:44	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 12:44	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 12:44	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 12:44	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 12:44	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 12:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 12:44	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.: 92406701

Sample: MW-38R **Lab ID: 92406701003** Collected: 11/07/18 10:24 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 12:44	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:44	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 12:44	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/13/18 12:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 12:44	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 12:44	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 12:44	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 12:44	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 12:44	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 12:44	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 12:44	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 12:44	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 12:44	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		11/13/18 12:44	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		11/13/18 12:44	17060-07-0	
Toluene-d8 (S)	108	%	70-130	1		11/13/18 12:44	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**39.4**	ug/L	2.0	1		11/11/18 20:10	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%	50-150	1		11/11/18 20:10	17060-07-0	
Toluene-d8 (S)	111	%	50-150	1		11/11/18 20:10	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.: 92406701

Sample: MW-42 **Lab ID: 92406701004** Collected: 11/07/18 10:45 Received: 11/09/18 09:31 Matrix: Water

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

Sample: MW-42 **Lab ID: 92406701004** Collected: 11/07/18 10:45 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 13:01	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:01	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:01	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/13/18 13:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 13:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 13:01	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 13:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 13:01	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 13:01	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 13:01	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 13:01	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 13:01	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 13:01	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		11/13/18 13:01	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		11/13/18 13:01	17060-07-0	
Toluene-d8 (S)	108	%	70-130	1		11/13/18 13:01	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**10.3**	ug/L	2.0	1		11/12/18 14:21	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	115	%	50-150	1		11/12/18 14:21	17060-07-0	
Toluene-d8 (S)	122	%	50-150	1		11/12/18 14:21	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.: 92406701

Sample: MW-18 **Lab ID: 92406701005** Collected: 11/07/18 10:48 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 13:18	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 13:18	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 13:18	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 13:18	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 13:18	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 13:18	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 13:18	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 13:18	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 13:18	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 13:18	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 13:18	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 13:18	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 13:18	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 13:18	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 13:18	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 13:18	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 13:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 13:18	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 13:18	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:18	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 13:18	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/13/18 13:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/13/18 13:18	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/13/18 13:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 13:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 13:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 13:18	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 13:18	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 13:18	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 13:18	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 13:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 13:18	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 13:18	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 13:18	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 13:18	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 13:18	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 13:18	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 13:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 13:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 13:18	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 13:18	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 13:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 13:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 13:18	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 13:18	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-ONSITE
Pace Project No.: 92406701

Sample: MW-18 **Lab ID: 92406701005** Collected: 11/07/18 10:48 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 13:18	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:18	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:18	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/13/18 13:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 13:18	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 13:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 13:18	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 13:18	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 13:18	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 13:18	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 13:18	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 13:18	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 13:18	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	106	%	70-130	1		11/13/18 13:18	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		11/13/18 13:18	17060-07-0	
Toluene-d8 (S)	109	%	70-130	1		11/13/18 13:18	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/12/18 14:41	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	111	%	50-150	1		11/12/18 14:41	17060-07-0	
Toluene-d8 (S)	87	%	50-150	1		11/12/18 14:41	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.: 92406701

Sample: MW-40D **Lab ID: 92406701006** Collected: 11/07/18 10:49 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 17:01	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 17:01	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 17:01	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 17:01	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 17:01	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 17:01	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 17:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 17:01	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 17:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 17:01	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 17:01	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 17:01	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 17:01	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 17:01	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 17:01	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 17:01	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 17:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 17:01	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 17:01	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 17:01	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 17:01	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 17:01	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 17:01	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/13/18 17:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/13/18 17:01	107-06-2	
1,1-Dichloroethene	**4.4**	ug/L	1.0	1		11/13/18 17:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 17:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 17:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 17:01	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 17:01	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 17:01	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 17:01	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 17:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 17:01	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 17:01	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 17:01	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 17:01	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 17:01	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 17:01	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 17:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 17:01	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 17:01	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 17:01	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 17:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 17:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 17:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 17:01	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-ONSITE
Pace Project No.: 92406701

Sample: MW-40D **Lab ID: 92406701006** Collected: 11/07/18 10:49 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 17:01	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 17:01	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 17:01	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/13/18 17:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 17:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 17:01	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 17:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 17:01	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 17:01	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 17:01	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 17:01	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 17:01	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 17:01	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		11/13/18 17:01	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		11/13/18 17:01	17060-07-0	
Toluene-d8 (S)	111	%	70-130	1		11/13/18 17:01	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**2.7**	ug/L	2.0	1		11/12/18 15:00	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%	50-150	1		11/12/18 15:00	17060-07-0	
Toluene-d8 (S)	121	%	50-150	1		11/12/18 15:00	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.: 92406701

Sample: MW-5R **Lab ID: 92406701007** Collected: 11/07/18 11:20 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 13:35	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 13:35	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 13:35	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 13:35	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 13:35	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 13:35	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 13:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 13:35	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 13:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 13:35	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 13:35	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 13:35	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 13:35	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 13:35	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 13:35	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 13:35	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 13:35	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 13:35	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 13:35	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:35	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:35	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:35	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 13:35	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/13/18 13:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/13/18 13:35	107-06-2	
1,1-Dichloroethene	**1.3**	ug/L	1.0	1		11/13/18 13:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 13:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 13:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 13:35	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 13:35	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 13:35	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 13:35	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 13:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 13:35	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 13:35	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 13:35	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 13:35	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 13:35	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 13:35	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 13:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 13:35	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 13:35	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 13:35	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 13:35	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 13:35	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 13:35	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 13:35	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.: 92406701

Sample: MW-5R **Lab ID: 92406701007** Collected: 11/07/18 11:20 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 13:35	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:35	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:35	120-82-1	
1,1,1-Trichloroethane	**1.5**	ug/L	1.0	1		11/13/18 13:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 13:35	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 13:35	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 13:35	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 13:35	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 13:35	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 13:35	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 13:35	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 13:35	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 13:35	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		11/13/18 13:35	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		11/13/18 13:35	17060-07-0	
Toluene-d8 (S)	109	%	70-130	1		11/13/18 13:35	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/11/18 21:27	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%	50-150	1		11/11/18 21:27	17060-07-0	
Toluene-d8 (S)	110	%	50-150	1		11/11/18 21:27	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.: 92406701

Sample: MW-21D **Lab ID: 92406701008** Collected: 11/07/18 13:15 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 13:53	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 13:53	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 13:53	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 13:53	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 13:53	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 13:53	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 13:53	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 13:53	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 13:53	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 13:53	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 13:53	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 13:53	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 13:53	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 13:53	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 13:53	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 13:53	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 13:53	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 13:53	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 13:53	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:53	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:53	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:53	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 13:53	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/13/18 13:53	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/13/18 13:53	107-06-2	
1,1-Dichloroethene	**30.0**	ug/L	1.0	1		11/13/18 13:53	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 13:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 13:53	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 13:53	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 13:53	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 13:53	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 13:53	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 13:53	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 13:53	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 13:53	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 13:53	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 13:53	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 13:53	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 13:53	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 13:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 13:53	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 13:53	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 13:53	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 13:53	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 13:53	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 13:53	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 13:53	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.: 92406701

Sample: MW-21D **Lab ID: 92406701008** Collected: 11/07/18 13:15 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 13:53	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:53	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 13:53	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/13/18 13:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 13:53	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 13:53	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 13:53	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 13:53	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 13:53	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 13:53	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 13:53	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 13:53	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 13:53	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		11/13/18 13:53	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		11/13/18 13:53	17060-07-0	
Toluene-d8 (S)	106	%	70-130	1		11/13/18 13:53	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**18.0**	ug/L	2.0	1		11/12/18 15:19	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	113	%	50-150	1		11/12/18 15:19	17060-07-0	
Toluene-d8 (S)	119	%	50-150	1		11/12/18 15:19	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.: 92406701

Sample: MW-01D **Lab ID: 92406701009** Collected: 11/07/18 13:40 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 14:10	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 14:10	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 14:10	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 14:10	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 14:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 14:10	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 14:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 14:10	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 14:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 14:10	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 14:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 14:10	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 14:10	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 14:10	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 14:10	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 14:10	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 14:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 14:10	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 14:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 14:10	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 14:10	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 14:10	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 14:10	75-71-8	
1,1-Dichloroethane	**7.1**	ug/L	1.0	1		11/13/18 14:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/13/18 14:10	107-06-2	
1,1-Dichloroethene	**38.8**	ug/L	1.0	1		11/13/18 14:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 14:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 14:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 14:10	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 14:10	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 14:10	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 14:10	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 14:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 14:10	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 14:10	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 14:10	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 14:10	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 14:10	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 14:10	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 14:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 14:10	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 14:10	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 14:10	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 14:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 14:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 14:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 14:10	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.: 92406701

Sample: MW-01D **Lab ID: 92406701009** Collected: 11/07/18 13:40 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 14:10	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 14:10	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 14:10	120-82-1	
1,1,1-Trichloroethane	**3.3**	ug/L	1.0	1		11/13/18 14:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 14:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 14:10	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 14:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 14:10	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 14:10	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 14:10	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 14:10	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 14:10	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 14:10	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		11/13/18 14:10	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		11/13/18 14:10	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		11/13/18 14:10	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/11/18 22:26	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%	50-150	1		11/11/18 22:26	17060-07-0	
Toluene-d8 (S)	108	%	50-150	1		11/11/18 22:26	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.: 92406701

Sample: MW-22D **Lab ID: 92406701010** Collected: 11/07/18 14:00 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 14:27	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 14:27	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 14:27	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 14:27	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 14:27	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 14:27	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 14:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 14:27	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 14:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 14:27	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 14:27	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 14:27	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 14:27	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 14:27	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 14:27	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 14:27	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 14:27	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 14:27	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 14:27	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 14:27	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 14:27	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 14:27	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 14:27	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/13/18 14:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/13/18 14:27	107-06-2	
1,1-Dichloroethene	**9.7**	ug/L	1.0	1		11/13/18 14:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 14:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 14:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 14:27	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 14:27	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 14:27	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 14:27	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 14:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 14:27	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 14:27	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 14:27	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 14:27	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 14:27	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 14:27	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 14:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 14:27	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 14:27	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 14:27	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 14:27	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 14:27	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 14:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 14:27	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.: 92406701

Sample: MW-22D **Lab ID: 92406701010** Collected: 11/07/18 14:00 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 14:27	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 14:27	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 14:27	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/13/18 14:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 14:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 14:27	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 14:27	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 14:27	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 14:27	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 14:27	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 14:27	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 14:27	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 14:27	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		11/13/18 14:27	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		11/13/18 14:27	17060-07-0	
Toluene-d8 (S)	109	%	70-130	1		11/13/18 14:27	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/11/18 22:45	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	116	%	50-150	1		11/11/18 22:45	17060-07-0	
Toluene-d8 (S)	111	%	50-150	1		11/11/18 22:45	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

Sample: MW-20 **Lab ID: 92406701011** Collected: 11/07/18 14:20 Received: 11/09/18 09:31 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		11/14/18 18:06	67-64-1	
Benzene	ND	ug/L	2.5	2.5		11/14/18 18:06	71-43-2	
Bromobenzene	ND	ug/L	2.5	2.5		11/14/18 18:06	108-86-1	
Bromochloromethane	ND	ug/L	2.5	2.5		11/14/18 18:06	74-97-5	
Bromodichloromethane	ND	ug/L	2.5	2.5		11/14/18 18:06	75-27-4	
Bromoform	ND	ug/L	2.5	2.5		11/14/18 18:06	75-25-2	
Bromomethane	ND	ug/L	5.0	2.5		11/14/18 18:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	12.5	2.5		11/14/18 18:06	78-93-3	
Carbon tetrachloride	ND	ug/L	2.5	2.5		11/14/18 18:06	56-23-5	
Chlorobenzene	ND	ug/L	2.5	2.5		11/14/18 18:06	108-90-7	
Chloroethane	ND	ug/L	2.5	2.5		11/14/18 18:06	75-00-3	
Chloroform	ND	ug/L	2.5	2.5		11/14/18 18:06	67-66-3	
Chloromethane	ND	ug/L	2.5	2.5		11/14/18 18:06	74-87-3	
2-Chlorotoluene	ND	ug/L	2.5	2.5		11/14/18 18:06	95-49-8	
4-Chlorotoluene	ND	ug/L	2.5	2.5		11/14/18 18:06	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	2.5		11/14/18 18:06	96-12-8	
Dibromochloromethane	ND	ug/L	2.5	2.5		11/14/18 18:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	2.5	2.5		11/14/18 18:06	106-93-4	
Dibromomethane	ND	ug/L	2.5	2.5		11/14/18 18:06	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	2.5	2.5		11/14/18 18:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	2.5	2.5		11/14/18 18:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	2.5	2.5		11/14/18 18:06	106-46-7	
Dichlorodifluoromethane	ND	ug/L	2.5	2.5		11/14/18 18:06	75-71-8	
1,1-Dichloroethane	**145**	ug/L	2.5	2.5		11/14/18 18:06	75-34-3	
1,2-Dichloroethane	**6.3**	ug/L	2.5	2.5		11/14/18 18:06	107-06-2	
1,1-Dichloroethene	**233**	ug/L	2.5	2.5		11/14/18 18:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	2.5	2.5		11/14/18 18:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	2.5	2.5		11/14/18 18:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	2.5	2.5		11/14/18 18:06	78-87-5	
1,3-Dichloropropane	ND	ug/L	2.5	2.5		11/14/18 18:06	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.5	2.5		11/14/18 18:06	594-20-7	
1,1-Dichloropropene	ND	ug/L	2.5	2.5		11/14/18 18:06	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	2.5	2.5		11/14/18 18:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	2.5	2.5		11/14/18 18:06	10061-02-6	
Diisopropyl ether	ND	ug/L	2.5	2.5		11/14/18 18:06	108-20-3	
Ethylbenzene	ND	ug/L	2.5	2.5		11/14/18 18:06	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.5	2.5		11/14/18 18:06	87-68-3	
2-Hexanone	ND	ug/L	12.5	2.5		11/14/18 18:06	591-78-6	
p-Isopropyltoluene	ND	ug/L	2.5	2.5		11/14/18 18:06	99-87-6	
Methylene Chloride	ND	ug/L	5.0	2.5		11/14/18 18:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	12.5	2.5		11/14/18 18:06	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	2.5	2.5		11/14/18 18:06	1634-04-4	
Naphthalene	ND	ug/L	2.5	2.5		11/14/18 18:06	91-20-3	
Styrene	ND	ug/L	2.5	2.5		11/14/18 18:06	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.5	2.5		11/14/18 18:06	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.5	2.5		11/14/18 18:06	79-34-5	
Tetrachloroethene	ND	ug/L	2.5	2.5		11/14/18 18:06	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.: 92406701

Sample: MW-20 **Lab ID: 92406701011** Collected: 11/07/18 14:20 Received: 11/09/18 09:31 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		11/14/18 18:06	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.5	2.5		11/14/18 18:06	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.5	2.5		11/14/18 18:06	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	2.5	2.5		11/14/18 18:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	2.5	2.5		11/14/18 18:06	79-00-5	
Trichloroethene	ND	ug/L	2.5	2.5		11/14/18 18:06	79-01-6	
Trichlorofluoromethane	ND	ug/L	2.5	2.5		11/14/18 18:06	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	2.5		11/14/18 18:06	96-18-4	
Vinyl acetate	ND	ug/L	5.0	2.5		11/14/18 18:06	108-05-4	
Vinyl chloride	ND	ug/L	2.5	2.5		11/14/18 18:06	75-01-4	
Xylene (Total)	ND	ug/L	2.5	2.5		11/14/18 18:06	1330-20-7	
m&p-Xylene	ND	ug/L	5.0	2.5		11/14/18 18:06	179601-23-1	
o-Xylene	ND	ug/L	2.5	2.5		11/14/18 18:06	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	2.5		11/14/18 18:06	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	2.5		11/14/18 18:06	17060-07-0	
Toluene-d8 (S)	107	%	70-130	2.5		11/14/18 18:06	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**986**	ug/L	20.0	10		11/14/18 12:10	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%	50-150	10		11/14/18 12:10	17060-07-0	
Toluene-d8 (S)	113	%	50-150	10		11/14/18 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.: 92406701

Sample: MW-04 **Lab ID: 92406701012** Collected: 11/07/18 14:30 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 15:01	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 15:01	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 15:01	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 15:01	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 15:01	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 15:01	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 15:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 15:01	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 15:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 15:01	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 15:01	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 15:01	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 15:01	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 15:01	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 15:01	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 15:01	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 15:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 15:01	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 15:01	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:01	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:01	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:01	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 15:01	75-71-8	
1,1-Dichloroethane	**23.3**	ug/L	1.0	1		11/13/18 15:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/13/18 15:01	107-06-2	
1,1-Dichloroethene	**89.9**	ug/L	1.0	1		11/13/18 15:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 15:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 15:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 15:01	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 15:01	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 15:01	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 15:01	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 15:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 15:01	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 15:01	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 15:01	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 15:01	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 15:01	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 15:01	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 15:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 15:01	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 15:01	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 15:01	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 15:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 15:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 15:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 15:01	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-ONSITE
Pace Project No.: 92406701

Sample: MW-04 **Lab ID: 92406701012** Collected: 11/07/18 14:30 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 15:01	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:01	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:01	120-82-1	
1,1,1-Trichloroethane	**1.6**	ug/L	1.0	1		11/13/18 15:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 15:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 15:01	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 15:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 15:01	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 15:01	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 15:01	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 15:01	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 15:01	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 15:01	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		11/13/18 15:01	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		11/13/18 15:01	17060-07-0	
Toluene-d8 (S)	105	%	70-130	1		11/13/18 15:01	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/11/18 23:04	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	110	%	50-150	1		11/11/18 23:04	17060-07-0	
Toluene-d8 (S)	97	%	50-150	1		11/11/18 23:04	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
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ANALYTICAL RESULTS

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

Sample: MW-09 **Lab ID: 92406701013** Collected: 11/07/18 14:45 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 15:18	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 15:18	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 15:18	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 15:18	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 15:18	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 15:18	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 15:18	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 15:18	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 15:18	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 15:18	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 15:18	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 15:18	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 15:18	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 15:18	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 15:18	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 15:18	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 15:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 15:18	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 15:18	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:18	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 15:18	75-71-8	
1,1-Dichloroethane	**4.5**	ug/L	1.0	1		11/13/18 15:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/13/18 15:18	107-06-2	
1,1-Dichloroethene	**75.9**	ug/L	1.0	1		11/13/18 15:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 15:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 15:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 15:18	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 15:18	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 15:18	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 15:18	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 15:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 15:18	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 15:18	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 15:18	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 15:18	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 15:18	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 15:18	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 15:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 15:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 15:18	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 15:18	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 15:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 15:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 15:18	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 15:18	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-ONSITE
Pace Project No.: 92406701

Sample: MW-09 **Lab ID: 92406701013** Collected: 11/07/18 14:45 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 15:18	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:18	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:18	120-82-1	
1,1,1-Trichloroethane	**1.1**	ug/L	1.0	1		11/13/18 15:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 15:18	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 15:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 15:18	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 15:18	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 15:18	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 15:18	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 15:18	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 15:18	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 15:18	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		11/13/18 15:18	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		11/13/18 15:18	17060-07-0	
Toluene-d8 (S)	108	%	70-130	1		11/13/18 15:18	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**37.4**	ug/L	2.0	1		11/12/18 15:58	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	50-150	1		11/12/18 15:58	17060-07-0	
Toluene-d8 (S)	131	%	50-150	1		11/12/18 15:58	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.: 92406701

Sample: MW-23D **Lab ID: 92406701014** Collected: 11/07/18 14:55 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 15:35	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 15:35	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 15:35	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 15:35	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 15:35	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 15:35	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 15:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 15:35	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 15:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 15:35	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 15:35	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 15:35	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 15:35	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 15:35	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 15:35	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 15:35	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 15:35	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 15:35	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 15:35	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:35	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:35	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:35	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 15:35	75-71-8	
1,1-Dichloroethane	**36.2**	ug/L	1.0	1		11/13/18 15:35	75-34-3	
1,2-Dichloroethane	**1.9**	ug/L	1.0	1		11/13/18 15:35	107-06-2	
1,1-Dichloroethene	**185**	ug/L	1.0	1		11/13/18 15:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 15:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 15:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 15:35	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 15:35	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 15:35	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 15:35	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 15:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 15:35	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 15:35	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 15:35	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 15:35	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 15:35	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 15:35	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 15:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 15:35	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 15:35	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 15:35	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 15:35	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 15:35	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 15:35	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 15:35	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.: 92406701

Sample: MW-23D **Lab ID: 92406701014** Collected: 11/07/18 14:55 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 15:35	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:35	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 15:35	120-82-1	
1,1,1-Trichloroethane	**17.0**	ug/L	1.0	1		11/13/18 15:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 15:35	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 15:35	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 15:35	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 15:35	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 15:35	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 15:35	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 15:35	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 15:35	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 15:35	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		11/13/18 15:35	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		11/13/18 15:35	17060-07-0	
Toluene-d8 (S)	109	%	70-130	1		11/13/18 15:35	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**146**	ug/L	5.0	2.5		11/12/18 16:18	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	115	%	50-150	2.5		11/12/18 16:18	17060-07-0	
Toluene-d8 (S)	116	%	50-150	2.5		11/12/18 16:18	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-ONSITE
Pace Project No.: 92406701

Sample: MW-24D **Lab ID: 92406701015** Collected: 11/07/18 15:15 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	125	5		11/14/18 19:31	67-64-1	
Benzene	ND	ug/L	5.0	5		11/14/18 19:31	71-43-2	
Bromobenzene	ND	ug/L	5.0	5		11/14/18 19:31	108-86-1	
Bromochloromethane	ND	ug/L	5.0	5		11/14/18 19:31	74-97-5	
Bromodichloromethane	ND	ug/L	5.0	5		11/14/18 19:31	75-27-4	
Bromoform	ND	ug/L	5.0	5		11/14/18 19:31	75-25-2	
Bromomethane	ND	ug/L	10.0	5		11/14/18 19:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	25.0	5		11/14/18 19:31	78-93-3	
Carbon tetrachloride	ND	ug/L	5.0	5		11/14/18 19:31	56-23-5	
Chlorobenzene	ND	ug/L	5.0	5		11/14/18 19:31	108-90-7	
Chloroethane	ND	ug/L	5.0	5		11/14/18 19:31	75-00-3	
Chloroform	ND	ug/L	5.0	5		11/14/18 19:31	67-66-3	
Chloromethane	ND	ug/L	5.0	5		11/14/18 19:31	74-87-3	
2-Chlorotoluene	ND	ug/L	5.0	5		11/14/18 19:31	95-49-8	
4-Chlorotoluene	ND	ug/L	5.0	5		11/14/18 19:31	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	10.0	5		11/14/18 19:31	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	5		11/14/18 19:31	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	5		11/14/18 19:31	106-93-4	
Dibromomethane	ND	ug/L	5.0	5		11/14/18 19:31	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	5		11/14/18 19:31	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	5		11/14/18 19:31	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	5		11/14/18 19:31	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	5		11/14/18 19:31	75-71-8	
1,1-Dichloroethane	**29.8**	ug/L	5.0	5		11/14/18 19:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	5		11/14/18 19:31	107-06-2	
1,1-Dichloroethene	**560**	ug/L	5.0	5		11/14/18 19:31	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		11/14/18 19:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		11/14/18 19:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	5		11/14/18 19:31	78-87-5	
1,3-Dichloropropane	ND	ug/L	5.0	5		11/14/18 19:31	142-28-9	
2,2-Dichloropropane	ND	ug/L	5.0	5		11/14/18 19:31	594-20-7	
1,1-Dichloropropene	ND	ug/L	5.0	5		11/14/18 19:31	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	5.0	5		11/14/18 19:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	5		11/14/18 19:31	10061-02-6	
Diisopropyl ether	ND	ug/L	5.0	5		11/14/18 19:31	108-20-3	
Ethylbenzene	ND	ug/L	5.0	5		11/14/18 19:31	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	5		11/14/18 19:31	87-68-3	
2-Hexanone	ND	ug/L	25.0	5		11/14/18 19:31	591-78-6	
p-Isopropyltoluene	ND	ug/L	5.0	5		11/14/18 19:31	99-87-6	
Methylene Chloride	ND	ug/L	10.0	5		11/14/18 19:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0	5		11/14/18 19:31	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	5.0	5		11/14/18 19:31	1634-04-4	
Naphthalene	ND	ug/L	5.0	5		11/14/18 19:31	91-20-3	
Styrene	ND	ug/L	5.0	5		11/14/18 19:31	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	5		11/14/18 19:31	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5		11/14/18 19:31	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	5		11/14/18 19:31	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.: 92406701

