1190 Sunrise Valley Drive
Suite 300
Reston, VA 20191
Main: 703 709 6500
www.wspgroup.com/usa

October 15, 2014

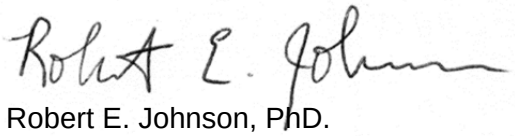
Erich Weissbart, P.G.
Land and Chemicals Division
U.S. Environmental Protection Agency, Region III
701 Mapes Road
Fort Meade, MD 20755

Re: Quarterly Status Report No. 3
Kop-Flex Voluntary Cleanup Site #31, Hanover, Maryland

Dear Erich:

WSP USA Corp., on behalf of Emerson and Kop-Flex, Inc., is submitting this progress report describing the investigation and remediation activities conducted in the third quarter 2014 at the Kop-Flex VCP site in Hanover, Maryland. The report also describes the activities planned for the fourth quarter 2014. If you have any questions, please do not hesitate to contact us at 703-709-6500.

Sincerely yours,



Robert E. Johnson, PhD.
Senior Technical Manager

REJ:rlo
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cc: Mr. Derek Chase, Emerson Electric Co.
Ms. Richelle Hanson, Maryland Department of the Environment

Enclosures

Progress Report No. 3

Kop-Flex VCP Site #31

July 2014 through September 2014

Site Name:	Kop-Flex Facility
Site Address:	7565 Harmans Road Hanover, Maryland 21076
Consultant:	WSP USA Corp.
Address:	11190 Sunrise Valley Dr., Suite 300 Reston, Virginia 20191
Phone No.:	(703) 709-6500
Site Coordinator:	Eric Johnson
Alternate:	Jim Bulman

1.0 Onsite Activities

The following activities were conducted during Third Quarter 2014.

- WSP completed evaluation of the data from the aquifer tests conducted on the Surficial and Lower Patapsco aquifers in May 2014. A detailed discussion of the test results will be included in the Response Action Plan (RAP) Addendum for site groundwater.

- On September 30, 2014, an application for renewal of the facility's National Pollutant Discharge Elimination System Permit MD0069094 and State Discharge Permit No. 07-DP-3442, was submitted to the Industrial and General Permits Division of the Maryland Department of the Environment (MDE). The permit renewal application incorporated information relevant to the planned future groundwater remedial activities to be implemented at the site.

2.0 Off-Property Area

2.1 Water Main Extension

- The following homes along the water main extension on Twin Oaks Road were connected to the public water system in early July 2014:

  - 7708 Twin Oaks Road
  - 7722 Twin Oaks Road
  - 7714 Twin Oaks Road
  - 7710 Twin Oaks Road

- All residential wells on properties that were connected to the new water line were abandoned in late July 2014, in accordance with the applicable state standards.

2.2 Offsite Monitoring Wells

- Monitoring well installation activities continued in the offsite area south of the Kop-Flex facility through mid-August 2014. A total of nine monitoring wells were installed in five different areas as part of the offsite groundwater investigation. The drilling locations for these offsite monitoring wells are shown in the enclosed Figure 1. Construction information for the wells is provided in the table below.

Well ID	Screen Interval (ft bgs)	Screen Interval (ft above mean sea level)	Hydrogeologic Unit
MW-25-40	30 to 40	90.6 to 100.6	Surficial Aquifer
MW-25-130	120 to 130	0.5 to 10.5	Lower Patapsco Aquifer
MW-25-192	182 to 192	-51.5 to -61.5	Lower Patapsco Aquifer
MW-28-45	35 to 45	105.5 to 115.5	Surficial Aquifer
MW-28-210	200 to 210	-49.5 to -59.5	Lower Patapsco Aquifer
MW-31-280	270 to 280	-107.5 to -117.5	Lower Patapsco Aquifer
MW-33-236	226 to 236	-47.4 to -57.4	Lower Patapsco Aquifer
MW-33-295	285 to 295	-106.7 to -116.7	Lower Patapsco Aquifer
MW-35-298	288 to 298	-110.2 to -120.2	Lower Patapsco Aquifer

- During installation of the deep well borehole at each drilling site, groundwater profiling was conducted to provide data to assess the potential vertical distribution of site-related VOCs and guide construction of the monitoring well(s) at each location. Samples were field screened for 1,1-dichloroethene (DCE) using compound-specific colorimetric tubes and submitted to an offsite laboratory for VOC analysis (excluding 1,4-dioxane) on an expedited (less than 24-hour) turn-around time.

  The analytical results for the depth-discrete groundwater samples are provided in Tables 1 through 5; copies of the laboratory reports are included in Enclosure A. The highest VOC concentrations were detected in samples from the Lower Patapsco Aquifer at the MW-25 location (Table 1). Trace to very low concentrations of site-related VOCs were also detected a limited number of samples from the MW-28 and MW-33 locations.

- The offsite monitoring wells were sampled in mid-September 2014. In conjunction with this sampling event, depth to water measurements was obtained from the offsite wells and previously installed onsite deep wells MW-17D, MW-21D, MW-22D, MW-24D, MW-26D, and TW-2. A potentiometric surface contour map of the Lower Patapsco Aquifer based on geostatistical analysis of the water level data is provided in Figure 1.

The analytical results for the offsite monitoring