Sample: MW-24D **Lab ID: 92406701015** Collected: 11/07/18 15:15 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	5.0	5		11/14/18 19:31	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	5		11/14/18 19:31	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	5		11/14/18 19:31	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	5		11/14/18 19:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	5		11/14/18 19:31	79-00-5	
Trichloroethene	ND	ug/L	5.0	5		11/14/18 19:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	5		11/14/18 19:31	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	5.0	5		11/14/18 19:31	96-18-4	
Vinyl acetate	ND	ug/L	10.0	5		11/14/18 19:31	108-05-4	
Vinyl chloride	ND	ug/L	5.0	5		11/14/18 19:31	75-01-4	
Xylene (Total)	ND	ug/L	5.0	5		11/14/18 19:31	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	5		11/14/18 19:31	179601-23-1	
o-Xylene	ND	ug/L	5.0	5		11/14/18 19:31	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	5		11/14/18 19:31	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	5		11/14/18 19:31	17060-07-0	
Toluene-d8 (S)	108	%	70-130	5		11/14/18 19:31	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/11/18 23:23	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	112	%	50-150	1		11/11/18 23:23	17060-07-0	
Toluene-d8 (S)	111	%	50-150	1		11/11/18 23:23	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.: 92406701

Sample: MW-16 **Lab ID: 92406701016** Collected: 11/07/18 15:40 Received: 11/09/18 09:31 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	1250	50		11/14/18 20:40	67-64-1	
Benzene	ND	ug/L	50.0	50		11/14/18 20:40	71-43-2	
Bromobenzene	ND	ug/L	50.0	50		11/14/18 20:40	108-86-1	
Bromochloromethane	ND	ug/L	50.0	50		11/14/18 20:40	74-97-5	
Bromodichloromethane	ND	ug/L	50.0	50		11/14/18 20:40	75-27-4	
Bromoform	ND	ug/L	50.0	50		11/14/18 20:40	75-25-2	
Bromomethane	ND	ug/L	100	50		11/14/18 20:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	250	50		11/14/18 20:40	78-93-3	
Carbon tetrachloride	ND	ug/L	50.0	50		11/14/18 20:40	56-23-5	
Chlorobenzene	ND	ug/L	50.0	50		11/14/18 20:40	108-90-7	
Chloroethane	**275**	ug/L	50.0	50		11/14/18 20:40	75-00-3	
Chloroform	ND	ug/L	50.0	50		11/14/18 20:40	67-66-3	
Chloromethane	ND	ug/L	50.0	50		11/14/18 20:40	74-87-3	
2-Chlorotoluene	ND	ug/L	50.0	50		11/14/18 20:40	95-49-8	
4-Chlorotoluene	ND	ug/L	50.0	50		11/14/18 20:40	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	100	50		11/14/18 20:40	96-12-8	
Dibromochloromethane	ND	ug/L	50.0	50		11/14/18 20:40	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	50.0	50		11/14/18 20:40	106-93-4	
Dibromomethane	ND	ug/L	50.0	50		11/14/18 20:40	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	50.0	50		11/14/18 20:40	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	50.0	50		11/14/18 20:40	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	50.0	50		11/14/18 20:40	106-46-7	
Dichlorodifluoromethane	ND	ug/L	50.0	50		11/14/18 20:40	75-71-8	
1,1-Dichloroethane	**7360**	ug/L	50.0	50		11/14/18 20:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	50.0	50		11/14/18 20:40	107-06-2	
1,1-Dichloroethene	**7800**	ug/L	50.0	50		11/14/18 20:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	50.0	50		11/14/18 20:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	50.0	50		11/14/18 20:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	50.0	50		11/14/18 20:40	78-87-5	
1,3-Dichloropropane	ND	ug/L	50.0	50		11/14/18 20:40	142-28-9	
2,2-Dichloropropane	ND	ug/L	50.0	50		11/14/18 20:40	594-20-7	
1,1-Dichloropropene	ND	ug/L	50.0	50		11/14/18 20:40	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	50.0	50		11/14/18 20:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	50.0	50		11/14/18 20:40	10061-02-6	
Diisopropyl ether	ND	ug/L	50.0	50		11/14/18 20:40	108-20-3	
Ethylbenzene	ND	ug/L	50.0	50		11/14/18 20:40	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	50.0	50		11/14/18 20:40	87-68-3	
2-Hexanone	ND	ug/L	250	50		11/14/18 20:40	591-78-6	
p-Isopropyltoluene	ND	ug/L	50.0	50		11/14/18 20:40	99-87-6	
Methylene Chloride	ND	ug/L	100	50		11/14/18 20:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	50		11/14/18 20:40	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	50.0	50		11/14/18 20:40	1634-04-4	
Naphthalene	ND	ug/L	50.0	50		11/14/18 20:40	91-20-3	
Styrene	ND	ug/L	50.0	50		11/14/18 20:40	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	50.0	50		11/14/18 20:40	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	50.0	50		11/14/18 20:40	79-34-5	
Tetrachloroethene	ND	ug/L	50.0	50		11/14/18 20:40	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.: 92406701

Sample: MW-16 **Lab ID: 92406701016** Collected: 11/07/18 15:40 Received: 11/09/18 09:31 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	50.0	50		11/14/18 20:40	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	50.0	50		11/14/18 20:40	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	50.0	50		11/14/18 20:40	120-82-1	
1,1,1-Trichloroethane	**6420**	ug/L	50.0	50		11/14/18 20:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	50.0	50		11/14/18 20:40	79-00-5	
Trichloroethene	**74.2**	ug/L	50.0	50		11/14/18 20:40	79-01-6	
Trichlorofluoromethane	ND	ug/L	50.0	50		11/14/18 20:40	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	50.0	50		11/14/18 20:40	96-18-4	
Vinyl acetate	ND	ug/L	100	50		11/14/18 20:40	108-05-4	
Vinyl chloride	ND	ug/L	50.0	50		11/14/18 20:40	75-01-4	
Xylene (Total)	ND	ug/L	50.0	50		11/14/18 20:40	1330-20-7	
m&p-Xylene	ND	ug/L	100	50		11/14/18 20:40	179601-23-1	
o-Xylene	ND	ug/L	50.0	50		11/14/18 20:40	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	50		11/14/18 20:40	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	50		11/14/18 20:40	17060-07-0	
Toluene-d8 (S)	106	%	70-130	50		11/14/18 20:40	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**866**	ug/L	40.0	20		11/12/18 16:37	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	111	%	50-150	20		11/12/18 16:37	17060-07-0	
Toluene-d8 (S)	136	%	50-150	20		11/12/18 16:37	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-ONSITE
Pace Project No.: 92406701

Sample: MW-16D **Lab ID: 92406701017** Collected: 11/07/18 16:00 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 16:10	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 16:10	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 16:10	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 16:10	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 16:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 16:10	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 16:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 16:10	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 16:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 16:10	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 16:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 16:10	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 16:10	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 16:10	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 16:10	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 16:10	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 16:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 16:10	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 16:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 16:10	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 16:10	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 16:10	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 16:10	75-71-8	
1,1-Dichloroethane	**27.5**	ug/L	1.0	1		11/13/18 16:10	75-34-3	
1,2-Dichloroethane	**1.8**	ug/L	1.0	1		11/13/18 16:10	107-06-2	
1,1-Dichloroethene	**161**	ug/L	1.0	1		11/13/18 16:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 16:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 16:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 16:10	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 16:10	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 16:10	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 16:10	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 16:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 16:10	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 16:10	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 16:10	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 16:10	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 16:10	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 16:10	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 16:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 16:10	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 16:10	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 16:10	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 16:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 16:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 16:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 16:10	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.: 92406701

Sample: MW-16D **Lab ID: 92406701017** Collected: 11/07/18 16:00 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 16:10	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 16:10	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 16:10	120-82-1	
1,1,1-Trichloroethane	**12.5**	ug/L	1.0	1		11/13/18 16:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 16:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 16:10	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 16:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 16:10	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 16:10	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 16:10	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 16:10	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 16:10	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 16:10	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		11/13/18 16:10	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		11/13/18 16:10	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		11/13/18 16:10	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**158**	ug/L	5.0	2.5		11/12/18 16:57	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%	50-150	2.5		11/12/18 16:57	17060-07-0	
Toluene-d8 (S)	134	%	50-150	2.5		11/12/18 16:57	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-ONSITE
Pace Project No.: 92406701

Sample: DUP 110718 **Lab ID: 92406701018** Collected: 11/07/18 17:00 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 16:27	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 16:27	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 16:27	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 16:27	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 16:27	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 16:27	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 16:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 16:27	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 16:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 16:27	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 16:27	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 16:27	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 16:27	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 16:27	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 16:27	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 16:27	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 16:27	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 16:27	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 16:27	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 16:27	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 16:27	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 16:27	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 16:27	75-71-8	
1,1-Dichloroethane	**28.9**	ug/L	1.0	1		11/13/18 16:27	75-34-3	
1,2-Dichloroethane	**1.9**	ug/L	1.0	1		11/13/18 16:27	107-06-2	
1,1-Dichloroethene	**180**	ug/L	1.0	1		11/13/18 16:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 16:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 16:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 16:27	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 16:27	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 16:27	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 16:27	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 16:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 16:27	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 16:27	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 16:27	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 16:27	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 16:27	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 16:27	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 16:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 16:27	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 16:27	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 16:27	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 16:27	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 16:27	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 16:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 16:27	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.: 92406701

Sample: DUP 110718 **Lab ID: 92406701018** Collected: 11/07/18 17:00 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 16:27	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 16:27	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 16:27	120-82-1	
1,1,1-Trichloroethane	**14.3**	ug/L	1.0	1		11/13/18 16:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 16:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 16:27	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 16:27	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 16:27	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 16:27	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 16:27	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 16:27	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 16:27	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 16:27	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		11/13/18 16:27	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130	1		11/13/18 16:27	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		11/13/18 16:27	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**135**	ug/L	5.0	2.5		11/12/18 17:16	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	114	%	50-150	2.5		11/12/18 17:16	17060-07-0	
Toluene-d8 (S)	106	%	50-150	2.5		11/12/18 17:16	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.: 92406701

Sample: MW-46 **Lab ID: 92406701019** Collected: 11/07/18 16:10 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/14/18 16:06	67-64-1	
Benzene	ND	ug/L	1.0	1		11/14/18 16:06	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/14/18 16:06	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/14/18 16:06	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/14/18 16:06	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/14/18 16:06	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/14/18 16:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/14/18 16:06	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/14/18 16:06	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/14/18 16:06	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/14/18 16:06	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/14/18 16:06	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/14/18 16:06	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/14/18 16:06	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/14/18 16:06	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/14/18 16:06	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/14/18 16:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/14/18 16:06	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/14/18 16:06	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/14/18 16:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/14/18 16:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/14/18 16:06	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/14/18 16:06	75-71-8	
1,1-Dichloroethane	**22.1**	ug/L	1.0	1		11/14/18 16:06	75-34-3	
1,2-Dichloroethane	**1.2**	ug/L	1.0	1		11/14/18 16:06	107-06-2	
1,1-Dichloroethene	**99.6**	ug/L	1.0	1		11/14/18 16:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/14/18 16:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/14/18 16:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/14/18 16:06	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/14/18 16:06	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/14/18 16:06	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/14/18 16:06	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/14/18 16:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/14/18 16:06	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/14/18 16:06	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/14/18 16:06	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/14/18 16:06	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/14/18 16:06	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/14/18 16:06	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/14/18 16:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/14/18 16:06	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/14/18 16:06	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/14/18 16:06	91-20-3	
Styrene	ND	ug/L	1.0	1		11/14/18 16:06	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/14/18 16:06	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/14/18 16:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/14/18 16:06	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.: 92406701

Sample: MW-46 **Lab ID: 92406701019** Collected: 11/07/18 16:10 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/14/18 16:06	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/14/18 16:06	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/14/18 16:06	120-82-1	
1,1,1-Trichloroethane	**7.7**	ug/L	1.0	1		11/14/18 16:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/14/18 16:06	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/14/18 16:06	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/14/18 16:06	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/14/18 16:06	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/14/18 16:06	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/14/18 16:06	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/14/18 16:06	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/14/18 16:06	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/14/18 16:06	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		11/14/18 16:06	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	70-130	1		11/14/18 16:06	17060-07-0	
Toluene-d8 (S)	108	%	70-130	1		11/14/18 16:06	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**96.7**	ug/L	5.0	2.5		11/14/18 15:04	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%	50-150	2.5		11/14/18 15:04	17060-07-0	
Toluene-d8 (S)	105	%	50-150	2.5		11/14/18 15:04	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.: 92406701

Sample: TRIP BLANK A **Lab ID: 92406701020** Collected: 11/07/18 00:00 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/14/18 01:12	67-64-1	
Benzene	ND	ug/L	1.0	1		11/14/18 01:12	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/14/18 01:12	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/14/18 01:12	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/14/18 01:12	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/14/18 01:12	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/14/18 01:12	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/14/18 01:12	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/14/18 01:12	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/14/18 01:12	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/14/18 01:12	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/14/18 01:12	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/14/18 01:12	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/14/18 01:12	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/14/18 01:12	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/14/18 01:12	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/14/18 01:12	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/14/18 01:12	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/14/18 01:12	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/14/18 01:12	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/14/18 01:12	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/14/18 01:12	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/14/18 01:12	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/14/18 01:12	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/14/18 01:12	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/14/18 01:12	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/14/18 01:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/14/18 01:12	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/14/18 01:12	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/14/18 01:12	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/14/18 01:12	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/14/18 01:12	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/14/18 01:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/14/18 01:12	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/14/18 01:12	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/14/18 01:12	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/14/18 01:12	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/14/18 01:12	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/14/18 01:12	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/14/18 01:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/14/18 01:12	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/14/18 01:12	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/14/18 01:12	91-20-3	
Styrene	ND	ug/L	1.0	1		11/14/18 01:12	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/14/18 01:12	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/14/18 01:12	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/14/18 01:12	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.: 92406701

Sample: TRIP BLANK A **Lab ID: 92406701020** Collected: 11/07/18 00:00 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/14/18 01:12	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/14/18 01:12	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/14/18 01:12	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/14/18 01:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/14/18 01:12	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/14/18 01:12	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/14/18 01:12	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/14/18 01:12	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/14/18 01:12	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/14/18 01:12	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/14/18 01:12	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/14/18 01:12	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/14/18 01:12	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		11/14/18 01:12	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		11/14/18 01:12	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		11/14/18 01:12	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/12/18 13:23	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%	50-150	1		11/12/18 13:23	17060-07-0	
Toluene-d8 (S)	110	%	50-150	1		11/12/18 13:23	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.: 92406701

QC Batch: 441798 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92406701001, 92406701002, 92406701003, 92406701004, 92406701005, 92406701006, 92406701007, 92406701008, 92406701009, 92406701010, 92406701012, 92406701013, 92406701014, 92406701017, 92406701018

METHOD BLANK: 2425858 Matrix: Water
Associated Lab Samples: 92406701001, 92406701002, 92406701003, 92406701004, 92406701005, 92406701006, 92406701007, 92406701008, 92406701009, 92406701010, 92406701012, 92406701013, 92406701014, 92406701017, 92406701018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/13/18 11:36	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/13/18 11:36	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/13/18 11:36	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/13/18 11:36	
1,1-Dichloroethane	ug/L	ND	1.0	11/13/18 11:36	
1,1-Dichloroethene	ug/L	ND	1.0	11/13/18 11:36	
1,1-Dichloropropene	ug/L	ND	1.0	11/13/18 11:36	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/13/18 11:36	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/13/18 11:36	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/13/18 11:36	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/13/18 11:36	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/13/18 11:36	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/13/18 11:36	
1,2-Dichloroethane	ug/L	ND	1.0	11/13/18 11:36	
1,2-Dichloropropane	ug/L	ND	1.0	11/13/18 11:36	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/13/18 11:36	
1,3-Dichloropropane	ug/L	ND	1.0	11/13/18 11:36	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/13/18 11:36	
2,2-Dichloropropane	ug/L	ND	1.0	11/13/18 11:36	
2-Butanone (MEK)	ug/L	ND	5.0	11/13/18 11:36	
2-Chlorotoluene	ug/L	ND	1.0	11/13/18 11:36	
2-Hexanone	ug/L	ND	5.0	11/13/18 11:36	
4-Chlorotoluene	ug/L	ND	1.0	11/13/18 11:36	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/13/18 11:36	
Acetone	ug/L	ND	25.0	11/13/18 11:36	
Benzene	ug/L	ND	1.0	11/13/18 11:36	
Bromobenzene	ug/L	ND	1.0	11/13/18 11:36	
Bromochloromethane	ug/L	ND	1.0	11/13/18 11:36	
Bromodichloromethane	ug/L	ND	1.0	11/13/18 11:36	
Bromoform	ug/L	ND	1.0	11/13/18 11:36	
Bromomethane	ug/L	ND	2.0	11/13/18 11:36	
Carbon tetrachloride	ug/L	ND	1.0	11/13/18 11:36	
Chlorobenzene	ug/L	ND	1.0	11/13/18 11:36	
Chloroethane	ug/L	ND	1.0	11/13/18 11:36	
Chloroform	ug/L	ND	1.0	11/13/18 11:36	
Chloromethane	ug/L	ND	1.0	11/13/18 11:36	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/13/18 11:36	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/13/18 11:36	

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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.: 92406701

METHOD BLANK: 2425858 Matrix: Water

Associated Lab Samples: 92406701001, 92406701002, 92406701003, 92406701004, 92406701005, 92406701006, 92406701007, 92406701008, 92406701009, 92406701010, 92406701012, 92406701013, 92406701014, 92406701017, 92406701018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/L	ND	1.0	11/13/18 11:36	
Dibromomethane	ug/L	ND	1.0	11/13/18 11:36	
Dichlorodifluoromethane	ug/L	ND	1.0	11/13/18 11:36	
Diisopropyl ether	ug/L	ND	1.0	11/13/18 11:36	
Ethylbenzene	ug/L	ND	1.0	11/13/18 11:36	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/13/18 11:36	
m&p-Xylene	ug/L	ND	2.0	11/13/18 11:36	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/13/18 11:36	
Methylene Chloride	ug/L	ND	2.0	11/13/18 11:36	
Naphthalene	ug/L	ND	1.0	11/13/18 11:36	
o-Xylene	ug/L	ND	1.0	11/13/18 11:36	
p-Isopropyltoluene	ug/L	ND	1.0	11/13/18 11:36	
Styrene	ug/L	ND	1.0	11/13/18 11:36	
Tetrachloroethene	ug/L	ND	1.0	11/13/18 11:36	
Toluene	ug/L	ND	1.0	11/13/18 11:36	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/13/18 11:36	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/13/18 11:36	
Trichloroethene	ug/L	ND	1.0	11/13/18 11:36	
Trichlorofluoromethane	ug/L	ND	1.0	11/13/18 11:36	
Vinyl acetate	ug/L	ND	2.0	11/13/18 11:36	
Vinyl chloride	ug/L	ND	1.0	11/13/18 11:36	
Xylene (Total)	ug/L	ND	1.0	11/13/18 11:36	
1,2-Dichloroethane-d4 (S)	%	94	70-130	11/13/18 11:36	
4-Bromofluorobenzene (S)	%	104	70-130	11/13/18 11:36	
Toluene-d8 (S)	%	107	70-130	11/13/18 11:36	

LABORATORY CONTROL SAMPLE: 2425859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.4	101	70-130	
1,1,1-Trichloroethane	ug/L	50	47.8	96	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	50.5	101	70-130	
1,1,2-Trichloroethane	ug/L	50	50.8	102	70-130	
1,1-Dichloroethane	ug/L	50	47.7	95	70-130	
1,1-Dichloroethene	ug/L	50	51.3	103	70-130	
1,1-Dichloropropene	ug/L	50	51.1	102	70-130	
1,2,3-Trichlorobenzene	ug/L	50	46.5	93	70-130	
1,2,3-Trichloropropane	ug/L	50	47.6	95	70-130	
1,2,4-Trichlorobenzene	ug/L	50	45.8	92	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	47.2	94	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	50.9	102	70-130	
1,2-Dichlorobenzene	ug/L	50	46.0	92	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.: 92406701

LABORATORY CONTROL SAMPLE: 2425859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	45.7	91	70-130	
1,2-Dichloropropane	ug/L	50	49.6	99	70-130	
1,3-Dichlorobenzene	ug/L	50	47.0	94	70-130	
1,3-Dichloropropane	ug/L	50	52.2	104	70-131	
1,4-Dichlorobenzene	ug/L	50	45.9	92	70-130	
2,2-Dichloropropane	ug/L	50	37.6	75	69-130	
2-Butanone (MEK)	ug/L	100	101	101	64-135	
2-Chlorotoluene	ug/L	50	45.3	91	70-130	
2-Hexanone	ug/L	100	104	104	66-135	
4-Chlorotoluene	ug/L	50	46.7	93	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	101	101	70-130	
Acetone	ug/L	100	105	105	61-157	
Benzene	ug/L	50	50.3	101	70-130	
Bromobenzene	ug/L	50	46.6	93	70-130	
Bromochloromethane	ug/L	50	47.9	96	70-130	
Bromodichloromethane	ug/L	50	46.3	93	70-130	
Bromoform	ug/L	50	46.2	92	70-130	
Bromomethane	ug/L	50	26.3	53	38-128	
Carbon tetrachloride	ug/L	50	45.2	90	70-130	
Chlorobenzene	ug/L	50	48.5	97	70-130	
Chloroethane	ug/L	50	35.2	70	37-142	
Chloroform	ug/L	50	47.1	94	70-130	
Chloromethane	ug/L	50	32.4	65	48-120	
cis-1,2-Dichloroethene	ug/L	50	47.6	95	70-130	
cis-1,3-Dichloropropene	ug/L	50	49.3	99	70-130	
Dibromochloromethane	ug/L	50	50.3	101	70-130	
Dibromomethane	ug/L	50	47.6	95	70-130	
Dichlorodifluoromethane	ug/L	50	38.5	77	53-134	
Diisopropyl ether	ug/L	50	51.8	104	71-135	
Ethylbenzene	ug/L	50	46.6	93	70-130	
Hexachloro-1,3-butadiene	ug/L	50	44.5	89	68-132	
m&p-Xylene	ug/L	100	94.8	95	70-130	
Methyl-tert-butyl ether	ug/L	50	48.6	97	70-130	
Methylene Chloride	ug/L	50	48.9	98	67-132	
Naphthalene	ug/L	50	46.8	94	70-130	
o-Xylene	ug/L	50	48.2	96	70-130	
p-Isopropyltoluene	ug/L	50	45.2	90	70-130	
Styrene	ug/L	50	49.0	98	70-130	
Tetrachloroethene	ug/L	50	48.0	96	69-130	
Toluene	ug/L	50	46.3	93	70-130	
trans-1,2-Dichloroethene	ug/L	50	49.0	98	70-130	
trans-1,3-Dichloropropene	ug/L	50	48.1	96	70-130	
Trichloroethene	ug/L	50	49.9	100	70-130	
Trichlorofluoromethane	ug/L	50	40.1	80	63-126	
Vinyl acetate	ug/L	100	102	102	55-143	
Vinyl chloride	ug/L	50	47.2	94	70-131	
Xylene (Total)	ug/L	150	143	95	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.: 92406701

LABORATORY CONTROL SAMPLE: 2425859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE SAMPLE: 2427834

Parameter	Units	92406701009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	19.7	99	73-134	
1,1,1-Trichloroethane	ug/L	3.3	20	24.5	106	82-143	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.6	98	70-136	
1,1,2-Trichloroethane	ug/L	ND	20	19.6	98	70-135	
1,1-Dichloroethane	ug/L	7.1	20	27.7	103	72-139	
1,1-Dichloroethene	ug/L	38.8	20	59.7	105	81-154	
1,1-Dichloropropene	ug/L	ND	20	21.9	109	79-149	
1,2,3-Trichlorobenzene	ug/L	ND	20	18.6	93	70-135	
1,2,3-Trichloropropane	ug/L	ND	20	18.6	93	71-137	
1,2,4-Trichlorobenzene	ug/L	ND	20	18.5	93	73-140	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	17.4	87	65-134	
1,2-Dibromoethane (EDB)	ug/L	ND	20	19.4	97	72-137	
1,2-Dichlorobenzene	ug/L	ND	20	18.8	94	70-133	
1,2-Dichloroethane	ug/L	ND	20	19.2	94	73-137	
1,2-Dichloropropane	ug/L	ND	20	20.5	103	79-140	
1,3-Dichlorobenzene	ug/L	ND	20	19.1	95	70-135	
1,3-Dichloropropane	ug/L	ND	20	20.6	103	76-143	
1,4-Dichlorobenzene	ug/L	ND	20	18.5	92	70-133	
2,2-Dichloropropane	ug/L	ND	20	21.0	105	61-148	
2-Butanone (MEK)	ug/L	ND	40	36.2	90	60-139	
2-Chlorotoluene	ug/L	ND	20	18.6	93	73-144	
2-Hexanone	ug/L	ND	40	37.5	94	65-138	
4-Chlorotoluene	ug/L	ND	20	19.2	96	76-137	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	36.5	91	65-135	
Acetone	ug/L	ND	40	36.9	92	60-148	
Benzene	ug/L	ND	20	20.9	105	72-151	
Bromobenzene	ug/L	ND	20	19.0	95	70-136	
Bromochloromethane	ug/L	ND	20	21.1	106	77-141	
Bromodichloromethane	ug/L	ND	20	18.2	91	76-138	
Bromoform	ug/L	ND	20	17.0	85	63-130	
Bromomethane	ug/L	ND	20	14.2	71	15-152	
Carbon tetrachloride	ug/L	ND	20	19.8	99	70-143	
Chlorobenzene	ug/L	ND	20	20.4	102	70-138	
Chloroethane	ug/L	ND	20	17.8	89	52-163	
Chloroform	ug/L	ND	20	19.6	98	74-139	
Chloromethane	ug/L	ND	20	12.8	64	41-139	
cis-1,2-Dichloroethene	ug/L	ND	20	20.3	101	77-141	
cis-1,3-Dichloropropene	ug/L	ND	20	19.8	99	74-137	

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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.: 92406701

MATRIX SPIKE SAMPLE: 2427834

Parameter	Units	92406701009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	ND	20	19.2	96	70-134	
Dibromomethane	ug/L	ND	20	19.9	100	76-138	
Dichlorodifluoromethane	ug/L	ND	20	11.9	59	47-155	
Diisopropyl ether	ug/L	ND	20	20.0	100	63-144	
Ethylbenzene	ug/L	ND	20	19.9	100	66-153	
Hexachloro-1,3-butadiene	ug/L	ND	20	19.1	95	65-149	
m&p-Xylene	ug/L	ND	40	41.7	104	69-152	
Methyl-tert-butyl ether	ug/L	ND	20	18.6	93	54-156	
Methylene Chloride	ug/L	ND	20	21.2	106	42-159	
Naphthalene	ug/L	ND	20	17.7	89	61-148	
o-Xylene	ug/L	ND	20	20.8	104	73-148	
p-Isopropyltoluene	ug/L	ND	20	18.3	92	73-146	
Styrene	ug/L	ND	20	20.4	102	70-135	
Tetrachloroethene	ug/L	ND	20	20.1	100	59-143	
Toluene	ug/L	ND	20	19.2	96	59-148	
trans-1,2-Dichloroethene	ug/L	ND	20	21.3	106	76-146	
trans-1,3-Dichloropropene	ug/L	ND	20	18.4	92	71-135	
Trichloroethene	ug/L	ND	20	21.2	106	77-147	
Trichlorofluoromethane	ug/L	ND	20	17.8	89	76-148	
Vinyl acetate	ug/L	ND	40	37.4	93	49-151	
Vinyl chloride	ug/L	ND	20	18.8	94	70-156	
Xylene (Total)	ug/L	ND	60	62.6	104	63-158	
1,2-Dichloroethane-d4 (S)	%				92	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				95	70-130	

SAMPLE DUPLICATE: 2427833

Parameter	Units	92406701008 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	.69J		30	
1,1-Dichloroethene	ug/L	30.0	29.7	1	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	.39J		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,3-Dichlorobenzene	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.: 92406701

SAMPLE DUPLICATE: 2427833

Parameter	Units	92406701008 Result	Dup Result	RPD	Max RPD	Qualifiers
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	
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	.21J		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	.54J		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)	%	97	94	3		
4-Bromofluorobenzene (S)	%	104	103	0		
Toluene-d8 (S)	%	106	109	3		

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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.: 92406701

QC Batch: 442084 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92406701020

METHOD BLANK: 2427049 Matrix: Water
Associated Lab Samples: 92406701020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/14/18 00:55	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/14/18 00:55	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/14/18 00:55	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/14/18 00:55	
1,1-Dichloroethane	ug/L	ND	1.0	11/14/18 00:55	
1,1-Dichloroethene	ug/L	ND	1.0	11/14/18 00:55	
1,1-Dichloropropene	ug/L	ND	1.0	11/14/18 00:55	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/14/18 00:55	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/14/18 00:55	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/14/18 00:55	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/14/18 00:55	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/14/18 00:55	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/14/18 00:55	
1,2-Dichloroethane	ug/L	ND	1.0	11/14/18 00:55	
1,2-Dichloropropane	ug/L	ND	1.0	11/14/18 00:55	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/14/18 00:55	
1,3-Dichloropropane	ug/L	ND	1.0	11/14/18 00:55	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/14/18 00:55	
2,2-Dichloropropane	ug/L	ND	1.0	11/14/18 00:55	
2-Butanone (MEK)	ug/L	ND	5.0	11/14/18 00:55	
2-Chlorotoluene	ug/L	ND	1.0	11/14/18 00:55	
2-Hexanone	ug/L	ND	5.0	11/14/18 00:55	
4-Chlorotoluene	ug/L	ND	1.0	11/14/18 00:55	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/14/18 00:55	
Acetone	ug/L	ND	25.0	11/14/18 00:55	
Benzene	ug/L	ND	1.0	11/14/18 00:55	
Bromobenzene	ug/L	ND	1.0	11/14/18 00:55	
Bromochloromethane	ug/L	ND	1.0	11/14/18 00:55	
Bromodichloromethane	ug/L	ND	1.0	11/14/18 00:55	
Bromoform	ug/L	ND	1.0	11/14/18 00:55	
Bromomethane	ug/L	ND	2.0	11/14/18 00:55	
Carbon tetrachloride	ug/L	ND	1.0	11/14/18 00:55	
Chlorobenzene	ug/L	ND	1.0	11/14/18 00:55	
Chloroethane	ug/L	ND	1.0	11/14/18 00:55	
Chloroform	ug/L	ND	1.0	11/14/18 00:55	
Chloromethane	ug/L	ND	1.0	11/14/18 00:55	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/14/18 00:55	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/14/18 00:55	
Dibromochloromethane	ug/L	ND	1.0	11/14/18 00:55	
Dibromomethane	ug/L	ND	1.0	11/14/18 00:55	
Dichlorodifluoromethane	ug/L	ND	1.0	11/14/18 00:55	

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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.: 92406701

METHOD BLANK: 2427049 Matrix: Water
Associated Lab Samples: 92406701020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/14/18 00:55	
Ethylbenzene	ug/L	ND	1.0	11/14/18 00:55	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/14/18 00:55	
m&p-Xylene	ug/L	ND	2.0	11/14/18 00:55	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/14/18 00:55	
Methylene Chloride	ug/L	ND	2.0	11/14/18 00:55	
Naphthalene	ug/L	ND	1.0	11/14/18 00:55	
o-Xylene	ug/L	ND	1.0	11/14/18 00:55	
p-Isopropyltoluene	ug/L	ND	1.0	11/14/18 00:55	
Styrene	ug/L	ND	1.0	11/14/18 00:55	
Tetrachloroethene	ug/L	ND	1.0	11/14/18 00:55	
Toluene	ug/L	ND	1.0	11/14/18 00:55	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/14/18 00:55	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/14/18 00:55	
Trichloroethene	ug/L	ND	1.0	11/14/18 00:55	
Trichlorofluoromethane	ug/L	ND	1.0	11/14/18 00:55	
Vinyl acetate	ug/L	ND	2.0	11/14/18 00:55	
Vinyl chloride	ug/L	ND	1.0	11/14/18 00:55	
Xylene (Total)	ug/L	ND	1.0	11/14/18 00:55	
1,2-Dichloroethane-d4 (S)	%	95	70-130	11/14/18 00:55	
4-Bromofluorobenzene (S)	%	106	70-130	11/14/18 00:55	
Toluene-d8 (S)	%	109	70-130	11/14/18 00:55	

LABORATORY CONTROL SAMPLE: 2427050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	49.2	98	70-130	
1,1,1-Trichloroethane	ug/L	50	47.6	95	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.1	98	70-130	
1,1,2-Trichloroethane	ug/L	50	50.6	101	70-130	
1,1-Dichloroethane	ug/L	50	47.7	95	70-130	
1,1-Dichloroethene	ug/L	50	49.0	98	70-130	
1,1-Dichloropropene	ug/L	50	50.1	100	70-130	
1,2,3-Trichlorobenzene	ug/L	50	48.2	96	70-130	
1,2,3-Trichloropropane	ug/L	50	47.2	94	70-130	
1,2,4-Trichlorobenzene	ug/L	50	47.5	95	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	48.4	97	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	49.3	99	70-130	
1,2-Dichlorobenzene	ug/L	50	47.6	95	70-130	
1,2-Dichloroethane	ug/L	50	44.5	89	70-130	
1,2-Dichloropropane	ug/L	50	49.9	100	70-130	
1,3-Dichlorobenzene	ug/L	50	48.1	96	70-130	
1,3-Dichloropropane	ug/L	50	50.9	102	70-131	
1,4-Dichlorobenzene	ug/L	50	46.3	93	70-130	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

LABORATORY CONTROL SAMPLE: 2427050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	43.4	87	69-130	
2-Butanone (MEK)	ug/L	100	102	102	64-135	
2-Chlorotoluene	ug/L	50	46.9	94	70-130	
2-Hexanone	ug/L	100	101	101	66-135	
4-Chlorotoluene	ug/L	50	47.1	94	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	101	101	70-130	
Acetone	ug/L	100	104	104	61-157	
Benzene	ug/L	50	51.0	102	70-130	
Bromobenzene	ug/L	50	47.9	96	70-130	
Bromochloromethane	ug/L	50	47.2	94	70-130	
Bromodichloromethane	ug/L	50	45.4	91	70-130	
Bromoform	ug/L	50	44.0	88	70-130	
Bromomethane	ug/L	50	27.4	55	38-128	
Carbon tetrachloride	ug/L	50	44.7	89	70-130	
Chlorobenzene	ug/L	50	47.2	94	70-130	
Chloroethane	ug/L	50	32.5	65	37-142	
Chloroform	ug/L	50	46.0	92	70-130	
Chloromethane	ug/L	50	31.9	64	48-120	
cis-1,2-Dichloroethene	ug/L	50	47.0	94	70-130	
cis-1,3-Dichloropropene	ug/L	50	50.6	101	70-130	
Dibromochloromethane	ug/L	50	48.7	97	70-130	
Dibromomethane	ug/L	50	47.4	95	70-130	
Dichlorodifluoromethane	ug/L	50	32.9	66	53-134	
Diisopropyl ether	ug/L	50	51.1	102	71-135	
Ethylbenzene	ug/L	50	46.0	92	70-130	
Hexachloro-1,3-butadiene	ug/L	50	46.7	93	68-132	
m&p-Xylene	ug/L	100	92.1	92	70-130	
Methyl-tert-butyl ether	ug/L	50	48.2	96	70-130	
Methylene Chloride	ug/L	50	49.1	98	67-132	
Naphthalene	ug/L	50	47.2	94	70-130	
o-Xylene	ug/L	50	47.0	94	70-130	
p-Isopropyltoluene	ug/L	50	46.6	93	70-130	
Styrene	ug/L	50	47.2	94	70-130	
Tetrachloroethene	ug/L	50	46.6	93	69-130	
Toluene	ug/L	50	46.2	92	70-130	
trans-1,2-Dichloroethene	ug/L	50	48.3	97	70-130	
trans-1,3-Dichloropropene	ug/L	50	48.9	98	70-130	
Trichloroethene	ug/L	50	50.4	101	70-130	
Trichlorofluoromethane	ug/L	50	37.7	75	63-126	
Vinyl acetate	ug/L	100	101	101	55-143	
Vinyl chloride	ug/L	50	42.3	85	70-131	
Xylene (Total)	ug/L	150	139	93	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			94	70-130	
Toluene-d8 (S)	%			98	70-130	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

MATRIX SPIKE SAMPLE: 2427476

Parameter	Units	92406922006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20.1	100	73-134	
1,1,1-Trichloroethane	ug/L	ND	20	22.3	111	82-143	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.0	100	70-136	
1,1,2-Trichloroethane	ug/L	ND	20	20.8	104	70-135	
1,1-Dichloroethane	ug/L	ND	20	21.7	108	72-139	
1,1-Dichloroethene	ug/L	ND	20	23.4	117	81-154	
1,1-Dichloropropene	ug/L	ND	20	22.6	113	79-149	
1,2,3-Trichlorobenzene	ug/L	ND	20	19.7	99	70-135	
1,2,3-Trichloropropane	ug/L	ND	20	18.7	94	71-137	
1,2,4-Trichlorobenzene	ug/L	ND	20	20.1	100	73-140	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	17.8	89	65-134	
1,2-Dibromoethane (EDB)	ug/L	ND	20	19.6	98	72-137	
1,2-Dichlorobenzene	ug/L	ND	20	19.9	100	70-133	
1,2-Dichloroethane	ug/L	ND	20	19.8	99	73-137	
1,2-Dichloropropane	ug/L	ND	20	21.7	108	79-140	
1,3-Dichlorobenzene	ug/L	ND	20	20.7	103	70-135	
1,3-Dichloropropane	ug/L	ND	20	20.9	104	76-143	
1,4-Dichlorobenzene	ug/L	ND	20	19.8	99	70-133	
2,2-Dichloropropane	ug/L	ND	20	22.0	110	61-148	
2-Butanone (MEK)	ug/L	ND	40	36.7	92	60-139	
2-Chlorotoluene	ug/L	ND	20	20.0	100	73-144	
2-Hexanone	ug/L	ND	40	38.1	95	65-138	
4-Chlorotoluene	ug/L	ND	20	20.3	101	76-137	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	37.4	94	65-135	
Acetone	ug/L	ND	40	38.3	96	60-148	
Benzene	ug/L	ND	20	22.5	113	72-151	
Bromobenzene	ug/L	ND	20	20.2	101	70-136	
Bromochloromethane	ug/L	ND	20	22.6	113	77-141	
Bromodichloromethane	ug/L	ND	20	20.0	100	76-138	
Bromoform	ug/L	ND	20	17.3	86	63-130	
Bromomethane	ug/L	ND	20	13.9	69	15-152	
Carbon tetrachloride	ug/L	ND	20	21.8	109	70-143	
Chlorobenzene	ug/L	ND	20	21.2	106	70-138	
Chloroethane	ug/L	ND	20	18.9	95	52-163	
Chloroform	ug/L	ND	20	20.7	103	74-139	
Chloromethane	ug/L	ND	20	13.0	65	41-139	
cis-1,2-Dichloroethene	ug/L	ND	20	21.5	107	77-141	
cis-1,3-Dichloropropene	ug/L	ND	20	20.8	104	74-137	
Dibromochloromethane	ug/L	ND	20	19.8	99	70-134	
Dibromomethane	ug/L	ND	20	21.4	107	76-138	
Dichlorodifluoromethane	ug/L	ND	20	12.4	62	47-155	
Diisopropyl ether	ug/L	ND	20	20.7	103	63-144	
Ethylbenzene	ug/L	ND	20	21.1	106	66-153	
Hexachloro-1,3-butadiene	ug/L	ND	20	21.7	109	65-149	
m&p-Xylene	ug/L	ND	40	43.4	108	69-152	
Methyl-tert-butyl ether	ug/L	ND	20	19.5	97	54-156	
Methylene Chloride	ug/L	ND	20	21.9	110	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.: 92406701

MATRIX SPIKE SAMPLE: 2427476

Parameter	Units	92406922006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	ND	20	18.5	91	61-148	
o-Xylene	ug/L	ND	20	21.6	108	73-148	
p-Isopropyltoluene	ug/L	ND	20	19.5	97	73-146	
Styrene	ug/L	ND	20	19.5	98	70-135	
Tetrachloroethene	ug/L	ND	20	21.3	106	59-143	
Toluene	ug/L	2.1	20	23.0	104	59-148	
trans-1,2-Dichloroethene	ug/L	ND	20	22.4	112	76-146	
trans-1,3-Dichloropropene	ug/L	ND	20	20.1	100	71-135	
Trichloroethene	ug/L	ND	20	22.2	111	77-147	
Trichlorofluoromethane	ug/L	ND	20	19.3	97	76-148	
Vinyl acetate	ug/L	ND	40	37.0	93	49-151	
Vinyl chloride	ug/L	ND	20	19.3	97	70-156	
Xylene (Total)	ug/L	ND	60	65.0	108	63-158	
1,2-Dichloroethane-d4 (S)	%				91	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 2427475

Parameter	Units	92406922005 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.: 92406701

SAMPLE DUPLICATE: 2427475

Parameter	Units	92406922005 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	.58J		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	.27J		30	
o-Xylene	ug/L	ND	ND		30	
p-Isopropyltoluene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	1.1	1.4	21	30	
Toluene	ug/L	ND	.76J		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)	%	88	92	4		
4-Bromofluorobenzene (S)	%	102	101	1		
Toluene-d8 (S)	%	104	107	4		

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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.: 92406701

QC Batch: 442323 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92406701011, 92406701015, 92406701016, 92406701019

METHOD BLANK: 2427966 Matrix: Water
Associated Lab Samples: 92406701011, 92406701015, 92406701016, 92406701019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/14/18 13:49	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/14/18 13:49	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/14/18 13:49	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/14/18 13:49	
1,1-Dichloroethane	ug/L	ND	1.0	11/14/18 13:49	
1,1-Dichloroethene	ug/L	ND	1.0	11/14/18 13:49	
1,1-Dichloropropene	ug/L	ND	1.0	11/14/18 13:49	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/14/18 13:49	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/14/18 13:49	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/14/18 13:49	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/14/18 13:49	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/14/18 13:49	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/14/18 13:49	
1,2-Dichloroethane	ug/L	ND	1.0	11/14/18 13:49	
1,2-Dichloropropane	ug/L	ND	1.0	11/14/18 13:49	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/14/18 13:49	
1,3-Dichloropropane	ug/L	ND	1.0	11/14/18 13:49	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/14/18 13:49	
2,2-Dichloropropane	ug/L	ND	1.0	11/14/18 13:49	
2-Butanone (MEK)	ug/L	ND	5.0	11/14/18 13:49	
2-Chlorotoluene	ug/L	ND	1.0	11/14/18 13:49	
2-Hexanone	ug/L	ND	5.0	11/14/18 13:49	
4-Chlorotoluene	ug/L	ND	1.0	11/14/18 13:49	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/14/18 13:49	
Acetone	ug/L	ND	25.0	11/14/18 13:49	
Benzene	ug/L	ND	1.0	11/14/18 13:49	
Bromobenzene	ug/L	ND	1.0	11/14/18 13:49	
Bromochloromethane	ug/L	ND	1.0	11/14/18 13:49	
Bromodichloromethane	ug/L	ND	1.0	11/14/18 13:49	
Bromoform	ug/L	ND	1.0	11/14/18 13:49	
Bromomethane	ug/L	ND	2.0	11/14/18 13:49	
Carbon tetrachloride	ug/L	ND	1.0	11/14/18 13:49	
Chlorobenzene	ug/L	ND	1.0	11/14/18 13:49	
Chloroethane	ug/L	ND	1.0	11/14/18 13:49	
Chloroform	ug/L	ND	1.0	11/14/18 13:49	
Chloromethane	ug/L	ND	1.0	11/14/18 13:49	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/14/18 13:49	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/14/18 13:49	
Dibromochloromethane	ug/L	ND	1.0	11/14/18 13:49	
Dibromomethane	ug/L	ND	1.0	11/14/18 13:49	
Dichlorodifluoromethane	ug/L	ND	1.0	11/14/18 13:49	

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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.: 92406701

METHOD BLANK: 2427966 Matrix: Water
Associated Lab Samples: 92406701011, 92406701015, 92406701016, 92406701019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/14/18 13:49	
Ethylbenzene	ug/L	ND	1.0	11/14/18 13:49	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/14/18 13:49	
m&p-Xylene	ug/L	ND	2.0	11/14/18 13:49	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/14/18 13:49	
Methylene Chloride	ug/L	ND	2.0	11/14/18 13:49	
Naphthalene	ug/L	ND	1.0	11/14/18 13:49	
o-Xylene	ug/L	ND	1.0	11/14/18 13:49	
p-Isopropyltoluene	ug/L	ND	1.0	11/14/18 13:49	
Styrene	ug/L	ND	1.0	11/14/18 13:49	
Tetrachloroethene	ug/L	ND	1.0	11/14/18 13:49	
Toluene	ug/L	ND	1.0	11/14/18 13:49	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/14/18 13:49	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/14/18 13:49	
Trichloroethene	ug/L	ND	1.0	11/14/18 13:49	
Trichlorofluoromethane	ug/L	ND	1.0	11/14/18 13:49	
Vinyl acetate	ug/L	ND	2.0	11/14/18 13:49	
Vinyl chloride	ug/L	ND	1.0	11/14/18 13:49	
Xylene (Total)	ug/L	ND	1.0	11/14/18 13:49	
1,2-Dichloroethane-d4 (S)	%	93	70-130	11/14/18 13:49	
4-Bromofluorobenzene (S)	%	104	70-130	11/14/18 13:49	
Toluene-d8 (S)	%	108	70-130	11/14/18 13:49	

LABORATORY CONTROL SAMPLE: 2427967

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.1	106	70-130	
1,1,1-Trichloroethane	ug/L	50	50.1	100	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	51.6	103	70-130	
1,1,2-Trichloroethane	ug/L	50	53.1	106	70-130	
1,1-Dichloroethane	ug/L	50	50.2	100	70-130	
1,1-Dichloroethene	ug/L	50	51.5	103	70-130	
1,1-Dichloropropene	ug/L	50	54.3	109	70-130	
1,2,3-Trichlorobenzene	ug/L	50	50.2	100	70-130	
1,2,3-Trichloropropane	ug/L	50	49.6	99	70-130	
1,2,4-Trichlorobenzene	ug/L	50	50.7	101	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	48.7	97	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	52.1	104	70-130	
1,2-Dichlorobenzene	ug/L	50	49.4	99	70-130	
1,2-Dichloroethane	ug/L	50	46.6	93	70-130	
1,2-Dichloropropane	ug/L	50	53.1	106	70-130	
1,3-Dichlorobenzene	ug/L	50	49.7	99	70-130	
1,3-Dichloropropane	ug/L	50	54.2	108	70-131	
1,4-Dichlorobenzene	ug/L	50	48.4	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.: 92406701

LABORATORY CONTROL SAMPLE: 2427967

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	49.7	99	69-130	
2-Butanone (MEK)	ug/L	100	105	105	64-135	
2-Chlorotoluene	ug/L	50	48.5	97	70-130	
2-Hexanone	ug/L	100	103	103	66-135	
4-Chlorotoluene	ug/L	50	49.7	99	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	70-130	
Acetone	ug/L	100	103	103	61-157	
Benzene	ug/L	50	52.9	106	70-130	
Bromobenzene	ug/L	50	48.8	98	70-130	
Bromochloromethane	ug/L	50	51.6	103	70-130	
Bromodichloromethane	ug/L	50	47.3	95	70-130	
Bromoform	ug/L	50	47.4	95	70-130	
Bromomethane	ug/L	50	28.8	58	38-128	
Carbon tetrachloride	ug/L	50	47.6	95	70-130	
Chlorobenzene	ug/L	50	51.1	102	70-130	
Chloroethane	ug/L	50	33.5	67	37-142	
Chloroform	ug/L	50	49.6	99	70-130	
Chloromethane	ug/L	50	31.2	62	48-120	
cis-1,2-Dichloroethene	ug/L	50	49.6	99	70-130	
cis-1,3-Dichloropropene	ug/L	50	53.3	107	70-130	
Dibromochloromethane	ug/L	50	52.1	104	70-130	
Dibromomethane	ug/L	50	50.6	101	70-130	
Dichlorodifluoromethane	ug/L	50	29.1	58	53-134	
Diisopropyl ether	ug/L	50	54.8	110	71-135	
Ethylbenzene	ug/L	50	49.2	98	70-130	
Hexachloro-1,3-butadiene	ug/L	50	50.0	100	68-132	
m&p-Xylene	ug/L	100	100	100	70-130	
Methyl-tert-butyl ether	ug/L	50	51.3	103	70-130	
Methylene Chloride	ug/L	50	50.1	100	67-132	
Naphthalene	ug/L	50	49.2	98	70-130	
o-Xylene	ug/L	50	51.2	102	70-130	
p-Isopropyltoluene	ug/L	50	49.3	99	70-130	
Styrene	ug/L	50	50.9	102	70-130	
Tetrachloroethene	ug/L	50	49.8	100	69-130	
Toluene	ug/L	50	49.0	98	70-130	
trans-1,2-Dichloroethene	ug/L	50	51.7	103	70-130	
trans-1,3-Dichloropropene	ug/L	50	51.2	102	70-130	
Trichloroethene	ug/L	50	52.9	106	70-130	
Trichlorofluoromethane	ug/L	50	39.3	79	63-126	
Vinyl acetate	ug/L	100	107	107	55-143	
Vinyl chloride	ug/L	50	43.3	87	70-131	
Xylene (Total)	ug/L	150	152	101	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	
Toluene-d8 (S)	%			98	70-130	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2427968 2427969

Parameter	Units	92406701015 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	100	100	97.3	103	97	103	73-134	6	30	
1,1,1-Trichloroethane	ug/L	ND	100	100	114	117	114	117	82-143	2	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	100	100	98.5	104	99	104	70-136	5	30	
1,1,2-Trichloroethane	ug/L	ND	100	100	106	108	106	108	70-135	2	30	
1,1-Dichloroethane	ug/L	29.8	100	100	136	138	106	108	72-139	2	30	
1,1-Dichloroethene	ug/L	560	100	100	668	665	108	105	81-154	1	30	
1,1-Dichloropropene	ug/L	ND	100	100	110	112	110	112	79-149	2	30	
1,2,3-Trichlorobenzene	ug/L	ND	100	100	96.3	96.2	96	96	70-135	0	30	
1,2,3-Trichloropropane	ug/L	ND	100	100	93.4	96.3	93	96	71-137	3	30	
1,2,4-Trichlorobenzene	ug/L	ND	100	100	93.5	98.6	93	99	73-140	5	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	100	100	89.3	91.1	89	91	65-134	2	30	
1,2-Dibromoethane (EDB)	ug/L	ND	100	100	96.2	102	96	102	72-137	5	30	
1,2-Dichlorobenzene	ug/L	ND	100	100	97.8	98.3	98	98	70-133	0	30	
1,2-Dichloroethane	ug/L	ND	100	100	101	102	97	98	73-137	1	30	
1,2-Dichloropropane	ug/L	ND	100	100	105	112	105	112	79-140	7	30	
1,3-Dichlorobenzene	ug/L	ND	100	100	100	102	100	102	70-135	2	30	
1,3-Dichloropropane	ug/L	ND	100	100	102	109	102	109	76-143	7	30	
1,4-Dichlorobenzene	ug/L	ND	100	100	95.4	96.2	95	96	70-133	1	30	
2,2-Dichloropropane	ug/L	ND	100	100	97.3	98.0	97	98	61-148	1	30	
2-Butanone (MEK)	ug/L	ND	200	200	192	199	96	100	60-139	4	30	
2-Chlorotoluene	ug/L	ND	100	100	97.3	98.4	97	98	73-144	1	30	
2-Hexanone	ug/L	ND	200	200	189	202	94	101	65-138	7	30	
4-Chlorotoluene	ug/L	ND	100	100	100	101	100	101	76-137	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	200	200	189	200	94	100	65-135	6	30	
Acetone	ug/L	ND	200	200	197	204	99	102	60-148	3	30	
Benzene	ug/L	ND	100	100	110	115	110	115	72-151	4	30	
Bromobenzene	ug/L	ND	100	100	98.4	99.6	98	100	70-136	1	30	
Bromochloromethane	ug/L	ND	100	100	109	110	109	110	77-141	1	30	
Bromodichloromethane	ug/L	ND	100	100	97.7	98.9	98	99	76-138	1	30	
Bromoform	ug/L	ND	100	100	82.0	90.4	82	90	63-130	10	30	
Bromomethane	ug/L	ND	100	100	62.0	64.8	62	65	15-152	4	30	
Carbon tetrachloride	ug/L	ND	100	100	102	108	102	108	70-143	6	30	
Chlorobenzene	ug/L	ND	100	100	102	106	102	106	70-138	4	30	
Chloroethane	ug/L	ND	100	100	91.6	91.9	92	92	52-163	0	30	
Chloroform	ug/L	ND	100	100	102	105	102	105	74-139	3	30	
Chloromethane	ug/L	ND	100	100	66.3	69.0	66	69	41-139	4	30	
cis-1,2-Dichloroethene	ug/L	ND	100	100	106	109	103	106	77-141	3	30	
cis-1,3-Dichloropropene	ug/L	ND	100	100	100	103	100	103	74-137	2	30	
Dibromochloromethane	ug/L	ND	100	100	95.2	102	95	102	70-134	6	30	
Dibromomethane	ug/L	ND	100	100	103	108	103	108	76-138	5	30	
Dichlorodifluoromethane	ug/L	ND	100	100	60.2	63.0	60	63	47-155	4	30	
Diisopropyl ether	ug/L	ND	100	100	101	104	101	104	63-144	3	30	
Ethylbenzene	ug/L	ND	100	100	99.9	104	100	104	66-153	4	30	
Hexachloro-1,3-butadiene	ug/L	ND	100	100	97.8	98.6	98	99	65-149	1	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.: 92406701

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2427968 2427969

Parameter	Units	92406701015 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	200	200	204	219	102	109	69-152	7	30	
Methyl-tert-butyl ether	ug/L	ND	100	100	94.7	98.5	95	99	54-156	4	30	
Methylene Chloride	ug/L	ND	100	100	111	114	111	114	42-159	3	30	
Naphthalene	ug/L	ND	100	100	94.0	94.3	90	90	61-148	0	30	
o-Xylene	ug/L	ND	100	100	104	109	104	109	73-148	5	30	
p-Isopropyltoluene	ug/L	ND	100	100	94.3	97.3	94	97	73-146	3	30	
Styrene	ug/L	ND	100	100	101	107	101	107	70-135	6	30	
Tetrachloroethene	ug/L	ND	100	100	97.7	105	98	105	59-143	7	30	
Toluene	ug/L	ND	100	100	101	105	101	105	59-148	4	30	
trans-1,2-Dichloroethene	ug/L	ND	100	100	110	113	110	113	76-146	3	30	
trans-1,3-Dichloropropene	ug/L	ND	100	100	96.0	102	96	102	71-135	6	30	
Trichloroethene	ug/L	ND	100	100	113	120	113	120	77-147	6	30	
Trichlorofluoromethane	ug/L	ND	100	100	92.3	94.3	92	94	76-148	2	30	
Vinyl acetate	ug/L	ND	200	200	187	196	93	98	49-151	5	30	
Vinyl chloride	ug/L	ND	100	100	94.6	99.6	95	100	70-156	5	30	
Xylene (Total)	ug/L	ND	300	300	308	328	103	109	63-158	6	30	
1,2-Dichloroethane-d4 (S)	%						97	96	70-130			
4-Bromofluorobenzene (S)	%						98	99	70-130			
Toluene-d8 (S)	%						99	100	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.: 92406701

QC Batch: 441665 Analysis Method: EPA 8260B Mod.
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92406701002, 92406701003

METHOD BLANK: 2425094 Matrix: Water
Associated Lab Samples: 92406701002, 92406701003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/11/18 13:44	
1,2-Dichloroethane-d4 (S)	%	108	50-150	11/11/18 13:44	
Toluene-d8 (S)	%	113	50-150	11/11/18 13:44	

LABORATORY CONTROL SAMPLE: 2425095

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.2	101	71-125	
1,2-Dichloroethane-d4 (S)	%			106	50-150	
Toluene-d8 (S)	%			107	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2425096 2425097

Parameter	Units	92406699003 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	12.4	20	20	33.4	33.4	105	105	50-150	0	30	
1,2-Dichloroethane-d4 (S)	%						113	113	50-150		30	
Toluene-d8 (S)	%						108	117	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

QUALITY CONTROL DATA

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

QC Batch: 441666 Analysis Method: EPA 8260B Mod.
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92406701007, 92406701009, 92406701010, 92406701012, 92406701015

METHOD BLANK: 2425098 Matrix: Water
Associated Lab Samples: 92406701007, 92406701009, 92406701010, 92406701012, 92406701015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/11/18 13:25	
1,2-Dichloroethane-d4 (S)	%	106	50-150	11/11/18 13:25	
Toluene-d8 (S)	%	112	50-150	11/11/18 13:25	

LABORATORY CONTROL SAMPLE: 2425099

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.6	103	71-125	
1,2-Dichloroethane-d4 (S)	%			106	50-150	
Toluene-d8 (S)	%			106	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2425100 2425101

Parameter	Units	92406701007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	18.5	21.9	92	109	50-150	17	30	
1,2-Dichloroethane-d4 (S)	%						114	113	50-150		30	
Toluene-d8 (S)	%						106	110	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

QUALITY CONTROL DATA

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

QC Batch: 441736 Analysis Method: EPA 8260B Mod.
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92406701001, 92406701004, 92406701005, 92406701006, 92406701008, 92406701013, 92406701014, 92406701016, 92406701017, 92406701018, 92406701020

METHOD BLANK: 2425472 Matrix: Water
Associated Lab Samples: 92406701001, 92406701004, 92406701005, 92406701006, 92406701008, 92406701013, 92406701014, 92406701016, 92406701017, 92406701018, 92406701020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/12/18 12:44	
1,2-Dichloroethane-d4 (S)	%	110	50-150	11/12/18 12:44	
Toluene-d8 (S)	%	108	50-150	11/12/18 12:44	

LABORATORY CONTROL SAMPLE: 2425473

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	18.9	94	71-125	
1,2-Dichloroethane-d4 (S)	%			114	50-150	
Toluene-d8 (S)	%			118	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2425474 2425475

Parameter	Units	92406780001 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	2.3	20	20	21.5	22.2	96	99	50-150	3	30	
1,2-Dichloroethane-d4 (S)	%						109	113	50-150		30	
Toluene-d8 (S)	%						139	118	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

QUALITY CONTROL DATA

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

QC Batch: 442270 Analysis Method: EPA 8260B Mod.
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92406701011, 92406701019

METHOD BLANK: 2427641 Matrix: Water
Associated Lab Samples: 92406701011, 92406701019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/14/18 11:31	
1,2-Dichloroethane-d4 (S)	%	92	50-150	11/14/18 11:31	
Toluene-d8 (S)	%	119	50-150	11/14/18 11:31	

LABORATORY CONTROL SAMPLE: 2427642

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.0	100	71-125	
1,2-Dichloroethane-d4 (S)	%			101	50-150	
Toluene-d8 (S)	%			104	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2427643 2427644

Parameter	Units	92406866003 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	17.7	17.8	89	89	50-150	1	30	
1,2-Dichloroethane-d4 (S)	%						94	95	50-150		30	
Toluene-d8 (S)	%						126	105	50-150		30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92406701001	**MW-43**	EPA 8260B	441798		
92406701002	**MW-39**	EPA 8260B	441798		
92406701003	**MW-38R**	EPA 8260B	441798		
92406701004	**MW-42**	EPA 8260B	441798		
92406701005	**MW-18**	EPA 8260B	441798		
92406701006	**MW-40D**	EPA 8260B	441798		
92406701007	**MW-5R**	EPA 8260B	441798		
92406701008	**MW-21D**	EPA 8260B	441798		
92406701009	**MW-01D**	EPA 8260B	441798		
92406701010	**MW-22D**	EPA 8260B	441798		
92406701011	**MW-20**	EPA 8260B	442323		
92406701012	**MW-04**	EPA 8260B	441798		
92406701013	**MW-09**	EPA 8260B	441798		
92406701014	**MW-23D**	EPA 8260B	441798		
92406701015	**MW-24D**	EPA 8260B	442323		
92406701016	**MW-16**	EPA 8260B	442323		
92406701017	**MW-16D**	EPA 8260B	441798		
92406701018	**DUP 110718**	EPA 8260B	441798		
92406701019	**MW-46**	EPA 8260B	442323		
92406701020	**TRIP BLANK A**	EPA 8260B	442084		
92406701001	**MW-43**	EPA 8260B Mod.	441736		
92406701002	**MW-39**	EPA 8260B Mod.	441665		
92406701003	**MW-38R**	EPA 8260B Mod.	441665		
92406701004	**MW-42**	EPA 8260B Mod.	441736		
92406701005	**MW-18**	EPA 8260B Mod.	441736		
92406701006	**MW-40D**	EPA 8260B Mod.	441736		
92406701007	**MW-5R**	EPA 8260B Mod.	441666		
92406701008	**MW-21D**	EPA 8260B Mod.	441736		
92406701009	**MW-01D**	EPA 8260B Mod.	441666		
92406701010	**MW-22D**	EPA 8260B Mod.	441666		
92406701011	**MW-20**	EPA 8260B Mod.	442270		
92406701012	**MW-04**	EPA 8260B Mod.	441666		
92406701013	**MW-09**	EPA 8260B Mod.	441736		
92406701014	**MW-23D**	EPA 8260B Mod.	441736		
92406701015	**MW-24D**	EPA 8260B Mod.	441666		
92406701016	**MW-16**	EPA 8260B Mod.	441736		
92406701017	**MW-16D**	EPA 8260B Mod.	441736		
92406701018	**DUP 110718**	EPA 8260B Mod.	441736		
92406701019	**MW-46**	EPA 8260B Mod.	442270		

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: KOPFLEX-ONSITE
Pace Project No.: 92406701

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92406701020	**TRIP BLANK A**	EPA 8260B Mod.	441736		

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: Dulles

Project

WO# : 92406701

92406701

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

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

Date/Initials Person Examining Contents: CDH 11/9/18

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

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

Thermometer: ☑ IR Gun ID: 92T045 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp (°C): 2.4, 3.7 **Correction Factor:** Add/Subtract (°C) -0.1

Cooler Temp Corrected (°C): 2.3, 3.6

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

USDA Regulated Soil (☑ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

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

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: JZ TE **Date:** 11/9

Project Manager SRF Review: _____ **Date:** 11/9

***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# : 92406701**

PM: PTE Due Date: 11/16/18

CLIENT: 92-WSP

Page 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)
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12	\				\	\	\	\			\		\	\	\	b									\	\			

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**

Proje WO#: 92406701

PM: PTE Due Date: 11/16/18

CLIENT: 92-WSP

Page

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

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

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

CHAIN-OF-CUSTODY RECORD

WSP USA Office Address	13530 Dulles Technology Dr Suite #300
Project Name	KopElex - Onsite
Project Location	Hanover MD
Project Number & Task	31401545.010
WSP USA Contact Name	Eric Johnson
WSP USA Contact E-mail	eric.johnson @wsp.com
WSP USA Contact Phone	703-709-6500
Sampler(s) Name(s)	Molly Long, Chris Creci, Hunter Quartel
Sampler(s) Signature(s)	

No. 009918 — WSP

Laboratory Name & Location	Pace Analytical
Laboratory Project Manager	Taylor Ezell
Requested Turn-Around-Time	[X] Standard [ ] 24 HR [ ] 48 HR [ ] 72 HR [ ] ____ HR
Sample Comments	92406701

	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 SIM)	Sample Comments
A	MW-43	AQ	11/7/18		0843		6	X	X	001
	MW-39				0855			X	X	002
	MW-38R				1024			X	X	003
	MW-42				1045			X	X	004
	MW-18				1048			X	X	005
A	MW-40D				1049			X	X	006
A	MW-5R				1120			X	X	007
	MW-21D				1315			X	X	008
A	MW-01D				1340			X	X	009
	MW-22D				1400			X	X	010
A	MW-20				1420			X	X	011
	MW-04				1436			X	X	012
	MW-09				1445			X	X	013
A	MW-23D				1455			X	X	014
	MW-24D				1515			X	X	015

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Shipment Method	Tracking Number(s)
	11/8/18	1200	FedEx				
Relinquished By (Signature)	**Date**	**Time**	**Received By (Signature)**	**Date**	**Time**	**Number of Packages**	**Custody Seal Number(s)**
				11/9/18	931		

*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)

CHAIN-OF-CUSTODY RECORD

No. 008180

WSP USA Office Address: 13530 Dulles Technology Dr Suite #300

Project Name: Kopflex - Onsite

WSP USA Contact Name: Eric Johnson

Project Location: Hanover MD

WSP USA Contact E-mail: eric.johnson @wsp.com

Project Number & Task: 31401545.010

WSP USA Contact Phone: 703 709 6500

Sampler(s) Name(s): Molly Long, Chris Creed, Hunter Quintal

Sampler(s) Signature(s):

Laboratory Name & Location: Pace Analytical

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	VOCs (8260)	1,4 Dioxane (8260SIM)	Sample Comments
MW-16	Aq	11/7/18		15	40	6	x	x	92406761 016
A MW-16D				16	00		x	x	017
A ~~DUP110718~~ ~~DUP110718 FLCQ~~				17	00		x	x	[redacted] FLCQ 018
MW-46				16	10		x	x	019
Trip Blank A	Lab Provided					4	x	x	020

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Shipment Method	Tracking Number(s)
	11/8/18	1200	FedEx				8094 7536 5404
Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Number of Packages	Custody Seal Number(s)
				11/9/18	0931	2	8094 7536 8390

*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)

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

November 16, 2018

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

RE: Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

Dear Eric Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on November 09, 2018. 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-RECOVERY WELLS
Pace Project No.: 92406699

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-RECOVERY WELLS
Pace Project No.: 92406699

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92406699001	**RW-1S**	Water	11/07/18 12:30	11/09/18 09:31
92406699002	**RW-2S**	Water	11/07/18 12:40	11/09/18 09:31
92406699003	**RW-3S**	Water	11/07/18 12:50	11/09/18 09:31
92406699004	**RW-1D**	Water	11/07/18 13:00	11/09/18 09:31
92406699005	**RW-2D**	Water	11/07/18 13:30	11/09/18 09:31
92406699006	**TRIP BLANK**	Water	11/07/18 00:00	11/09/18 09:31

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

SAMPLE ANALYTE COUNT

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92406699001	**RW-1S**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406699002	**RW-2S**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406699003	**RW-3S**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406699004	**RW-1D**	EPA 8260B	CL	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406699005	**RW-2D**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92406699006	**TRIP BLANK**	EPA 8260B	GAW	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C

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

ANALYTICAL RESULTS

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

Sample: RW-1S **Lab ID: 92406699001** Collected: 11/07/18 12:30 Received: 11/09/18 09:31 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	100	4		11/15/18 17:32	67-64-1	
Benzene	ND	ug/L	4.0	4		11/15/18 17:32	71-43-2	
Bromobenzene	ND	ug/L	4.0	4		11/15/18 17:32	108-86-1	
Bromochloromethane	ND	ug/L	4.0	4		11/15/18 17:32	74-97-5	
Bromodichloromethane	ND	ug/L	4.0	4		11/15/18 17:32	75-27-4	
Bromoform	ND	ug/L	4.0	4		11/15/18 17:32	75-25-2	
Bromomethane	ND	ug/L	8.0	4		11/15/18 17:32	74-83-9	L2
2-Butanone (MEK)	ND	ug/L	20.0	4		11/15/18 17:32	78-93-3	
Carbon tetrachloride	ND	ug/L	4.0	4		11/15/18 17:32	56-23-5	
Chlorobenzene	ND	ug/L	4.0	4		11/15/18 17:32	108-90-7	
Chloroethane	**18.9**	ug/L	4.0	4		11/15/18 17:32	75-00-3	
Chloroform	ND	ug/L	4.0	4		11/15/18 17:32	67-66-3	
Chloromethane	ND	ug/L	4.0	4		11/15/18 17:32	74-87-3	
2-Chlorotoluene	ND	ug/L	4.0	4		11/15/18 17:32	95-49-8	
4-Chlorotoluene	ND	ug/L	4.0	4		11/15/18 17:32	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	8.0	4		11/15/18 17:32	96-12-8	
Dibromochloromethane	ND	ug/L	4.0	4		11/15/18 17:32	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	4.0	4		11/15/18 17:32	106-93-4	
Dibromomethane	ND	ug/L	4.0	4		11/15/18 17:32	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	4.0	4		11/15/18 17:32	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	4.0	4		11/15/18 17:32	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	4.0	4		11/15/18 17:32	106-46-7	
Dichlorodifluoromethane	ND	ug/L	4.0	4		11/15/18 17:32	75-71-8	
1,1-Dichloroethane	**105**	ug/L	4.0	4		11/15/18 17:32	75-34-3	
1,2-Dichloroethane	ND	ug/L	4.0	4		11/15/18 17:32	107-06-2	
1,1-Dichloroethene	**458**	ug/L	4.0	4		11/15/18 17:32	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	4.0	4		11/15/18 17:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	4.0	4		11/15/18 17:32	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	4		11/15/18 17:32	78-87-5	
1,3-Dichloropropane	ND	ug/L	4.0	4		11/15/18 17:32	142-28-9	
2,2-Dichloropropane	ND	ug/L	4.0	4		11/15/18 17:32	594-20-7	
1,1-Dichloropropene	ND	ug/L	4.0	4		11/15/18 17:32	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	4.0	4		11/15/18 17:32	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	4		11/15/18 17:32	10061-02-6	
Diisopropyl ether	ND	ug/L	4.0	4		11/15/18 17:32	108-20-3	
Ethylbenzene	ND	ug/L	4.0	4		11/15/18 17:32	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	4.0	4		11/15/18 17:32	87-68-3	
2-Hexanone	ND	ug/L	20.0	4		11/15/18 17:32	591-78-6	
p-Isopropyltoluene	ND	ug/L	4.0	4		11/15/18 17:32	99-87-6	
Methylene Chloride	ND	ug/L	8.0	4		11/15/18 17:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	20.0	4		11/15/18 17:32	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	4.0	4		11/15/18 17:32	1634-04-4	
Naphthalene	ND	ug/L	4.0	4		11/15/18 17:32	91-20-3	
Styrene	ND	ug/L	4.0	4		11/15/18 17:32	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	4.0	4		11/15/18 17:32	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	4.0	4		11/15/18 17:32	79-34-5	
Tetrachloroethene	ND	ug/L	4.0	4		11/15/18 17:32	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-RECOVERY WELLS
Pace Project No.: 92406699

Sample: RW-1S **Lab ID: 92406699001** Collected: 11/07/18 12:30 Received: 11/09/18 09:31 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	4.0	4		11/15/18 17:32	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	4.0	4		11/15/18 17:32	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	4.0	4		11/15/18 17:32	120-82-1	
1,1,1-Trichloroethane	**89.8**	ug/L	4.0	4		11/15/18 17:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	4.0	4		11/15/18 17:32	79-00-5	
Trichloroethene	ND	ug/L	4.0	4		11/15/18 17:32	79-01-6	
Trichlorofluoromethane	ND	ug/L	4.0	4		11/15/18 17:32	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	4		11/15/18 17:32	96-18-4	
Vinyl acetate	ND	ug/L	8.0	4		11/15/18 17:32	108-05-4	
Vinyl chloride	ND	ug/L	4.0	4		11/15/18 17:32	75-01-4	
Xylene (Total)	ND	ug/L	4.0	4		11/15/18 17:32	1330-20-7	
m&p-Xylene	ND	ug/L	8.0	4		11/15/18 17:32	179601-23-1	
o-Xylene	ND	ug/L	4.0	4		11/15/18 17:32	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	4		11/15/18 17:32	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	70-130	4		11/15/18 17:32	17060-07-0	
Toluene-d8 (S)	106	%	70-130	4		11/15/18 17:32	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**467**	ug/L	20.0	10		11/11/18 17:17	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	116	%	50-150	10		11/11/18 17:17	17060-07-0	
Toluene-d8 (S)	111	%	50-150	10		11/11/18 17:17	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-RECOVERY WELLS
Pace Project No.: 92406699

Sample: RW-2S **Lab ID: 92406699002** Collected: 11/07/18 12:40 Received: 11/09/18 09:31 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		11/14/18 17:48	67-64-1	
Benzene	ND	ug/L	2.0	2		11/14/18 17:48	71-43-2	
Bromobenzene	ND	ug/L	2.0	2		11/14/18 17:48	108-86-1	
Bromochloromethane	ND	ug/L	2.0	2		11/14/18 17:48	74-97-5	
Bromodichloromethane	ND	ug/L	2.0	2		11/14/18 17:48	75-27-4	
Bromoform	ND	ug/L	2.0	2		11/14/18 17:48	75-25-2	
Bromomethane	ND	ug/L	4.0	2		11/14/18 17:48	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2		11/14/18 17:48	78-93-3	
Carbon tetrachloride	ND	ug/L	2.0	2		11/14/18 17:48	56-23-5	
Chlorobenzene	ND	ug/L	2.0	2		11/14/18 17:48	108-90-7	
Chloroethane	ND	ug/L	2.0	2		11/14/18 17:48	75-00-3	
Chloroform	ND	ug/L	2.0	2		11/14/18 17:48	67-66-3	
Chloromethane	ND	ug/L	2.0	2		11/14/18 17:48	74-87-3	
2-Chlorotoluene	ND	ug/L	2.0	2		11/14/18 17:48	95-49-8	
4-Chlorotoluene	ND	ug/L	2.0	2		11/14/18 17:48	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2		11/14/18 17:48	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	2		11/14/18 17:48	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	2.0	2		11/14/18 17:48	106-93-4	
Dibromomethane	ND	ug/L	2.0	2		11/14/18 17:48	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	2.0	2		11/14/18 17:48	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	2.0	2		11/14/18 17:48	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	2.0	2		11/14/18 17:48	106-46-7	
Dichlorodifluoromethane	ND	ug/L	2.0	2		11/14/18 17:48	75-71-8	
1,1-Dichloroethane	**29.1**	ug/L	2.0	2		11/14/18 17:48	75-34-3	
1,2-Dichloroethane	ND	ug/L	2.0	2		11/14/18 17:48	107-06-2	
1,1-Dichloroethene	**177**	ug/L	2.0	2		11/14/18 17:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	2.0	2		11/14/18 17:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	2.0	2		11/14/18 17:48	156-60-5	
1,2-Dichloropropane	ND	ug/L	2.0	2		11/14/18 17:48	78-87-5	
1,3-Dichloropropane	ND	ug/L	2.0	2		11/14/18 17:48	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.0	2		11/14/18 17:48	594-20-7	
1,1-Dichloropropene	ND	ug/L	2.0	2		11/14/18 17:48	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	2.0	2		11/14/18 17:48	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	2.0	2		11/14/18 17:48	10061-02-6	
Diisopropyl ether	ND	ug/L	2.0	2		11/14/18 17:48	108-20-3	
Ethylbenzene	ND	ug/L	2.0	2		11/14/18 17:48	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	2		11/14/18 17:48	87-68-3	
2-Hexanone	ND	ug/L	10.0	2		11/14/18 17:48	591-78-6	
p-Isopropyltoluene	ND	ug/L	2.0	2		11/14/18 17:48	99-87-6	
Methylene Chloride	ND	ug/L	4.0	2		11/14/18 17:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	2		11/14/18 17:48	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	2.0	2		11/14/18 17:48	1634-04-4	
Naphthalene	ND	ug/L	2.0	2		11/14/18 17:48	91-20-3	
Styrene	ND	ug/L	2.0	2		11/14/18 17:48	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.0	2		11/14/18 17:48	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	2		11/14/18 17:48	79-34-5	
Tetrachloroethene	ND	ug/L	2.0	2		11/14/18 17:48	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-RECOVERY WELLS
Pace Project No.: 92406699

Sample: RW-2S **Lab ID: 92406699002** Collected: 11/07/18 12:40 Received: 11/09/18 09:31 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		11/14/18 17:48	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	2		11/14/18 17:48	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	2		11/14/18 17:48	120-82-1	
1,1,1-Trichloroethane	**257**	ug/L	2.0	2		11/14/18 17:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	2.0	2		11/14/18 17:48	79-00-5	
Trichloroethene	ND	ug/L	2.0	2		11/14/18 17:48	79-01-6	
Trichlorofluoromethane	ND	ug/L	2.0	2		11/14/18 17:48	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.0	2		11/14/18 17:48	96-18-4	
Vinyl acetate	ND	ug/L	4.0	2		11/14/18 17:48	108-05-4	
Vinyl chloride	ND	ug/L	2.0	2		11/14/18 17:48	75-01-4	
Xylene (Total)	ND	ug/L	2.0	2		11/14/18 17:48	1330-20-7	
m&p-Xylene	ND	ug/L	4.0	2		11/14/18 17:48	179601-23-1	
o-Xylene	ND	ug/L	2.0	2		11/14/18 17:48	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	2		11/14/18 17:48	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	2		11/14/18 17:48	17060-07-0	
Toluene-d8 (S)	108	%	70-130	2		11/14/18 17:48	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**200**	ug/L	20.0	10		11/11/18 17:36	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	113	%	50-150	10		11/11/18 17:36	17060-07-0	
Toluene-d8 (S)	116	%	50-150	10		11/11/18 17:36	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-RECOVERY WELLS
Pace Project No.: 92406699

Sample: RW-3S **Lab ID: 92406699003** Collected: 11/07/18 12:50 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/14/18 01:29	67-64-1	
Benzene	ND	ug/L	1.0	1		11/14/18 01:29	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/14/18 01:29	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/14/18 01:29	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/14/18 01:29	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/14/18 01:29	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/14/18 01:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/14/18 01:29	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/14/18 01:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/14/18 01:29	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/14/18 01:29	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/14/18 01:29	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/14/18 01:29	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/14/18 01:29	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/14/18 01:29	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/14/18 01:29	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/14/18 01:29	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/14/18 01:29	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/14/18 01:29	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/14/18 01:29	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/14/18 01:29	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/14/18 01:29	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/14/18 01:29	75-71-8	
1,1-Dichloroethane	**2.1**	ug/L	1.0	1		11/14/18 01:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/14/18 01:29	107-06-2	
1,1-Dichloroethene	**2.6**	ug/L	1.0	1		11/14/18 01:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/14/18 01:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/14/18 01:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/14/18 01:29	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/14/18 01:29	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/14/18 01:29	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/14/18 01:29	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/14/18 01:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/14/18 01:29	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/14/18 01:29	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/14/18 01:29	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/14/18 01:29	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/14/18 01:29	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/14/18 01:29	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/14/18 01:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/14/18 01:29	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/14/18 01:29	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/14/18 01:29	91-20-3	
Styrene	ND	ug/L	1.0	1		11/14/18 01:29	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/14/18 01:29	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/14/18 01:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/14/18 01:29	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-RECOVERY WELLS
Pace Project No.: 92406699

Sample: RW-3S **Lab ID: 92406699003** Collected: 11/07/18 12:50 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/14/18 01:29	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/14/18 01:29	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/14/18 01:29	120-82-1	
1,1,1-Trichloroethane	**7.2**	ug/L	1.0	1		11/14/18 01:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/14/18 01:29	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/14/18 01:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/14/18 01:29	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/14/18 01:29	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/14/18 01:29	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/14/18 01:29	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/14/18 01:29	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/14/18 01:29	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/14/18 01:29	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		11/14/18 01:29	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		11/14/18 01:29	17060-07-0	
Toluene-d8 (S)	106	%	70-130	1		11/14/18 01:29	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**12.4**	ug/L	2.0	1		11/11/18 17:55	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	115	%	50-150	1		11/11/18 17:55	17060-07-0	
Toluene-d8 (S)	124	%	50-150	1		11/11/18 17:55	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

Sample: RW-1D **Lab ID: 92406699004** Collected: 11/07/18 13:00 Received: 11/09/18 09:31 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		11/15/18 01:31	67-64-1	
Benzene	ND	ug/L	2.5	2.5		11/15/18 01:31	71-43-2	
Bromobenzene	ND	ug/L	2.5	2.5		11/15/18 01:31	108-86-1	
Bromochloromethane	ND	ug/L	2.5	2.5		11/15/18 01:31	74-97-5	
Bromodichloromethane	ND	ug/L	2.5	2.5		11/15/18 01:31	75-27-4	
Bromoform	ND	ug/L	2.5	2.5		11/15/18 01:31	75-25-2	
Bromomethane	ND	ug/L	5.0	2.5		11/15/18 01:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	12.5	2.5		11/15/18 01:31	78-93-3	
Carbon tetrachloride	ND	ug/L	2.5	2.5		11/15/18 01:31	56-23-5	
Chlorobenzene	ND	ug/L	2.5	2.5		11/15/18 01:31	108-90-7	
Chloroethane	**6.0**	ug/L	2.5	2.5		11/15/18 01:31	75-00-3	
Chloroform	ND	ug/L	2.5	2.5		11/15/18 01:31	67-66-3	
Chloromethane	ND	ug/L	2.5	2.5		11/15/18 01:31	74-87-3	
2-Chlorotoluene	ND	ug/L	2.5	2.5		11/15/18 01:31	95-49-8	
4-Chlorotoluene	ND	ug/L	2.5	2.5		11/15/18 01:31	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	2.5		11/15/18 01:31	96-12-8	
Dibromochloromethane	ND	ug/L	2.5	2.5		11/15/18 01:31	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	2.5	2.5		11/15/18 01:31	106-93-4	
Dibromomethane	ND	ug/L	2.5	2.5		11/15/18 01:31	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	2.5	2.5		11/15/18 01:31	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	2.5	2.5		11/15/18 01:31	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	2.5	2.5		11/15/18 01:31	106-46-7	
Dichlorodifluoromethane	ND	ug/L	2.5	2.5		11/15/18 01:31	75-71-8	
1,1-Dichloroethane	**78.1**	ug/L	2.5	2.5		11/15/18 01:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	2.5	2.5		11/15/18 01:31	107-06-2	
1,1-Dichloroethene	**363**	ug/L	2.5	2.5		11/15/18 01:31	75-35-4	
cis-1,2-Dichloroethene	**3.2**	ug/L	2.5	2.5		11/15/18 01:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	2.5	2.5		11/15/18 01:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	2.5	2.5		11/15/18 01:31	78-87-5	
1,3-Dichloropropane	ND	ug/L	2.5	2.5		11/15/18 01:31	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.5	2.5		11/15/18 01:31	594-20-7	
1,1-Dichloropropene	ND	ug/L	2.5	2.5		11/15/18 01:31	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	2.5	2.5		11/15/18 01:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	2.5	2.5		11/15/18 01:31	10061-02-6	
Diisopropyl ether	ND	ug/L	2.5	2.5		11/15/18 01:31	108-20-3	
Ethylbenzene	ND	ug/L	2.5	2.5		11/15/18 01:31	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.5	2.5		11/15/18 01:31	87-68-3	
2-Hexanone	ND	ug/L	12.5	2.5		11/15/18 01:31	591-78-6	
p-Isopropyltoluene	ND	ug/L	2.5	2.5		11/15/18 01:31	99-87-6	
Methylene Chloride	ND	ug/L	5.0	2.5		11/15/18 01:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	12.5	2.5		11/15/18 01:31	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	2.5	2.5		11/15/18 01:31	1634-04-4	
Naphthalene	ND	ug/L	2.5	2.5		11/15/18 01:31	91-20-3	
Styrene	ND	ug/L	2.5	2.5		11/15/18 01:31	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.5	2.5		11/15/18 01:31	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.5	2.5		11/15/18 01:31	79-34-5	
Tetrachloroethene	ND	ug/L	2.5	2.5		11/15/18 01:31	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-RECOVERY WELLS
Pace Project No.: 92406699

Sample: RW-1D **Lab ID: 92406699004** Collected: 11/07/18 13:00 Received: 11/09/18 09:31 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		11/15/18 01:31	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.5	2.5		11/15/18 01:31	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.5	2.5		11/15/18 01:31	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	2.5	2.5		11/15/18 01:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	2.5	2.5		11/15/18 01:31	79-00-5	
Trichloroethene	ND	ug/L	2.5	2.5		11/15/18 01:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	2.5	2.5		11/15/18 01:31	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	2.5		11/15/18 01:31	96-18-4	
Vinyl acetate	ND	ug/L	5.0	2.5		11/15/18 01:31	108-05-4	
Vinyl chloride	ND	ug/L	2.5	2.5		11/15/18 01:31	75-01-4	
Xylene (Total)	ND	ug/L	2.5	2.5		11/15/18 01:31	1330-20-7	
m&p-Xylene	ND	ug/L	5.0	2.5		11/15/18 01:31	179601-23-1	
o-Xylene	ND	ug/L	2.5	2.5		11/15/18 01:31	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	2.5		11/15/18 01:31	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	2.5		11/15/18 01:31	17060-07-0	
Toluene-d8 (S)	109	%	70-130	2.5		11/15/18 01:31	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**155**	ug/L	5.0	2.5		11/11/18 18:53	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	116	%	50-150	2.5		11/11/18 18:53	17060-07-0	
Toluene-d8 (S)	116	%	50-150	2.5		11/11/18 18:53	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-RECOVERY WELLS
Pace Project No.: 92406699

Sample: RW-2D **Lab ID: 92406699005** Collected: 11/07/18 13:30 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/13/18 17:18	67-64-1	
Benzene	ND	ug/L	1.0	1		11/13/18 17:18	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/13/18 17:18	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/13/18 17:18	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/13/18 17:18	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/13/18 17:18	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/13/18 17:18	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/13/18 17:18	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/13/18 17:18	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/13/18 17:18	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/13/18 17:18	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/13/18 17:18	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/13/18 17:18	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 17:18	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/13/18 17:18	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/13/18 17:18	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/13/18 17:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/13/18 17:18	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/13/18 17:18	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 17:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 17:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/13/18 17:18	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/13/18 17:18	75-71-8	
1,1-Dichloroethane	**25.4**	ug/L	1.0	1		11/13/18 17:18	75-34-3	
1,2-Dichloroethane	**1.4**	ug/L	1.0	1		11/13/18 17:18	107-06-2	
1,1-Dichloroethene	**185**	ug/L	1.0	1		11/13/18 17:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 17:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/13/18 17:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 17:18	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/13/18 17:18	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/13/18 17:18	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/13/18 17:18	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 17:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/13/18 17:18	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/13/18 17:18	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/13/18 17:18	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/13/18 17:18	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/13/18 17:18	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/13/18 17:18	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/13/18 17:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/13/18 17:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/13/18 17:18	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/13/18 17:18	91-20-3	
Styrene	ND	ug/L	1.0	1		11/13/18 17:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 17:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/13/18 17:18	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/13/18 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-RECOVERY WELLS
Pace Project No.: 92406699

Sample: RW-2D **Lab ID: 92406699005** Collected: 11/07/18 13:30 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/13/18 17:18	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 17:18	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/13/18 17:18	120-82-1	
1,1,1-Trichloroethane	**7.3**	ug/L	1.0	1		11/13/18 17:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/13/18 17:18	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/13/18 17:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/13/18 17:18	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/13/18 17:18	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/13/18 17:18	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/13/18 17:18	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/13/18 17:18	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/13/18 17:18	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/13/18 17:18	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		11/13/18 17:18	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		11/13/18 17:18	17060-07-0	
Toluene-d8 (S)	110	%	70-130	1		11/13/18 17:18	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**99.8**	ug/L	5.0	2.5		11/11/18 19:12	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	115	%	50-150	2.5		11/11/18 19:12	17060-07-0	
Toluene-d8 (S)	116	%	50-150	2.5		11/11/18 19:12	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-RECOVERY WELLS
Pace Project No.: 92406699

Sample: TRIP BLANK **Lab ID: 92406699006** Collected: 11/07/18 00:00 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Acetone	ND	ug/L	25.0	1		11/12/18 17:24	67-64-1	
Benzene	ND	ug/L	1.0	1		11/12/18 17:24	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/12/18 17:24	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/12/18 17:24	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/12/18 17:24	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/12/18 17:24	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/12/18 17:24	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/12/18 17:24	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/12/18 17:24	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/12/18 17:24	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/12/18 17:24	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/12/18 17:24	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/12/18 17:24	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/12/18 17:24	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/12/18 17:24	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		11/12/18 17:24	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/12/18 17:24	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/12/18 17:24	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/12/18 17:24	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/12/18 17:24	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/12/18 17:24	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/12/18 17:24	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/12/18 17:24	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/12/18 17:24	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/12/18 17:24	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/12/18 17:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/12/18 17:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/12/18 17:24	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/12/18 17:24	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/12/18 17:24	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/12/18 17:24	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/12/18 17:24	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/12/18 17:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/12/18 17:24	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/12/18 17:24	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		11/12/18 17:24	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/12/18 17:24	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/12/18 17:24	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/12/18 17:24	99-87-6	
Methylene Chloride	**2.3**	ug/L	2.0	1		11/12/18 17:24	75-09-2	C9
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/12/18 17:24	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/12/18 17:24	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		11/12/18 17:24	91-20-3	
Styrene	ND	ug/L	1.0	1		11/12/18 17:24	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/12/18 17:24	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/12/18 17:24	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/12/18 17:24	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-RECOVERY WELLS
Pace Project No.: 92406699

Sample: TRIP BLANK **Lab ID: 92406699006** Collected: 11/07/18 00:00 Received: 11/09/18 09:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260B							
Toluene	ND	ug/L	1.0	1		11/12/18 17:24	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/12/18 17:24	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/12/18 17:24	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/12/18 17:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/12/18 17:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/12/18 17:24	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/12/18 17:24	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/12/18 17:24	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/12/18 17:24	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/12/18 17:24	75-01-4	
Xylene (Total)	ND	ug/L	1.0	1		11/12/18 17:24	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/12/18 17:24	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/12/18 17:24	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		11/12/18 17:24	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		11/12/18 17:24	17060-07-0	
Toluene-d8 (S)	106	%	70-130	1		11/12/18 17:24	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		11/11/18 14:42	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	50-150	1		11/11/18 14:42	17060-07-0	
Toluene-d8 (S)	113	%	50-150	1		11/11/18 14:42	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

QC Batch: 441793 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92406699006

METHOD BLANK: 2425825 Matrix: Water
Associated Lab Samples: 92406699006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/12/18 10:49	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/12/18 10:49	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/12/18 10:49	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/12/18 10:49	
1,1-Dichloroethane	ug/L	ND	1.0	11/12/18 10:49	
1,1-Dichloroethene	ug/L	ND	1.0	11/12/18 10:49	
1,1-Dichloropropene	ug/L	ND	1.0	11/12/18 10:49	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/12/18 10:49	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/12/18 10:49	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/12/18 10:49	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/12/18 10:49	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/12/18 10:49	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/12/18 10:49	
1,2-Dichloroethane	ug/L	ND	1.0	11/12/18 10:49	
1,2-Dichloropropane	ug/L	ND	1.0	11/12/18 10:49	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/12/18 10:49	
1,3-Dichloropropane	ug/L	ND	1.0	11/12/18 10:49	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/12/18 10:49	
2,2-Dichloropropane	ug/L	ND	1.0	11/12/18 10:49	
2-Butanone (MEK)	ug/L	ND	5.0	11/12/18 10:49	
2-Chlorotoluene	ug/L	ND	1.0	11/12/18 10:49	
2-Hexanone	ug/L	ND	5.0	11/12/18 10:49	
4-Chlorotoluene	ug/L	ND	1.0	11/12/18 10:49	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/12/18 10:49	
Acetone	ug/L	ND	25.0	11/12/18 10:49	
Benzene	ug/L	ND	1.0	11/12/18 10:49	
Bromobenzene	ug/L	ND	1.0	11/12/18 10:49	
Bromochloromethane	ug/L	ND	1.0	11/12/18 10:49	
Bromodichloromethane	ug/L	ND	1.0	11/12/18 10:49	
Bromoform	ug/L	ND	1.0	11/12/18 10:49	
Bromomethane	ug/L	ND	2.0	11/12/18 10:49	
Carbon tetrachloride	ug/L	ND	1.0	11/12/18 10:49	
Chlorobenzene	ug/L	ND	1.0	11/12/18 10:49	
Chloroethane	ug/L	ND	1.0	11/12/18 10:49	
Chloroform	ug/L	ND	1.0	11/12/18 10:49	
Chloromethane	ug/L	ND	1.0	11/12/18 10:49	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/12/18 10:49	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/12/18 10:49	
Dibromochloromethane	ug/L	ND	1.0	11/12/18 10:49	
Dibromomethane	ug/L	ND	1.0	11/12/18 10:49	
Dichlorodifluoromethane	ug/L	ND	1.0	11/12/18 10:49	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

METHOD BLANK: 2425825 Matrix: Water
Associated Lab Samples: 92406699006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/12/18 10:49	
Ethylbenzene	ug/L	ND	1.0	11/12/18 10:49	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/12/18 10:49	
m&p-Xylene	ug/L	ND	2.0	11/12/18 10:49	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/12/18 10:49	
Methylene Chloride	ug/L	ND	2.0	11/12/18 10:49	
Naphthalene	ug/L	ND	1.0	11/12/18 10:49	
o-Xylene	ug/L	ND	1.0	11/12/18 10:49	
p-Isopropyltoluene	ug/L	ND	1.0	11/12/18 10:49	
Styrene	ug/L	ND	1.0	11/12/18 10:49	
Tetrachloroethene	ug/L	ND	1.0	11/12/18 10:49	
Toluene	ug/L	ND	1.0	11/12/18 10:49	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/12/18 10:49	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/12/18 10:49	
Trichloroethene	ug/L	ND	1.0	11/12/18 10:49	
Trichlorofluoromethane	ug/L	ND	1.0	11/12/18 10:49	
Vinyl acetate	ug/L	ND	2.0	11/12/18 10:49	
Vinyl chloride	ug/L	ND	1.0	11/12/18 10:49	
Xylene (Total)	ug/L	ND	1.0	11/12/18 10:49	
1,2-Dichloroethane-d4 (S)	%	98	70-130	11/12/18 10:49	
4-Bromofluorobenzene (S)	%	102	70-130	11/12/18 10:49	
Toluene-d8 (S)	%	109	70-130	11/12/18 10:49	

LABORATORY CONTROL SAMPLE: 2425826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.5	101	70-130	
1,1,1-Trichloroethane	ug/L	50	52.9	106	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.6	99	70-130	
1,1,2-Trichloroethane	ug/L	50	50.4	101	70-130	
1,1-Dichloroethane	ug/L	50	51.5	103	70-130	
1,1-Dichloroethene	ug/L	50	56.1	112	70-130	
1,1-Dichloropropene	ug/L	50	56.0	112	70-130	
1,2,3-Trichlorobenzene	ug/L	50	48.1	96	70-130	
1,2,3-Trichloropropane	ug/L	50	47.3	95	70-130	
1,2,4-Trichlorobenzene	ug/L	50	47.8	96	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	45.1	90	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	50.3	101	70-130	
1,2-Dichlorobenzene	ug/L	50	47.1	94	70-130	
1,2-Dichloroethane	ug/L	50	47.8	96	70-130	
1,2-Dichloropropane	ug/L	50	51.9	104	70-130	
1,3-Dichlorobenzene	ug/L	50	48.4	97	70-130	
1,3-Dichloropropane	ug/L	50	52.3	105	70-131	
1,4-Dichlorobenzene	ug/L	50	47.5	95	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

LABORATORY CONTROL SAMPLE: 2425826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	53.0	106	69-130	
2-Butanone (MEK)	ug/L	100	99.4	99	64-135	
2-Chlorotoluene	ug/L	50	47.3	95	70-130	
2-Hexanone	ug/L	100	95.5	96	66-135	
4-Chlorotoluene	ug/L	50	48.2	96	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.9	96	70-130	
Acetone	ug/L	100	95.9	96	61-157	
Benzene	ug/L	50	52.8	106	70-130	
Bromobenzene	ug/L	50	47.5	95	70-130	
Bromochloromethane	ug/L	50	51.9	104	70-130	
Bromodichloromethane	ug/L	50	47.8	96	70-130	
Bromoform	ug/L	50	44.4	89	70-130	
Bromomethane	ug/L	50	28.5	57	38-128	
Carbon tetrachloride	ug/L	50	49.5	99	70-130	
Chlorobenzene	ug/L	50	49.3	99	70-130	
Chloroethane	ug/L	50	40.6	81	37-142	
Chloroform	ug/L	50	51.4	103	70-130	
Chloromethane	ug/L	50	34.8	70	48-120	
cis-1,2-Dichloroethene	ug/L	50	50.7	101	70-130	
cis-1,3-Dichloropropene	ug/L	50	53.2	106	70-130	
Dibromochloromethane	ug/L	50	50.4	101	70-130	
Dibromomethane	ug/L	50	48.6	97	70-130	
Dichlorodifluoromethane	ug/L	50	45.9	92	53-134	
Diisopropyl ether	ug/L	50	53.8	108	71-135	
Ethylbenzene	ug/L	50	48.9	98	70-130	
Hexachloro-1,3-butadiene	ug/L	50	48.4	97	68-132	
m&p-Xylene	ug/L	100	99.7	100	70-130	
Methyl-tert-butyl ether	ug/L	50	50.6	101	70-130	
Methylene Chloride	ug/L	50	51.6	103	67-132	
Naphthalene	ug/L	50	46.5	93	70-130	
o-Xylene	ug/L	50	49.9	100	70-130	
p-Isopropyltoluene	ug/L	50	47.7	95	70-130	
Styrene	ug/L	50	49.8	100	70-130	
Tetrachloroethene	ug/L	50	49.5	99	69-130	
Toluene	ug/L	50	47.7	95	70-130	
trans-1,2-Dichloroethene	ug/L	50	53.9	108	70-130	
trans-1,3-Dichloropropene	ug/L	50	51.3	103	70-130	
Trichloroethene	ug/L	50	51.9	104	70-130	
Trichlorofluoromethane	ug/L	50	46.3	93	63-126	
Vinyl acetate	ug/L	100	106	106	55-143	
Vinyl chloride	ug/L	50	52.2	104	70-131	
Xylene (Total)	ug/L	150	150	100	70-130	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			98	70-130	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

MATRIX SPIKE SAMPLE: 2426693

Parameter	Units	92406738002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	18.2	91	73-134	
1,1,1-Trichloroethane	ug/L	ND	20	20.4	102	82-143	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	17.4	87	70-136	
1,1,2-Trichloroethane	ug/L	ND	20	19.7	99	70-135	
1,1-Dichloroethane	ug/L	ND	20	19.6	98	72-139	
1,1-Dichloroethene	ug/L	ND	20	20.9	105	81-154	
1,1-Dichloropropene	ug/L	ND	20	21.5	107	79-149	
1,2,3-Trichlorobenzene	ug/L	ND	20	19.8	99	70-135	
1,2,3-Trichloropropane	ug/L	ND	20	17.5	88	71-137	
1,2,4-Trichlorobenzene	ug/L	ND	20	19.3	97	73-140	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	16.8	84	65-134	
1,2-Dibromoethane (EDB)	ug/L	ND	20	18.8	94	72-137	
1,2-Dichlorobenzene	ug/L	ND	20	18.9	95	70-133	
1,2-Dichloroethane	ug/L	ND	20	18.5	93	73-137	
1,2-Dichloropropane	ug/L	ND	20	20.0	100	79-140	
1,3-Dichlorobenzene	ug/L	ND	20	18.9	95	70-135	
1,3-Dichloropropane	ug/L	ND	20	19.0	95	76-143	
1,4-Dichlorobenzene	ug/L	ND	20	18.6	93	70-133	
2,2-Dichloropropane	ug/L	ND	20	21.2	106	61-148	
2-Butanone (MEK)	ug/L	ND	40	36.1	90	60-139	
2-Chlorotoluene	ug/L	ND	20	19.1	95	73-144	
2-Hexanone	ug/L	ND	40	33.3	83	65-138	
4-Chlorotoluene	ug/L	ND	20	18.3	91	76-137	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	34.3	86	65-135	
Acetone	ug/L	ND	40	37.1	93	60-148	
Benzene	ug/L	ND	20	21.0	105	72-151	
Bromobenzene	ug/L	ND	20	18.9	94	70-136	
Bromochloromethane	ug/L	ND	20	22.8	114	77-141	
Bromodichloromethane	ug/L	ND	20	18.0	90	76-138	
Bromoform	ug/L	ND	20	14.9	75	63-130	
Bromomethane	ug/L	ND	20	19.0	95	15-152	
Carbon tetrachloride	ug/L	ND	20	19.2	96	70-143	
Chlorobenzene	ug/L	ND	20	19.0	95	70-138	
Chloroethane	ug/L	ND	20	18.3	92	52-163	
Chloroform	ug/L	ND	20	20.0	100	74-139	
Chloromethane	ug/L	ND	20	15.5	77	41-139	
cis-1,2-Dichloroethene	ug/L	ND	20	20.2	101	77-141	
cis-1,3-Dichloropropene	ug/L	ND	20	20.3	101	74-137	
Dibromochloromethane	ug/L	ND	20	17.4	87	70-134	
Dibromomethane	ug/L	ND	20	20.2	101	76-138	
Dichlorodifluoromethane	ug/L	ND	20	12.7	64	47-155	
Diisopropyl ether	ug/L	ND	20	18.3	91	63-144	
Ethylbenzene	ug/L	2.4	20	21.8	97	66-153	
Hexachloro-1,3-butadiene	ug/L	ND	20	21.4	107	65-149	
m&p-Xylene	ug/L	9.4	40	48.0	97	69-152	
Methyl-tert-butyl ether	ug/L	ND	20	19.1	96	54-156	
Methylene Chloride	ug/L	ND	20	18.9	94	42-159	

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REPORT OF LABORATORY ANALYSIS

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(704)875-9092

QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

MATRIX SPIKE SAMPLE: 2426693

Parameter	Units	92406738002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	ND	20	18.5	90	61-148	
o-Xylene	ug/L	4.6	20	24.8	101	73-148	
p-Isopropyltoluene	ug/L	ND	20	19.0	95	73-146	
Styrene	ug/L	ND	20	19.1	96	70-135	
Tetrachloroethene	ug/L	ND	20	19.7	99	59-143	
Toluene	ug/L	1.0	20	20.6	98	59-148	
trans-1,2-Dichloroethene	ug/L	ND	20	20.5	102	76-146	
trans-1,3-Dichloropropene	ug/L	ND	20	20.0	100	71-135	
Trichloroethene	ug/L	ND	20	21.0	105	77-147	
Trichlorofluoromethane	ug/L	ND	20	20.0	100	76-148	
Vinyl acetate	ug/L	ND	40	36.3	91	49-151	
Vinyl chloride	ug/L	ND	20	19.3	96	70-156	
Xylene (Total)	ug/L	14.0	60	72.8	98	63-158	
1,2-Dichloroethane-d4 (S)	%				91	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 2426692

Parameter	Units	92406738003 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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QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

SAMPLE DUPLICATE: 2426692

Parameter	Units	92406738003 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	.89J		30	
Hexachloro-1,3-butadiene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	3.4	3.0	14	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	1.8	1.8	2	30	
p-Isopropyltoluene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Toluene	ug/L	ND	.44J		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	5.2	4.7	9	30	
1,2-Dichloroethane-d4 (S)	%	95	88	8		
4-Bromofluorobenzene (S)	%	104	104	0		
Toluene-d8 (S)	%	108	111	2		

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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-RECOVERY WELLS
Pace Project No.: 92406699

QC Batch: 441798 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92406699005

METHOD BLANK: 2425858 Matrix: Water
Associated Lab Samples: 92406699005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/13/18 11:36	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/13/18 11:36	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/13/18 11:36	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/13/18 11:36	
1,1-Dichloroethane	ug/L	ND	1.0	11/13/18 11:36	
1,1-Dichloroethene	ug/L	ND	1.0	11/13/18 11:36	
1,1-Dichloropropene	ug/L	ND	1.0	11/13/18 11:36	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/13/18 11:36	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/13/18 11:36	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/13/18 11:36	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/13/18 11:36	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/13/18 11:36	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/13/18 11:36	
1,2-Dichloroethane	ug/L	ND	1.0	11/13/18 11:36	
1,2-Dichloropropane	ug/L	ND	1.0	11/13/18 11:36	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/13/18 11:36	
1,3-Dichloropropane	ug/L	ND	1.0	11/13/18 11:36	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/13/18 11:36	
2,2-Dichloropropane	ug/L	ND	1.0	11/13/18 11:36	
2-Butanone (MEK)	ug/L	ND	5.0	11/13/18 11:36	
2-Chlorotoluene	ug/L	ND	1.0	11/13/18 11:36	
2-Hexanone	ug/L	ND	5.0	11/13/18 11:36	
4-Chlorotoluene	ug/L	ND	1.0	11/13/18 11:36	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/13/18 11:36	
Acetone	ug/L	ND	25.0	11/13/18 11:36	
Benzene	ug/L	ND	1.0	11/13/18 11:36	
Bromobenzene	ug/L	ND	1.0	11/13/18 11:36	
Bromochloromethane	ug/L	ND	1.0	11/13/18 11:36	
Bromodichloromethane	ug/L	ND	1.0	11/13/18 11:36	
Bromoform	ug/L	ND	1.0	11/13/18 11:36	
Bromomethane	ug/L	ND	2.0	11/13/18 11:36	
Carbon tetrachloride	ug/L	ND	1.0	11/13/18 11:36	
Chlorobenzene	ug/L	ND	1.0	11/13/18 11:36	
Chloroethane	ug/L	ND	1.0	11/13/18 11:36	
Chloroform	ug/L	ND	1.0	11/13/18 11:36	
Chloromethane	ug/L	ND	1.0	11/13/18 11:36	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/13/18 11:36	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/13/18 11:36	
Dibromochloromethane	ug/L	ND	1.0	11/13/18 11:36	
Dibromomethane	ug/L	ND	1.0	11/13/18 11:36	
Dichlorodifluoromethane	ug/L	ND	1.0	11/13/18 11:36	

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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-RECOVERY WELLS
Pace Project No.: 92406699

METHOD BLANK: 2425858 Matrix: Water
Associated Lab Samples: 92406699005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/13/18 11:36	
Ethylbenzene	ug/L	ND	1.0	11/13/18 11:36	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/13/18 11:36	
m&p-Xylene	ug/L	ND	2.0	11/13/18 11:36	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/13/18 11:36	
Methylene Chloride	ug/L	ND	2.0	11/13/18 11:36	
Naphthalene	ug/L	ND	1.0	11/13/18 11:36	
o-Xylene	ug/L	ND	1.0	11/13/18 11:36	
p-Isopropyltoluene	ug/L	ND	1.0	11/13/18 11:36	
Styrene	ug/L	ND	1.0	11/13/18 11:36	
Tetrachloroethene	ug/L	ND	1.0	11/13/18 11:36	
Toluene	ug/L	ND	1.0	11/13/18 11:36	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/13/18 11:36	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/13/18 11:36	
Trichloroethene	ug/L	ND	1.0	11/13/18 11:36	
Trichlorofluoromethane	ug/L	ND	1.0	11/13/18 11:36	
Vinyl acetate	ug/L	ND	2.0	11/13/18 11:36	
Vinyl chloride	ug/L	ND	1.0	11/13/18 11:36	
Xylene (Total)	ug/L	ND	1.0	11/13/18 11:36	
1,2-Dichloroethane-d4 (S)	%	94	70-130	11/13/18 11:36	
4-Bromofluorobenzene (S)	%	104	70-130	11/13/18 11:36	
Toluene-d8 (S)	%	107	70-130	11/13/18 11:36	

LABORATORY CONTROL SAMPLE: 2425859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.4	101	70-130	
1,1,1-Trichloroethane	ug/L	50	47.8	96	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	50.5	101	70-130	
1,1,2-Trichloroethane	ug/L	50	50.8	102	70-130	
1,1-Dichloroethane	ug/L	50	47.7	95	70-130	
1,1-Dichloroethene	ug/L	50	51.3	103	70-130	
1,1-Dichloropropene	ug/L	50	51.1	102	70-130	
1,2,3-Trichlorobenzene	ug/L	50	46.5	93	70-130	
1,2,3-Trichloropropane	ug/L	50	47.6	95	70-130	
1,2,4-Trichlorobenzene	ug/L	50	45.8	92	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	47.2	94	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	50.9	102	70-130	
1,2-Dichlorobenzene	ug/L	50	46.0	92	70-130	
1,2-Dichloroethane	ug/L	50	45.7	91	70-130	
1,2-Dichloropropane	ug/L	50	49.6	99	70-130	
1,3-Dichlorobenzene	ug/L	50	47.0	94	70-130	
1,3-Dichloropropane	ug/L	50	52.2	104	70-131	
1,4-Dichlorobenzene	ug/L	50	45.9	92	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-RECOVERY WELLS
Pace Project No.: 92406699

LABORATORY CONTROL SAMPLE: 2425859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	37.6	75	69-130	
2-Butanone (MEK)	ug/L	100	101	101	64-135	
2-Chlorotoluene	ug/L	50	45.3	91	70-130	
2-Hexanone	ug/L	100	104	104	66-135	
4-Chlorotoluene	ug/L	50	46.7	93	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	101	101	70-130	
Acetone	ug/L	100	105	105	61-157	
Benzene	ug/L	50	50.3	101	70-130	
Bromobenzene	ug/L	50	46.6	93	70-130	
Bromochloromethane	ug/L	50	47.9	96	70-130	
Bromodichloromethane	ug/L	50	46.3	93	70-130	
Bromoform	ug/L	50	46.2	92	70-130	
Bromomethane	ug/L	50	26.3	53	38-128	
Carbon tetrachloride	ug/L	50	45.2	90	70-130	
Chlorobenzene	ug/L	50	48.5	97	70-130	
Chloroethane	ug/L	50	35.2	70	37-142	
Chloroform	ug/L	50	47.1	94	70-130	
Chloromethane	ug/L	50	32.4	65	48-120	
cis-1,2-Dichloroethene	ug/L	50	47.6	95	70-130	
cis-1,3-Dichloropropene	ug/L	50	49.3	99	70-130	
Dibromochloromethane	ug/L	50	50.3	101	70-130	
Dibromomethane	ug/L	50	47.6	95	70-130	
Dichlorodifluoromethane	ug/L	50	38.5	77	53-134	
Diisopropyl ether	ug/L	50	51.8	104	71-135	
Ethylbenzene	ug/L	50	46.6	93	70-130	
Hexachloro-1,3-butadiene	ug/L	50	44.5	89	68-132	
m&p-Xylene	ug/L	100	94.8	95	70-130	
Methyl-tert-butyl ether	ug/L	50	48.6	97	70-130	
Methylene Chloride	ug/L	50	48.9	98	67-132	
Naphthalene	ug/L	50	46.8	94	70-130	
o-Xylene	ug/L	50	48.2	96	70-130	
p-Isopropyltoluene	ug/L	50	45.2	90	70-130	
Styrene	ug/L	50	49.0	98	70-130	
Tetrachloroethene	ug/L	50	48.0	96	69-130	
Toluene	ug/L	50	46.3	93	70-130	
trans-1,2-Dichloroethene	ug/L	50	49.0	98	70-130	
trans-1,3-Dichloropropene	ug/L	50	48.1	96	70-130	
Trichloroethene	ug/L	50	49.9	100	70-130	
Trichlorofluoromethane	ug/L	50	40.1	80	63-126	
Vinyl acetate	ug/L	100	102	102	55-143	
Vinyl chloride	ug/L	50	47.2	94	70-131	
Xylene (Total)	ug/L	150	143	95	70-130	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Toluene-d8 (S)	%			98	70-130	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

MATRIX SPIKE SAMPLE: 2427834

Parameter	Units	92406701009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	19.7	99	73-134	
1,1,1-Trichloroethane	ug/L	3.3	20	24.5	106	82-143	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.6	98	70-136	
1,1,2-Trichloroethane	ug/L	ND	20	19.6	98	70-135	
1,1-Dichloroethane	ug/L	7.1	20	27.7	103	72-139	
1,1-Dichloroethene	ug/L	38.8	20	59.7	105	81-154	
1,1-Dichloropropene	ug/L	ND	20	21.9	109	79-149	
1,2,3-Trichlorobenzene	ug/L	ND	20	18.6	93	70-135	
1,2,3-Trichloropropane	ug/L	ND	20	18.6	93	71-137	
1,2,4-Trichlorobenzene	ug/L	ND	20	18.5	93	73-140	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	17.4	87	65-134	
1,2-Dibromoethane (EDB)	ug/L	ND	20	19.4	97	72-137	
1,2-Dichlorobenzene	ug/L	ND	20	18.8	94	70-133	
1,2-Dichloroethane	ug/L	ND	20	19.2	94	73-137	
1,2-Dichloropropane	ug/L	ND	20	20.5	103	79-140	
1,3-Dichlorobenzene	ug/L	ND	20	19.1	95	70-135	
1,3-Dichloropropane	ug/L	ND	20	20.6	103	76-143	
1,4-Dichlorobenzene	ug/L	ND	20	18.5	92	70-133	
2,2-Dichloropropane	ug/L	ND	20	21.0	105	61-148	
2-Butanone (MEK)	ug/L	ND	40	36.2	90	60-139	
2-Chlorotoluene	ug/L	ND	20	18.6	93	73-144	
2-Hexanone	ug/L	ND	40	37.5	94	65-138	
4-Chlorotoluene	ug/L	ND	20	19.2	96	76-137	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	36.5	91	65-135	
Acetone	ug/L	ND	40	36.9	92	60-148	
Benzene	ug/L	ND	20	20.9	105	72-151	
Bromobenzene	ug/L	ND	20	19.0	95	70-136	
Bromochloromethane	ug/L	ND	20	21.1	106	77-141	
Bromodichloromethane	ug/L	ND	20	18.2	91	76-138	
Bromoform	ug/L	ND	20	17.0	85	63-130	
Bromomethane	ug/L	ND	20	14.2	71	15-152	
Carbon tetrachloride	ug/L	ND	20	19.8	99	70-143	
Chlorobenzene	ug/L	ND	20	20.4	102	70-138	
Chloroethane	ug/L	ND	20	17.8	89	52-163	
Chloroform	ug/L	ND	20	19.6	98	74-139	
Chloromethane	ug/L	ND	20	12.8	64	41-139	
cis-1,2-Dichloroethene	ug/L	ND	20	20.3	101	77-141	
cis-1,3-Dichloropropene	ug/L	ND	20	19.8	99	74-137	
Dibromochloromethane	ug/L	ND	20	19.2	96	70-134	
Dibromomethane	ug/L	ND	20	19.9	100	76-138	
Dichlorodifluoromethane	ug/L	ND	20	11.9	59	47-155	
Diisopropyl ether	ug/L	ND	20	20.0	100	63-144	
Ethylbenzene	ug/L	ND	20	19.9	100	66-153	
Hexachloro-1,3-butadiene	ug/L	ND	20	19.1	95	65-149	
m&p-Xylene	ug/L	ND	40	41.7	104	69-152	
Methyl-tert-butyl ether	ug/L	ND	20	18.6	93	54-156	
Methylene Chloride	ug/L	ND	20	21.2	106	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-RECOVERY WELLS
Pace Project No.: 92406699

MATRIX SPIKE SAMPLE: 2427834

Parameter	Units	92406701009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	ND	20	17.7	89	61-148	
o-Xylene	ug/L	ND	20	20.8	104	73-148	
p-Isopropyltoluene	ug/L	ND	20	18.3	92	73-146	
Styrene	ug/L	ND	20	20.4	102	70-135	
Tetrachloroethene	ug/L	ND	20	20.1	100	59-143	
Toluene	ug/L	ND	20	19.2	96	59-148	
trans-1,2-Dichloroethene	ug/L	ND	20	21.3	106	76-146	
trans-1,3-Dichloropropene	ug/L	ND	20	18.4	92	71-135	
Trichloroethene	ug/L	ND	20	21.2	106	77-147	
Trichlorofluoromethane	ug/L	ND	20	17.8	89	76-148	
Vinyl acetate	ug/L	ND	40	37.4	93	49-151	
Vinyl chloride	ug/L	ND	20	18.8	94	70-156	
Xylene (Total)	ug/L	ND	60	62.6	104	63-158	
1,2-Dichloroethane-d4 (S)	%				92	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				95	70-130	

SAMPLE DUPLICATE: 2427833

Parameter	Units	92406701008 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	.69J		30	
1,1-Dichloroethene	ug/L	30.0	29.7	1	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	.39J		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
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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

SAMPLE DUPLICATE: 2427833

Parameter	Units	92406701008 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	.21J		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	.54J		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)	%	97	94	3		
4-Bromofluorobenzene (S)	%	104	103	0		
Toluene-d8 (S)	%	106	109	3		

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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-RECOVERY WELLS
Pace Project No.: 92406699

QC Batch: 442084 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92406699003

METHOD BLANK: 2427049 Matrix: Water
Associated Lab Samples: 92406699003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/14/18 00:55	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/14/18 00:55	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/14/18 00:55	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/14/18 00:55	
1,1-Dichloroethane	ug/L	ND	1.0	11/14/18 00:55	
1,1-Dichloroethene	ug/L	ND	1.0	11/14/18 00:55	
1,1-Dichloropropene	ug/L	ND	1.0	11/14/18 00:55	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/14/18 00:55	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/14/18 00:55	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/14/18 00:55	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/14/18 00:55	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/14/18 00:55	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/14/18 00:55	
1,2-Dichloroethane	ug/L	ND	1.0	11/14/18 00:55	
1,2-Dichloropropane	ug/L	ND	1.0	11/14/18 00:55	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/14/18 00:55	
1,3-Dichloropropane	ug/L	ND	1.0	11/14/18 00:55	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/14/18 00:55	
2,2-Dichloropropane	ug/L	ND	1.0	11/14/18 00:55	
2-Butanone (MEK)	ug/L	ND	5.0	11/14/18 00:55	
2-Chlorotoluene	ug/L	ND	1.0	11/14/18 00:55	
2-Hexanone	ug/L	ND	5.0	11/14/18 00:55	
4-Chlorotoluene	ug/L	ND	1.0	11/14/18 00:55	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/14/18 00:55	
Acetone	ug/L	ND	25.0	11/14/18 00:55	
Benzene	ug/L	ND	1.0	11/14/18 00:55	
Bromobenzene	ug/L	ND	1.0	11/14/18 00:55	
Bromochloromethane	ug/L	ND	1.0	11/14/18 00:55	
Bromodichloromethane	ug/L	ND	1.0	11/14/18 00:55	
Bromoform	ug/L	ND	1.0	11/14/18 00:55	
Bromomethane	ug/L	ND	2.0	11/14/18 00:55	
Carbon tetrachloride	ug/L	ND	1.0	11/14/18 00:55	
Chlorobenzene	ug/L	ND	1.0	11/14/18 00:55	
Chloroethane	ug/L	ND	1.0	11/14/18 00:55	
Chloroform	ug/L	ND	1.0	11/14/18 00:55	
Chloromethane	ug/L	ND	1.0	11/14/18 00:55	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/14/18 00:55	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/14/18 00:55	
Dibromochloromethane	ug/L	ND	1.0	11/14/18 00:55	
Dibromomethane	ug/L	ND	1.0	11/14/18 00:55	
Dichlorodifluoromethane	ug/L	ND	1.0	11/14/18 00:55	

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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-RECOVERY WELLS
Pace Project No.: 92406699

METHOD BLANK: 2427049 Matrix: Water
Associated Lab Samples: 92406699003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/14/18 00:55	
Ethylbenzene	ug/L	ND	1.0	11/14/18 00:55	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/14/18 00:55	
m&p-Xylene	ug/L	ND	2.0	11/14/18 00:55	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/14/18 00:55	
Methylene Chloride	ug/L	ND	2.0	11/14/18 00:55	
Naphthalene	ug/L	ND	1.0	11/14/18 00:55	
o-Xylene	ug/L	ND	1.0	11/14/18 00:55	
p-Isopropyltoluene	ug/L	ND	1.0	11/14/18 00:55	
Styrene	ug/L	ND	1.0	11/14/18 00:55	
Tetrachloroethene	ug/L	ND	1.0	11/14/18 00:55	
Toluene	ug/L	ND	1.0	11/14/18 00:55	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/14/18 00:55	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/14/18 00:55	
Trichloroethene	ug/L	ND	1.0	11/14/18 00:55	
Trichlorofluoromethane	ug/L	ND	1.0	11/14/18 00:55	
Vinyl acetate	ug/L	ND	2.0	11/14/18 00:55	
Vinyl chloride	ug/L	ND	1.0	11/14/18 00:55	
Xylene (Total)	ug/L	ND	1.0	11/14/18 00:55	
1,2-Dichloroethane-d4 (S)	%	95	70-130	11/14/18 00:55	
4-Bromofluorobenzene (S)	%	106	70-130	11/14/18 00:55	
Toluene-d8 (S)	%	109	70-130	11/14/18 00:55	

LABORATORY CONTROL SAMPLE: 2427050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	49.2	98	70-130	
1,1,1-Trichloroethane	ug/L	50	47.6	95	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.1	98	70-130	
1,1,2-Trichloroethane	ug/L	50	50.6	101	70-130	
1,1-Dichloroethane	ug/L	50	47.7	95	70-130	
1,1-Dichloroethene	ug/L	50	49.0	98	70-130	
1,1-Dichloropropene	ug/L	50	50.1	100	70-130	
1,2,3-Trichlorobenzene	ug/L	50	48.2	96	70-130	
1,2,3-Trichloropropane	ug/L	50	47.2	94	70-130	
1,2,4-Trichlorobenzene	ug/L	50	47.5	95	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	48.4	97	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	49.3	99	70-130	
1,2-Dichlorobenzene	ug/L	50	47.6	95	70-130	
1,2-Dichloroethane	ug/L	50	44.5	89	70-130	
1,2-Dichloropropane	ug/L	50	49.9	100	70-130	
1,3-Dichlorobenzene	ug/L	50	48.1	96	70-130	
1,3-Dichloropropane	ug/L	50	50.9	102	70-131	
1,4-Dichlorobenzene	ug/L	50	46.3	93	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

LABORATORY CONTROL SAMPLE: 2427050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	43.4	87	69-130	
2-Butanone (MEK)	ug/L	100	102	102	64-135	
2-Chlorotoluene	ug/L	50	46.9	94	70-130	
2-Hexanone	ug/L	100	101	101	66-135	
4-Chlorotoluene	ug/L	50	47.1	94	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	101	101	70-130	
Acetone	ug/L	100	104	104	61-157	
Benzene	ug/L	50	51.0	102	70-130	
Bromobenzene	ug/L	50	47.9	96	70-130	
Bromochloromethane	ug/L	50	47.2	94	70-130	
Bromodichloromethane	ug/L	50	45.4	91	70-130	
Bromoform	ug/L	50	44.0	88	70-130	
Bromomethane	ug/L	50	27.4	55	38-128	
Carbon tetrachloride	ug/L	50	44.7	89	70-130	
Chlorobenzene	ug/L	50	47.2	94	70-130	
Chloroethane	ug/L	50	32.5	65	37-142	
Chloroform	ug/L	50	46.0	92	70-130	
Chloromethane	ug/L	50	31.9	64	48-120	
cis-1,2-Dichloroethene	ug/L	50	47.0	94	70-130	
cis-1,3-Dichloropropene	ug/L	50	50.6	101	70-130	
Dibromochloromethane	ug/L	50	48.7	97	70-130	
Dibromomethane	ug/L	50	47.4	95	70-130	
Dichlorodifluoromethane	ug/L	50	32.9	66	53-134	
Diisopropyl ether	ug/L	50	51.1	102	71-135	
Ethylbenzene	ug/L	50	46.0	92	70-130	
Hexachloro-1,3-butadiene	ug/L	50	46.7	93	68-132	
m&p-Xylene	ug/L	100	92.1	92	70-130	
Methyl-tert-butyl ether	ug/L	50	48.2	96	70-130	
Methylene Chloride	ug/L	50	49.1	98	67-132	
Naphthalene	ug/L	50	47.2	94	70-130	
o-Xylene	ug/L	50	47.0	94	70-130	
p-Isopropyltoluene	ug/L	50	46.6	93	70-130	
Styrene	ug/L	50	47.2	94	70-130	
Tetrachloroethene	ug/L	50	46.6	93	69-130	
Toluene	ug/L	50	46.2	92	70-130	
trans-1,2-Dichloroethene	ug/L	50	48.3	97	70-130	
trans-1,3-Dichloropropene	ug/L	50	48.9	98	70-130	
Trichloroethene	ug/L	50	50.4	101	70-130	
Trichlorofluoromethane	ug/L	50	37.7	75	63-126	
Vinyl acetate	ug/L	100	101	101	55-143	
Vinyl chloride	ug/L	50	42.3	85	70-131	
Xylene (Total)	ug/L	150	139	93	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			94	70-130	
Toluene-d8 (S)	%			98	70-130	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

MATRIX SPIKE SAMPLE: 2427476

Parameter	Units	92406922006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20.1	100	73-134	
1,1,1-Trichloroethane	ug/L	ND	20	22.3	111	82-143	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.0	100	70-136	
1,1,2-Trichloroethane	ug/L	ND	20	20.8	104	70-135	
1,1-Dichloroethane	ug/L	ND	20	21.7	108	72-139	
1,1-Dichloroethene	ug/L	ND	20	23.4	117	81-154	
1,1-Dichloropropene	ug/L	ND	20	22.6	113	79-149	
1,2,3-Trichlorobenzene	ug/L	ND	20	19.7	99	70-135	
1,2,3-Trichloropropane	ug/L	ND	20	18.7	94	71-137	
1,2,4-Trichlorobenzene	ug/L	ND	20	20.1	100	73-140	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	17.8	89	65-134	
1,2-Dibromoethane (EDB)	ug/L	ND	20	19.6	98	72-137	
1,2-Dichlorobenzene	ug/L	ND	20	19.9	100	70-133	
1,2-Dichloroethane	ug/L	ND	20	19.8	99	73-137	
1,2-Dichloropropane	ug/L	ND	20	21.7	108	79-140	
1,3-Dichlorobenzene	ug/L	ND	20	20.7	103	70-135	
1,3-Dichloropropane	ug/L	ND	20	20.9	104	76-143	
1,4-Dichlorobenzene	ug/L	ND	20	19.8	99	70-133	
2,2-Dichloropropane	ug/L	ND	20	22.0	110	61-148	
2-Butanone (MEK)	ug/L	ND	40	36.7	92	60-139	
2-Chlorotoluene	ug/L	ND	20	20.0	100	73-144	
2-Hexanone	ug/L	ND	40	38.1	95	65-138	
4-Chlorotoluene	ug/L	ND	20	20.3	101	76-137	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	37.4	94	65-135	
Acetone	ug/L	ND	40	38.3	96	60-148	
Benzene	ug/L	ND	20	22.5	113	72-151	
Bromobenzene	ug/L	ND	20	20.2	101	70-136	
Bromochloromethane	ug/L	ND	20	22.6	113	77-141	
Bromodichloromethane	ug/L	ND	20	20.0	100	76-138	
Bromoform	ug/L	ND	20	17.3	86	63-130	
Bromomethane	ug/L	ND	20	13.9	69	15-152	
Carbon tetrachloride	ug/L	ND	20	21.8	109	70-143	
Chlorobenzene	ug/L	ND	20	21.2	106	70-138	
Chloroethane	ug/L	ND	20	18.9	95	52-163	
Chloroform	ug/L	ND	20	20.7	103	74-139	
Chloromethane	ug/L	ND	20	13.0	65	41-139	
cis-1,2-Dichloroethene	ug/L	ND	20	21.5	107	77-141	
cis-1,3-Dichloropropene	ug/L	ND	20	20.8	104	74-137	
Dibromochloromethane	ug/L	ND	20	19.8	99	70-134	
Dibromomethane	ug/L	ND	20	21.4	107	76-138	
Dichlorodifluoromethane	ug/L	ND	20	12.4	62	47-155	
Diisopropyl ether	ug/L	ND	20	20.7	103	63-144	
Ethylbenzene	ug/L	ND	20	21.1	106	66-153	
Hexachloro-1,3-butadiene	ug/L	ND	20	21.7	109	65-149	
m&p-Xylene	ug/L	ND	40	43.4	108	69-152	
Methyl-tert-butyl ether	ug/L	ND	20	19.5	97	54-156	
Methylene Chloride	ug/L	ND	20	21.9	110	42-159	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

MATRIX SPIKE SAMPLE: 2427476

Parameter	Units	92406922006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	ND	20	18.5	91	61-148	
o-Xylene	ug/L	ND	20	21.6	108	73-148	
p-Isopropyltoluene	ug/L	ND	20	19.5	97	73-146	
Styrene	ug/L	ND	20	19.5	98	70-135	
Tetrachloroethene	ug/L	ND	20	21.3	106	59-143	
Toluene	ug/L	2.1	20	23.0	104	59-148	
trans-1,2-Dichloroethene	ug/L	ND	20	22.4	112	76-146	
trans-1,3-Dichloropropene	ug/L	ND	20	20.1	100	71-135	
Trichloroethene	ug/L	ND	20	22.2	111	77-147	
Trichlorofluoromethane	ug/L	ND	20	19.3	97	76-148	
Vinyl acetate	ug/L	ND	40	37.0	93	49-151	
Vinyl chloride	ug/L	ND	20	19.3	97	70-156	
Xylene (Total)	ug/L	ND	60	65.0	108	63-158	
1,2-Dichloroethane-d4 (S)	%				91	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 2427475

Parameter	Units	92406922005 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
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QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

SAMPLE DUPLICATE: 2427475

Parameter	Units	92406922005 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	.58J		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	.27J		30	
o-Xylene	ug/L	ND	ND		30	
p-Isopropyltoluene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	1.1	1.4	21	30	
Toluene	ug/L	ND	.76J		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)	%	88	92	4		
4-Bromofluorobenzene (S)	%	102	101	1		
Toluene-d8 (S)	%	104	107	4		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

QC Batch: 442323 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92406699002

METHOD BLANK: 2427966 Matrix: Water
Associated Lab Samples: 92406699002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/14/18 13:49	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/14/18 13:49	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/14/18 13:49	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/14/18 13:49	
1,1-Dichloroethane	ug/L	ND	1.0	11/14/18 13:49	
1,1-Dichloroethene	ug/L	ND	1.0	11/14/18 13:49	
1,1-Dichloropropene	ug/L	ND	1.0	11/14/18 13:49	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/14/18 13:49	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/14/18 13:49	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/14/18 13:49	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/14/18 13:49	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/14/18 13:49	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/14/18 13:49	
1,2-Dichloroethane	ug/L	ND	1.0	11/14/18 13:49	
1,2-Dichloropropane	ug/L	ND	1.0	11/14/18 13:49	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/14/18 13:49	
1,3-Dichloropropane	ug/L	ND	1.0	11/14/18 13:49	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/14/18 13:49	
2,2-Dichloropropane	ug/L	ND	1.0	11/14/18 13:49	
2-Butanone (MEK)	ug/L	ND	5.0	11/14/18 13:49	
2-Chlorotoluene	ug/L	ND	1.0	11/14/18 13:49	
2-Hexanone	ug/L	ND	5.0	11/14/18 13:49	
4-Chlorotoluene	ug/L	ND	1.0	11/14/18 13:49	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/14/18 13:49	
Acetone	ug/L	ND	25.0	11/14/18 13:49	
Benzene	ug/L	ND	1.0	11/14/18 13:49	
Bromobenzene	ug/L	ND	1.0	11/14/18 13:49	
Bromochloromethane	ug/L	ND	1.0	11/14/18 13:49	
Bromodichloromethane	ug/L	ND	1.0	11/14/18 13:49	
Bromoform	ug/L	ND	1.0	11/14/18 13:49	
Bromomethane	ug/L	ND	2.0	11/14/18 13:49	
Carbon tetrachloride	ug/L	ND	1.0	11/14/18 13:49	
Chlorobenzene	ug/L	ND	1.0	11/14/18 13:49	
Chloroethane	ug/L	ND	1.0	11/14/18 13:49	
Chloroform	ug/L	ND	1.0	11/14/18 13:49	
Chloromethane	ug/L	ND	1.0	11/14/18 13:49	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/14/18 13:49	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/14/18 13:49	
Dibromochloromethane	ug/L	ND	1.0	11/14/18 13:49	
Dibromomethane	ug/L	ND	1.0	11/14/18 13:49	
Dichlorodifluoromethane	ug/L	ND	1.0	11/14/18 13:49	

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-RECOVERY WELLS
Pace Project No.: 92406699

METHOD BLANK: 2427966 Matrix: Water
Associated Lab Samples: 92406699002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/14/18 13:49	
Ethylbenzene	ug/L	ND	1.0	11/14/18 13:49	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/14/18 13:49	
m&p-Xylene	ug/L	ND	2.0	11/14/18 13:49	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/14/18 13:49	
Methylene Chloride	ug/L	ND	2.0	11/14/18 13:49	
Naphthalene	ug/L	ND	1.0	11/14/18 13:49	
o-Xylene	ug/L	ND	1.0	11/14/18 13:49	
p-Isopropyltoluene	ug/L	ND	1.0	11/14/18 13:49	
Styrene	ug/L	ND	1.0	11/14/18 13:49	
Tetrachloroethene	ug/L	ND	1.0	11/14/18 13:49	
Toluene	ug/L	ND	1.0	11/14/18 13:49	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/14/18 13:49	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/14/18 13:49	
Trichloroethene	ug/L	ND	1.0	11/14/18 13:49	
Trichlorofluoromethane	ug/L	ND	1.0	11/14/18 13:49	
Vinyl acetate	ug/L	ND	2.0	11/14/18 13:49	
Vinyl chloride	ug/L	ND	1.0	11/14/18 13:49	
Xylene (Total)	ug/L	ND	1.0	11/14/18 13:49	
1,2-Dichloroethane-d4 (S)	%	93	70-130	11/14/18 13:49	
4-Bromofluorobenzene (S)	%	104	70-130	11/14/18 13:49	
Toluene-d8 (S)	%	108	70-130	11/14/18 13:49	

LABORATORY CONTROL SAMPLE: 2427967

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.1	106	70-130	
1,1,1-Trichloroethane	ug/L	50	50.1	100	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	51.6	103	70-130	
1,1,2-Trichloroethane	ug/L	50	53.1	106	70-130	
1,1-Dichloroethane	ug/L	50	50.2	100	70-130	
1,1-Dichloroethene	ug/L	50	51.5	103	70-130	
1,1-Dichloropropene	ug/L	50	54.3	109	70-130	
1,2,3-Trichlorobenzene	ug/L	50	50.2	100	70-130	
1,2,3-Trichloropropane	ug/L	50	49.6	99	70-130	
1,2,4-Trichlorobenzene	ug/L	50	50.7	101	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	48.7	97	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	52.1	104	70-130	
1,2-Dichlorobenzene	ug/L	50	49.4	99	70-130	
1,2-Dichloroethane	ug/L	50	46.6	93	70-130	
1,2-Dichloropropane	ug/L	50	53.1	106	70-130	
1,3-Dichlorobenzene	ug/L	50	49.7	99	70-130	
1,3-Dichloropropane	ug/L	50	54.2	108	70-131	
1,4-Dichlorobenzene	ug/L	50	48.4	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-RECOVERY WELLS
Pace Project No.: 92406699

LABORATORY CONTROL SAMPLE: 2427967

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	49.7	99	69-130	
2-Butanone (MEK)	ug/L	100	105	105	64-135	
2-Chlorotoluene	ug/L	50	48.5	97	70-130	
2-Hexanone	ug/L	100	103	103	66-135	
4-Chlorotoluene	ug/L	50	49.7	99	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	70-130	
Acetone	ug/L	100	103	103	61-157	
Benzene	ug/L	50	52.9	106	70-130	
Bromobenzene	ug/L	50	48.8	98	70-130	
Bromochloromethane	ug/L	50	51.6	103	70-130	
Bromodichloromethane	ug/L	50	47.3	95	70-130	
Bromoform	ug/L	50	47.4	95	70-130	
Bromomethane	ug/L	50	28.8	58	38-128	
Carbon tetrachloride	ug/L	50	47.6	95	70-130	
Chlorobenzene	ug/L	50	51.1	102	70-130	
Chloroethane	ug/L	50	33.5	67	37-142	
Chloroform	ug/L	50	49.6	99	70-130	
Chloromethane	ug/L	50	31.2	62	48-120	
cis-1,2-Dichloroethene	ug/L	50	49.6	99	70-130	
cis-1,3-Dichloropropene	ug/L	50	53.3	107	70-130	
Dibromochloromethane	ug/L	50	52.1	104	70-130	
Dibromomethane	ug/L	50	50.6	101	70-130	
Dichlorodifluoromethane	ug/L	50	29.1	58	53-134	
Diisopropyl ether	ug/L	50	54.8	110	71-135	
Ethylbenzene	ug/L	50	49.2	98	70-130	
Hexachloro-1,3-butadiene	ug/L	50	50.0	100	68-132	
m&p-Xylene	ug/L	100	100	100	70-130	
Methyl-tert-butyl ether	ug/L	50	51.3	103	70-130	
Methylene Chloride	ug/L	50	50.1	100	67-132	
Naphthalene	ug/L	50	49.2	98	70-130	
o-Xylene	ug/L	50	51.2	102	70-130	
p-Isopropyltoluene	ug/L	50	49.3	99	70-130	
Styrene	ug/L	50	50.9	102	70-130	
Tetrachloroethene	ug/L	50	49.8	100	69-130	
Toluene	ug/L	50	49.0	98	70-130	
trans-1,2-Dichloroethene	ug/L	50	51.7	103	70-130	
trans-1,3-Dichloropropene	ug/L	50	51.2	102	70-130	
Trichloroethene	ug/L	50	52.9	106	70-130	
Trichlorofluoromethane	ug/L	50	39.3	79	63-126	
Vinyl acetate	ug/L	100	107	107	55-143	
Vinyl chloride	ug/L	50	43.3	87	70-131	
Xylene (Total)	ug/L	150	152	101	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	
Toluene-d8 (S)	%			98	70-130	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2427968 2427969

Parameter	Units	92406701015 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	100	100	97.3	103	97	103	73-134	6	30	
1,1,1-Trichloroethane	ug/L	ND	100	100	114	117	114	117	82-143	2	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	100	100	98.5	104	99	104	70-136	5	30	
1,1,2-Trichloroethane	ug/L	ND	100	100	106	108	106	108	70-135	2	30	
1,1-Dichloroethane	ug/L	29.8	100	100	136	138	106	108	72-139	2	30	
1,1-Dichloroethene	ug/L	560	100	100	668	665	108	105	81-154	1	30	
1,1-Dichloropropene	ug/L	ND	100	100	110	112	110	112	79-149	2	30	
1,2,3-Trichlorobenzene	ug/L	ND	100	100	96.3	96.2	96	96	70-135	0	30	
1,2,3-Trichloropropane	ug/L	ND	100	100	93.4	96.3	93	96	71-137	3	30	
1,2,4-Trichlorobenzene	ug/L	ND	100	100	93.5	98.6	93	99	73-140	5	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	100	100	89.3	91.1	89	91	65-134	2	30	
1,2-Dibromoethane (EDB)	ug/L	ND	100	100	96.2	102	96	102	72-137	5	30	
1,2-Dichlorobenzene	ug/L	ND	100	100	97.8	98.3	98	98	70-133	0	30	
1,2-Dichloroethane	ug/L	ND	100	100	101	102	97	98	73-137	1	30	
1,2-Dichloropropane	ug/L	ND	100	100	105	112	105	112	79-140	7	30	
1,3-Dichlorobenzene	ug/L	ND	100	100	100	102	100	102	70-135	2	30	
1,3-Dichloropropane	ug/L	ND	100	100	102	109	102	109	76-143	7	30	
1,4-Dichlorobenzene	ug/L	ND	100	100	95.4	96.2	95	96	70-133	1	30	
2,2-Dichloropropane	ug/L	ND	100	100	97.3	98.0	97	98	61-148	1	30	
2-Butanone (MEK)	ug/L	ND	200	200	192	199	96	100	60-139	4	30	
2-Chlorotoluene	ug/L	ND	100	100	97.3	98.4	97	98	73-144	1	30	
2-Hexanone	ug/L	ND	200	200	189	202	94	101	65-138	7	30	
4-Chlorotoluene	ug/L	ND	100	100	100	101	100	101	76-137	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	200	200	189	200	94	100	65-135	6	30	
Acetone	ug/L	ND	200	200	197	204	99	102	60-148	3	30	
Benzene	ug/L	ND	100	100	110	115	110	115	72-151	4	30	
Bromobenzene	ug/L	ND	100	100	98.4	99.6	98	100	70-136	1	30	
Bromochloromethane	ug/L	ND	100	100	109	110	109	110	77-141	1	30	
Bromodichloromethane	ug/L	ND	100	100	97.7	98.9	98	99	76-138	1	30	
Bromoform	ug/L	ND	100	100	82.0	90.4	82	90	63-130	10	30	
Bromomethane	ug/L	ND	100	100	62.0	64.8	62	65	15-152	4	30	
Carbon tetrachloride	ug/L	ND	100	100	102	108	102	108	70-143	6	30	
Chlorobenzene	ug/L	ND	100	100	102	106	102	106	70-138	4	30	
Chloroethane	ug/L	ND	100	100	91.6	91.9	92	92	52-163	0	30	
Chloroform	ug/L	ND	100	100	102	105	102	105	74-139	3	30	
Chloromethane	ug/L	ND	100	100	66.3	69.0	66	69	41-139	4	30	
cis-1,2-Dichloroethene	ug/L	ND	100	100	106	109	103	106	77-141	3	30	
cis-1,3-Dichloropropene	ug/L	ND	100	100	100	103	100	103	74-137	2	30	
Dibromochloromethane	ug/L	ND	100	100	95.2	102	95	102	70-134	6	30	
Dibromomethane	ug/L	ND	100	100	103	108	103	108	76-138	5	30	
Dichlorodifluoromethane	ug/L	ND	100	100	60.2	63.0	60	63	47-155	4	30	
Diisopropyl ether	ug/L	ND	100	100	101	104	101	104	63-144	3	30	
Ethylbenzene	ug/L	ND	100	100	99.9	104	100	104	66-153	4	30	
Hexachloro-1,3-butadiene	ug/L	ND	100	100	97.8	98.6	98	99	65-149	1	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-RECOVERY WELLS
Pace Project No.: 92406699

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2427968 2427969

Parameter	Units	92406701015 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	200	200	204	219	102	109	69-152	7	30	
Methyl-tert-butyl ether	ug/L	ND	100	100	94.7	98.5	95	99	54-156	4	30	
Methylene Chloride	ug/L	ND	100	100	111	114	111	114	42-159	3	30	
Naphthalene	ug/L	ND	100	100	94.0	94.3	90	90	61-148	0	30	
o-Xylene	ug/L	ND	100	100	104	109	104	109	73-148	5	30	
p-Isopropyltoluene	ug/L	ND	100	100	94.3	97.3	94	97	73-146	3	30	
Styrene	ug/L	ND	100	100	101	107	101	107	70-135	6	30	
Tetrachloroethene	ug/L	ND	100	100	97.7	105	98	105	59-143	7	30	
Toluene	ug/L	ND	100	100	101	105	101	105	59-148	4	30	
trans-1,2-Dichloroethene	ug/L	ND	100	100	110	113	110	113	76-146	3	30	
trans-1,3-Dichloropropene	ug/L	ND	100	100	96.0	102	96	102	71-135	6	30	
Trichloroethene	ug/L	ND	100	100	113	120	113	120	77-147	6	30	
Trichlorofluoromethane	ug/L	ND	100	100	92.3	94.3	92	94	76-148	2	30	
Vinyl acetate	ug/L	ND	200	200	187	196	93	98	49-151	5	30	
Vinyl chloride	ug/L	ND	100	100	94.6	99.6	95	100	70-156	5	30	
Xylene (Total)	ug/L	ND	300	300	308	328	103	109	63-158	6	30	
1,2-Dichloroethane-d4 (S)	%						97	96	70-130			
4-Bromofluorobenzene (S)	%						98	99	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-RECOVERY WELLS
Pace Project No.: 92406699

QC Batch: 442401 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92406699004

METHOD BLANK: 2428351 Matrix: Water
Associated Lab Samples: 92406699004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/15/18 00:40	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/15/18 00:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/15/18 00:40	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/15/18 00:40	
1,1-Dichloroethane	ug/L	ND	1.0	11/15/18 00:40	
1,1-Dichloroethene	ug/L	ND	1.0	11/15/18 00:40	
1,1-Dichloropropene	ug/L	ND	1.0	11/15/18 00:40	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/15/18 00:40	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/15/18 00:40	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/15/18 00:40	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/15/18 00:40	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/15/18 00:40	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/15/18 00:40	
1,2-Dichloroethane	ug/L	ND	1.0	11/15/18 00:40	
1,2-Dichloropropane	ug/L	ND	1.0	11/15/18 00:40	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/15/18 00:40	
1,3-Dichloropropane	ug/L	ND	1.0	11/15/18 00:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/15/18 00:40	
2,2-Dichloropropane	ug/L	ND	1.0	11/15/18 00:40	
2-Butanone (MEK)	ug/L	ND	5.0	11/15/18 00:40	
2-Chlorotoluene	ug/L	ND	1.0	11/15/18 00:40	
2-Hexanone	ug/L	ND	5.0	11/15/18 00:40	
4-Chlorotoluene	ug/L	ND	1.0	11/15/18 00:40	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/15/18 00:40	
Acetone	ug/L	ND	25.0	11/15/18 00:40	
Benzene	ug/L	ND	1.0	11/15/18 00:40	
Bromobenzene	ug/L	ND	1.0	11/15/18 00:40	
Bromochloromethane	ug/L	ND	1.0	11/15/18 00:40	
Bromodichloromethane	ug/L	ND	1.0	11/15/18 00:40	
Bromoform	ug/L	ND	1.0	11/15/18 00:40	
Bromomethane	ug/L	ND	2.0	11/15/18 00:40	
Carbon tetrachloride	ug/L	ND	1.0	11/15/18 00:40	
Chlorobenzene	ug/L	ND	1.0	11/15/18 00:40	
Chloroethane	ug/L	ND	1.0	11/15/18 00:40	
Chloroform	ug/L	ND	1.0	11/15/18 00:40	
Chloromethane	ug/L	ND	1.0	11/15/18 00:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/15/18 00:40	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/15/18 00:40	
Dibromochloromethane	ug/L	ND	1.0	11/15/18 00:40	
Dibromomethane	ug/L	ND	1.0	11/15/18 00:40	
Dichlorodifluoromethane	ug/L	ND	1.0	11/15/18 00:40	

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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-RECOVERY WELLS
Pace Project No.: 92406699

METHOD BLANK: 2428351 Matrix: Water
Associated Lab Samples: 92406699004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/15/18 00:40	
Ethylbenzene	ug/L	ND	1.0	11/15/18 00:40	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/15/18 00:40	
m&p-Xylene	ug/L	ND	2.0	11/15/18 00:40	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/15/18 00:40	
Methylene Chloride	ug/L	ND	2.0	11/15/18 00:40	
Naphthalene	ug/L	ND	1.0	11/15/18 00:40	
o-Xylene	ug/L	ND	1.0	11/15/18 00:40	
p-Isopropyltoluene	ug/L	ND	1.0	11/15/18 00:40	
Styrene	ug/L	ND	1.0	11/15/18 00:40	
Tetrachloroethene	ug/L	ND	1.0	11/15/18 00:40	
Toluene	ug/L	ND	1.0	11/15/18 00:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/15/18 00:40	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/15/18 00:40	
Trichloroethene	ug/L	ND	1.0	11/15/18 00:40	
Trichlorofluoromethane	ug/L	ND	1.0	11/15/18 00:40	
Vinyl acetate	ug/L	ND	2.0	11/15/18 00:40	
Vinyl chloride	ug/L	ND	1.0	11/15/18 00:40	
Xylene (Total)	ug/L	ND	1.0	11/15/18 00:40	
1,2-Dichloroethane-d4 (S)	%	91	70-130	11/15/18 00:40	
4-Bromofluorobenzene (S)	%	106	70-130	11/15/18 00:40	
Toluene-d8 (S)	%	110	70-130	11/15/18 00:40	

LABORATORY CONTROL SAMPLE: 2428352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	48.3	97	70-130	
1,1,1-Trichloroethane	ug/L	50	47.2	94	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.2	98	70-130	
1,1,2-Trichloroethane	ug/L	50	49.6	99	70-130	
1,1-Dichloroethane	ug/L	50	48.1	96	70-130	
1,1-Dichloroethene	ug/L	50	50.5	101	70-130	
1,1-Dichloropropene	ug/L	50	50.9	102	70-130	
1,2,3-Trichlorobenzene	ug/L	50	45.7	91	70-130	
1,2,3-Trichloropropane	ug/L	50	46.8	94	70-130	
1,2,4-Trichlorobenzene	ug/L	50	45.1	90	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	45.0	90	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	49.6	99	70-130	
1,2-Dichlorobenzene	ug/L	50	45.6	91	70-130	
1,2-Dichloroethane	ug/L	50	44.6	89	70-130	
1,2-Dichloropropane	ug/L	50	49.7	99	70-130	
1,3-Dichlorobenzene	ug/L	50	46.5	93	70-130	
1,3-Dichloropropane	ug/L	50	50.7	101	70-131	
1,4-Dichlorobenzene	ug/L	50	44.2	88	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-RECOVERY WELLS
Pace Project No.: 92406699

LABORATORY CONTROL SAMPLE: 2428352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	42.5	85	69-130	
2-Butanone (MEK)	ug/L	100	97.4	97	64-135	
2-Chlorotoluene	ug/L	50	44.0	88	70-130	
2-Hexanone	ug/L	100	97.6	98	66-135	
4-Chlorotoluene	ug/L	50	44.8	90	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	96.1	96	70-130	
Acetone	ug/L	100	100	100	61-157	
Benzene	ug/L	50	50.5	101	70-130	
Bromobenzene	ug/L	50	45.4	91	70-130	
Bromochloromethane	ug/L	50	48.2	96	70-130	
Bromodichloromethane	ug/L	50	44.7	89	70-130	
Bromoform	ug/L	50	42.8	86	70-130	
Bromomethane	ug/L	50	29.1	58	38-128	
Carbon tetrachloride	ug/L	50	44.1	88	70-130	
Chlorobenzene	ug/L	50	47.2	94	70-130	
Chloroethane	ug/L	50	34.2	68	37-142	
Chloroform	ug/L	50	46.3	93	70-130	
Chloromethane	ug/L	50	38.1	76	48-120	
cis-1,2-Dichloroethene	ug/L	50	46.9	94	70-130	
cis-1,3-Dichloropropene	ug/L	50	49.5	99	70-130	
Dibromochloromethane	ug/L	50	48.8	98	70-130	
Dibromomethane	ug/L	50	47.4	95	70-130	
Dichlorodifluoromethane	ug/L	50	40.8	82	53-134	
Diisopropyl ether	ug/L	50	51.8	104	71-135	
Ethylbenzene	ug/L	50	45.6	91	70-130	
Hexachloro-1,3-butadiene	ug/L	50	43.5	87	68-132	
m&p-Xylene	ug/L	100	92.2	92	70-130	
Methyl-tert-butyl ether	ug/L	50	48.2	96	70-130	
Methylene Chloride	ug/L	50	49.8	100	67-132	
Naphthalene	ug/L	50	44.8	90	70-130	
o-Xylene	ug/L	50	47.6	95	70-130	
p-Isopropyltoluene	ug/L	50	43.6	87	70-130	
Styrene	ug/L	50	47.8	96	70-130	
Tetrachloroethene	ug/L	50	46.1	92	69-130	
Toluene	ug/L	50	45.2	90	70-130	
trans-1,2-Dichloroethene	ug/L	50	49.5	99	70-130	
trans-1,3-Dichloropropene	ug/L	50	47.6	95	70-130	
Trichloroethene	ug/L	50	49.0	98	70-130	
Trichlorofluoromethane	ug/L	50	39.6	79	63-126	
Vinyl acetate	ug/L	100	99.3	99	55-143	
Vinyl chloride	ug/L	50	49.4	99	70-131	
Xylene (Total)	ug/L	150	140	93	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	
Toluene-d8 (S)	%			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-RECOVERY WELLS
Pace Project No.: 92406699

MATRIX SPIKE SAMPLE: 2428361

Parameter	Units	92406450027 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	17.8	89	73-134	
1,1,1-Trichloroethane	ug/L	ND	20	16.3	81	82-143	M1
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.5	98	70-136	
1,1,2-Trichloroethane	ug/L	ND	20	19.7	99	70-135	
1,1-Dichloroethane	ug/L	ND	20	16.8	84	72-139	
1,1-Dichloroethene	ug/L	ND	20	17.6	88	81-154	
1,1-Dichloropropene	ug/L	ND	20	18.7	94	79-149	
1,2,3-Trichlorobenzene	ug/L	ND	20	20.9	105	70-135	
1,2,3-Trichloropropane	ug/L	ND	20	19.7	99	71-137	
1,2,4-Trichlorobenzene	ug/L	ND	20	21.2	106	73-140	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	17.0	85	65-134	
1,2-Dibromoethane (EDB)	ug/L	ND	20	19.3	96	72-137	
1,2-Dichlorobenzene	ug/L	ND	20	21.4	107	70-133	
1,2-Dichloroethane	ug/L	ND	20	15.4	77	73-137	
1,2-Dichloropropane	ug/L	ND	20	19.8	99	79-140	
1,3-Dichlorobenzene	ug/L	ND	20	21.1	106	70-135	
1,3-Dichloropropane	ug/L	ND	20	19.4	97	76-143	
1,4-Dichlorobenzene	ug/L	ND	20	20.8	104	70-133	
2,2-Dichloropropane	ug/L	ND	20	16.8	84	61-148	
2-Butanone (MEK)	ug/L	ND	40	32.1	80	60-139	
2-Chlorotoluene	ug/L	ND	20	23.8	119	73-144	
2-Hexanone	ug/L	ND	40	34.6	87	65-138	
4-Chlorotoluene	ug/L	ND	20	19.7	98	76-137	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	35.7	89	65-135	
Acetone	ug/L	ND	40	32.4	81	60-148	
Benzene	ug/L	8.2	20	29.1	104	72-151	
Bromobenzene	ug/L	ND	20	21.1	106	70-136	
Bromochloromethane	ug/L	ND	20	19.2	96	77-141	
Bromodichloromethane	ug/L	ND	20	16.6	83	76-138	
Bromoform	ug/L	ND	20	14.3	71	63-130	
Bromomethane	ug/L	ND	20	10.8	54	15-152	
Carbon tetrachloride	ug/L	ND	20	17.5	88	70-143	
Chlorobenzene	ug/L	ND	20	21.1	106	70-138	
Chloroethane	ug/L	ND	20	16.8	84	52-163	
Chloroform	ug/L	ND	20	16.3	82	74-139	
Chloromethane	ug/L	ND	20	14.0	70	41-139	
cis-1,2-Dichloroethene	ug/L	ND	20	16.7	83	77-141	
cis-1,3-Dichloropropene	ug/L	ND	20	18.8	94	74-137	
Dibromochloromethane	ug/L	ND	20	17.4	87	70-134	
Dibromomethane	ug/L	ND	20	19.9	100	76-138	
Dichlorodifluoromethane	ug/L	ND	20	15.7	78	47-155	
Diisopropyl ether	ug/L	ND	20	15.9	80	63-144	
Ethylbenzene	ug/L	46.0	20	66.0	100	66-153	
Hexachloro-1,3-butadiene	ug/L	ND	20	22.2	111	65-149	
m&p-Xylene	ug/L	48.4	40	85.4	92	69-152	
Methyl-tert-butyl ether	ug/L	ND	20	16.0	80	54-156	
Methylene Chloride	ug/L	ND	20	15.9	80	42-159	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

MATRIX SPIKE SAMPLE: 2428361

Parameter	Units	92406450027 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	1440	20	1280	-786	61-148	E,M1
o-Xylene	ug/L	32.2	20	53.2	105	73-148	
p-Isopropyltoluene	ug/L	ND	20	25.7	128	73-146	
Styrene	ug/L	ND	20	20.7	103	70-135	
Tetrachloroethene	ug/L	ND	20	21.2	106	59-143	
Toluene	ug/L	22.4	20	38.2	79	59-148	
trans-1,2-Dichloroethene	ug/L	ND	20	17.4	87	76-146	
trans-1,3-Dichloropropene	ug/L	ND	20	18.1	91	71-135	
Trichloroethene	ug/L	ND	20	21.6	108	77-147	
Trichlorofluoromethane	ug/L	ND	20	17.8	89	76-148	
Vinyl acetate	ug/L	ND	40	30.4	76	49-151	
Vinyl chloride	ug/L	ND	20	18.4	92	70-156	
Xylene (Total)	ug/L	80.6	60	139	97	63-158	
1,2-Dichloroethane-d4 (S)	%				79	70-130	
4-Bromofluorobenzene (S)	%				95	70-130	
Toluene-d8 (S)	%				100	70-130	

SAMPLE DUPLICATE: 2428353

Parameter	Units	92406450013 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

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QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

SAMPLE DUPLICATE: 2428353

Parameter	Units	92406450013 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	16.8	.75J		30	
o-Xylene	ug/L	ND	ND		30	
p-Isopropyltoluene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl acetate	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	91	83	10		
4-Bromofluorobenzene (S)	%	101	95	6		
Toluene-d8 (S)	%	107	101	6		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

QC Batch: 442641 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92406699001

METHOD BLANK: 2429563 Matrix: Water
Associated Lab Samples: 92406699001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/15/18 16:06	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/15/18 16:06	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/15/18 16:06	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/15/18 16:06	
1,1-Dichloroethane	ug/L	ND	1.0	11/15/18 16:06	
1,1-Dichloroethene	ug/L	ND	1.0	11/15/18 16:06	
1,1-Dichloropropene	ug/L	ND	1.0	11/15/18 16:06	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/15/18 16:06	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/15/18 16:06	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/15/18 16:06	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	11/15/18 16:06	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/15/18 16:06	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/15/18 16:06	
1,2-Dichloroethane	ug/L	ND	1.0	11/15/18 16:06	
1,2-Dichloropropane	ug/L	ND	1.0	11/15/18 16:06	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/15/18 16:06	
1,3-Dichloropropane	ug/L	ND	1.0	11/15/18 16:06	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/15/18 16:06	
2,2-Dichloropropane	ug/L	ND	1.0	11/15/18 16:06	
2-Butanone (MEK)	ug/L	ND	5.0	11/15/18 16:06	
2-Chlorotoluene	ug/L	ND	1.0	11/15/18 16:06	
2-Hexanone	ug/L	ND	5.0	11/15/18 16:06	
4-Chlorotoluene	ug/L	ND	1.0	11/15/18 16:06	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/15/18 16:06	
Acetone	ug/L	ND	25.0	11/15/18 16:06	
Benzene	ug/L	ND	1.0	11/15/18 16:06	
Bromobenzene	ug/L	ND	1.0	11/15/18 16:06	
Bromochloromethane	ug/L	ND	1.0	11/15/18 16:06	
Bromodichloromethane	ug/L	ND	1.0	11/15/18 16:06	
Bromoform	ug/L	ND	1.0	11/15/18 16:06	
Bromomethane	ug/L	ND	2.0	11/15/18 16:06	
Carbon tetrachloride	ug/L	ND	1.0	11/15/18 16:06	
Chlorobenzene	ug/L	ND	1.0	11/15/18 16:06	
Chloroethane	ug/L	ND	1.0	11/15/18 16:06	
Chloroform	ug/L	ND	1.0	11/15/18 16:06	
Chloromethane	ug/L	ND	1.0	11/15/18 16:06	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/15/18 16:06	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/15/18 16:06	
Dibromochloromethane	ug/L	ND	1.0	11/15/18 16:06	
Dibromomethane	ug/L	ND	1.0	11/15/18 16:06	
Dichlorodifluoromethane	ug/L	ND	1.0	11/15/18 16:06	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

METHOD BLANK: 2429563 Matrix: Water
Associated Lab Samples: 92406699001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/15/18 16:06	
Ethylbenzene	ug/L	ND	1.0	11/15/18 16:06	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/15/18 16:06	
m&p-Xylene	ug/L	ND	2.0	11/15/18 16:06	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/15/18 16:06	
Methylene Chloride	ug/L	ND	2.0	11/15/18 16:06	
Naphthalene	ug/L	ND	1.0	11/15/18 16:06	
o-Xylene	ug/L	ND	1.0	11/15/18 16:06	
p-Isopropyltoluene	ug/L	ND	1.0	11/15/18 16:06	
Styrene	ug/L	ND	1.0	11/15/18 16:06	
Tetrachloroethene	ug/L	ND	1.0	11/15/18 16:06	
Toluene	ug/L	ND	1.0	11/15/18 16:06	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/15/18 16:06	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/15/18 16:06	
Trichloroethene	ug/L	ND	1.0	11/15/18 16:06	
Trichlorofluoromethane	ug/L	ND	1.0	11/15/18 16:06	
Vinyl acetate	ug/L	ND	2.0	11/15/18 16:06	
Vinyl chloride	ug/L	ND	1.0	11/15/18 16:06	
Xylene (Total)	ug/L	ND	1.0	11/15/18 16:06	
1,2-Dichloroethane-d4 (S)	%	88	70-130	11/15/18 16:06	
4-Bromofluorobenzene (S)	%	102	70-130	11/15/18 16:06	
Toluene-d8 (S)	%	108	70-130	11/15/18 16:06	

LABORATORY CONTROL SAMPLE: 2429564

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.3	101	70-130	
1,1,1-Trichloroethane	ug/L	50	49.2	98	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	50.5	101	70-130	
1,1,2-Trichloroethane	ug/L	50	51.9	104	70-130	
1,1-Dichloroethane	ug/L	50	49.8	100	70-130	
1,1-Dichloroethene	ug/L	50	52.9	106	70-130	
1,1-Dichloropropene	ug/L	50	54.1	108	70-130	
1,2,3-Trichlorobenzene	ug/L	50	49.4	99	70-130	
1,2,3-Trichloropropane	ug/L	50	44.1	88	70-130	
1,2,4-Trichlorobenzene	ug/L	50	49.0	98	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	48.1	96	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	51.9	104	70-130	
1,2-Dichlorobenzene	ug/L	50	48.6	97	70-130	
1,2-Dichloroethane	ug/L	50	44.5	89	70-130	
1,2-Dichloropropane	ug/L	50	51.6	103	70-130	
1,3-Dichlorobenzene	ug/L	50	49.7	99	70-130	
1,3-Dichloropropane	ug/L	50	53.1	106	70-131	
1,4-Dichlorobenzene	ug/L	50	47.8	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-RECOVERY WELLS
Pace Project No.: 92406699

LABORATORY CONTROL SAMPLE: 2429564

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	49.3	99	69-130	
2-Butanone (MEK)	ug/L	100	97.7	98	64-135	
2-Chlorotoluene	ug/L	50	47.3	95	70-130	
2-Hexanone	ug/L	100	97.1	97	66-135	
4-Chlorotoluene	ug/L	50	47.9	96	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.1	95	70-130	
Acetone	ug/L	100	93.9	94	61-157	
Benzene	ug/L	50	53.6	107	70-130	
Bromobenzene	ug/L	50	49.1	98	70-130	
Bromochloromethane	ug/L	50	52.7	105	70-130	
Bromodichloromethane	ug/L	50	46.2	92	70-130	
Bromoform	ug/L	50	46.1	92	70-130	
Bromomethane	ug/L	50	17.7	35	38-128	L2
Carbon tetrachloride	ug/L	50	46.9	94	70-130	
Chlorobenzene	ug/L	50	50.1	100	70-130	
Chloroethane	ug/L	50	38.0	76	37-142	
Chloroform	ug/L	50	47.3	95	70-130	
Chloromethane	ug/L	50	31.0	62	48-120	
cis-1,2-Dichloroethene	ug/L	50	47.9	96	70-130	
cis-1,3-Dichloropropene	ug/L	50	53.2	106	70-130	
Dibromochloromethane	ug/L	50	51.1	102	70-130	
Dibromomethane	ug/L	50	51.1	102	70-130	
Dichlorodifluoromethane	ug/L	50	41.1	82	53-134	
Diisopropyl ether	ug/L	50	51.7	103	71-135	
Ethylbenzene	ug/L	50	48.2	96	70-130	
Hexachloro-1,3-butadiene	ug/L	50	49.6	99	68-132	
m&p-Xylene	ug/L	100	98.8	99	70-130	
Methyl-tert-butyl ether	ug/L	50	50.3	101	70-130	
Methylene Chloride	ug/L	50	48.5	97	67-132	
Naphthalene	ug/L	50	57.0	114	70-130	
o-Xylene	ug/L	50	50.3	101	70-130	
p-Isopropyltoluene	ug/L	50	48.2	96	70-130	
Styrene	ug/L	50	51.2	102	70-130	
Tetrachloroethene	ug/L	50	50.0	100	69-130	
Toluene	ug/L	50	48.4	97	70-130	
trans-1,2-Dichloroethene	ug/L	50	51.7	103	70-130	
trans-1,3-Dichloropropene	ug/L	50	50.1	100	70-130	
Trichloroethene	ug/L	50	53.2	106	70-130	
Trichlorofluoromethane	ug/L	50	41.9	84	63-126	
Vinyl acetate	ug/L	100	102	102	55-143	
Vinyl chloride	ug/L	50	50.2	100	70-131	
Xylene (Total)	ug/L	150	149	99	70-130	
1,2-Dichloroethane-d4 (S)	%			91	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Toluene-d8 (S)	%			95	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-RECOVERY WELLS
Pace Project No.: 92406699

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2429565 2429566

Parameter	Units	92406127002 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	200	200	189	202	95	101	73-134	6	30	
1,1,1-Trichloroethane	ug/L	ND	200	200	189	188	95	94	82-143	0	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	200	200	189	207	94	104	70-136	9	30	
1,1,2-Trichloroethane	ug/L	ND	200	200	194	209	97	105	70-135	7	30	
1,1-Dichloroethane	ug/L	ND	200	200	188	194	94	97	72-139	4	30	
1,1-Dichloroethene	ug/L	ND	200	200	194	193	97	96	81-154	0	30	
1,1-Dichloropropene	ug/L	ND	200	200	201	200	101	100	79-149	1	30	
1,2,3-Trichlorobenzene	ug/L	ND	200	200	184	187	92	93	70-135	2	30	
1,2,3-Trichloropropane	ug/L	ND	200	200	167	183	84	91	71-137	9	30	
1,2,4-Trichlorobenzene	ug/L	ND	200	200	179	186	90	93	73-140	4	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	200	200	171	187	85	94	65-134	9	30	
1,2-Dibromoethane (EDB)	ug/L	ND	200	200	190	208	95	104	72-137	9	30	
1,2-Dichlorobenzene	ug/L	ND	200	200	186	191	93	96	70-133	3	30	
1,2-Dichloroethane	ug/L	ND	200	200	171	175	86	87	73-137	2	30	
1,2-Dichloropropane	ug/L	ND	200	200	194	209	97	104	79-140	7	30	
1,3-Dichlorobenzene	ug/L	ND	200	200	196	198	98	99	70-135	1	30	
1,3-Dichloropropane	ug/L	ND	200	200	197	218	98	109	76-143	10	30	
1,4-Dichlorobenzene	ug/L	ND	200	200	179	188	90	94	70-133	5	30	
2,2-Dichloropropane	ug/L	ND	200	200	174	171	87	85	61-148	2	30	
2-Butanone (MEK)	ug/L	ND	400	400	358	366	90	92	60-139	2	30	
2-Chlorotoluene	ug/L	ND	200	200	183	185	91	93	73-144	1	30	
2-Hexanone	ug/L	ND	400	400	371	420	93	105	65-138	12	30	
4-Chlorotoluene	ug/L	ND	200	200	185	193	92	96	76-137	4	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	400	400	353	390	88	97	65-135	10	30	
Acetone	ug/L	ND	400	400	392	396	98	99	60-148	1	30	
Benzene	ug/L	ND	200	200	201	214	100	107	72-151	6	30	
Bromobenzene	ug/L	ND	200	200	187	191	94	95	70-136	2	30	
Bromochloromethane	ug/L	ND	200	200	200	208	100	104	77-141	4	30	
Bromodichloromethane	ug/L	ND	200	200	173	187	87	93	76-138	8	30	
Bromoform	ug/L	ND	200	200	158	170	79	85	63-130	7	30	
Bromomethane	ug/L	ND	200	200	99.1	100	50	50	15-152	1	30	
Carbon tetrachloride	ug/L	ND	200	200	185	186	93	93	70-143	1	30	
Chlorobenzene	ug/L	ND	200	200	193	207	96	103	70-138	7	30	
Chloroethane	ug/L	ND	200	200	146	147	73	73	52-163	0	30	
Chloroform	ug/L	ND	200	200	180	182	90	91	74-139	1	30	
Chloromethane	ug/L	ND	200	200	71.4	77.0	36	38	41-139	8	30	M1
cis-1,2-Dichloroethene	ug/L	12.4	200	200	196	198	92	93	77-141	1	30	
cis-1,3-Dichloropropene	ug/L	ND	200	200	186	201	93	101	74-137	8	30	
Dibromochloromethane	ug/L	ND	200	200	178	197	89	99	70-134	11	30	
Dibromomethane	ug/L	ND	200	200	194	207	97	103	76-138	7	30	
Dichlorodifluoromethane	ug/L	ND	200	200	56.2	58.9	28	29	47-155	5	30	M1
Diisopropyl ether	ug/L	ND	200	200	189	195	95	98	63-144	3	30	
Ethylbenzene	ug/L	ND	200	200	189	197	95	98	66-153	4	30	
Hexachloro-1,3-butadiene	ug/L	ND	200	200	189	195	95	98	65-149	3	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-RECOVERY WELLS
Pace Project No.: 92406699

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2429565 2429566

Parameter	Units	92406127002 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	400	400	390	404	98	101	69-152	3	30	
Methyl-tert-butyl ether	ug/L	ND	200	200	179	184	90	92	54-156	3	30	
Methylene Chloride	ug/L	ND	200	200	191	199	96	99	42-159	4	30	
Naphthalene	ug/L	ND	200	200	209	218	102	107	61-148	4	30	
o-Xylene	ug/L	ND	200	200	193	207	97	104	73-148	7	30	
p-Isopropyltoluene	ug/L	ND	200	200	182	184	91	92	73-146	1	30	
Styrene	ug/L	ND	200	200	193	204	97	102	70-135	5	30	
Tetrachloroethene	ug/L	1260	200	200	1450	1430	98	89	59-143	1	30	
Toluene	ug/L	ND	200	200	189	197	94	99	59-148	4	30	
trans-1,2-Dichloroethene	ug/L	ND	200	200	187	194	93	97	76-146	4	30	
trans-1,3-Dichloropropene	ug/L	ND	200	200	179	191	90	96	71-135	7	30	
Trichloroethene	ug/L	55.8	200	200	268	269	106	107	77-147	0	30	
Trichlorofluoromethane	ug/L	ND	200	200	152	154	76	77	76-148	1	30	
Vinyl acetate	ug/L	ND	400	400	361	379	90	95	49-151	5	30	
Vinyl chloride	ug/L	ND	200	200	130	133	65	67	70-156	2	30	M1
Xylene (Total)	ug/L	ND	600	600	584	611	97	102	63-158	5	30	
1,2-Dichloroethane-d4 (S)	%						88	84	70-130			
4-Bromofluorobenzene (S)	%						96	99	70-130			
Toluene-d8 (S)	%						95	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-RECOVERY WELLS
Pace Project No.: 92406699

QC Batch: 441665 Analysis Method: EPA 8260B Mod.
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92406699001, 92406699002, 92406699003, 92406699004, 92406699005, 92406699006

METHOD BLANK: 2425094 Matrix: Water
Associated Lab Samples: 92406699001, 92406699002, 92406699003, 92406699004, 92406699005, 92406699006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	11/11/18 13:44	
1,2-Dichloroethane-d4 (S)	%	108	50-150	11/11/18 13:44	
Toluene-d8 (S)	%	113	50-150	11/11/18 13:44	

LABORATORY CONTROL SAMPLE: 2425095

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.2	101	71-125	
1,2-Dichloroethane-d4 (S)	%			106	50-150	
Toluene-d8 (S)	%			107	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2425096 2425097

Parameter	Units	92406699003 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	12.4	20	20	33.4	33.4	105	105	50-150	0	30	
1,2-Dichloroethane-d4 (S)	%						113	113	50-150		30	
Toluene-d8 (S)	%						108	117	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-RECOVERY WELLS
Pace Project No.: 92406699

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

C9	Common Laboratory Contaminant.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, LLC
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(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: KOPFLEX-RECOVERY WELLS
Pace Project No.: 92406699

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92406699001	**RW-1S**	EPA 8260B	442641		
92406699002	**RW-2S**	EPA 8260B	442323		
92406699003	**RW-3S**	EPA 8260B	442084		
92406699004	**RW-1D**	EPA 8260B	442401		
92406699005	**RW-2D**	EPA 8260B	441798		
92406699006	**TRIP BLANK**	EPA 8260B	441793		
92406699001	**RW-1S**	EPA 8260B Mod.	441665		
92406699002	**RW-2S**	EPA 8260B Mod.	441665		
92406699003	**RW-3S**	EPA 8260B Mod.	441665		
92406699004	**RW-1D**	EPA 8260B Mod.	441665		
92406699005	**RW-2D**	EPA 8260B Mod.	441665		
92406699006	**TRIP BLANK**	EPA 8260B Mod.	441665		

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: Dulles

Project #: WO# : 92406699

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

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

Date/Initials Person Examining Contents: CDK 11/9/18

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

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

Thermometer: ☑ IR Gun ID: 92T045 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp (°C): 2.4 **Correction Factor:** Add/Subtract (°C) -0.1

Cooler Temp Corrected (°C): 2.3

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

1 pair of trip blanks broken

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: TE **Date:** 11/9

Project Manager SRF Review: TE **Date:** 11/9

***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#: 92406699

PM: PTE Due Date: 11/16/18

CLIENT: 92-WSP

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																2													
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 be sent to the North Carolina DEHNR Certification Office (I.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

CHAIN-OF-CUSTODY RECORD

No. 009917 — WSP

WSP USA Office Address	13530 Dulles Technology Dr Suite #300
Project Name	Kopflex - Recovery Wells
WSP USA Contact Name	Eric Johnson
Project Location	Hanover MD
WSP USA Contact E-mail	eric.johnson@wsp.com
Project Number & Task	31401545.010
WSP USA Contact Phone	703-709-6500
Sampler(s) Name(s)	Molly Long, Hunter Quintal, Chris Cresci
Sampler(s) Signature(s)	[signatures]
Laboratory Name & Location	Pace Analytical, Huntersville, NC
Laboratory Project Manager	Taylor Ezell
Requested Turn-Around-Time	☒ Standard ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ ___ HR

Requested Analyses & Preservatives: VOCs; 1,4 Dioxane (8260 SIM)

	Sample Identification	Matrix	Collection Start* Date	Collection Stop* Time	Number of Containers	VOCs	1,4 Dioxane (8260 SIM)								Sample Comments 92406649
	~~MW-38R~~	~~Aq~~	~~11/7/18~~	~~10 24~~	~~6~~	~~x~~	~~x~~								FECO
	~~MW-5R~~	~~Aq~~	~~11/7/18~~	~~11 20~~	~~6~~	~~x~~	~~x~~								FECO
	RW-1S	Aq	11/7/18	12 30	6	x	x								001
A	RW-2S	Aq	11/7/18	12 40	6	x	x								002
A	RW-3S	Aq	11/7/18	12 50	6	x	x								003
A	RW-1D	Aq	11/7/18	13 00	6	x	x								004
	RW-2D	Aq	11/7/18	13 30	6	x	x								005
	Trip Blank	Lab Provided			4	x	x								006

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Shipment Method	Tracking Number(s)
MM	11/8/16	1200	FedEx				8094 7536 8404

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Number of Packages	Custody Seal Number(s)
			[signature]	11/9/18	931	2	8094 7536 8390

*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)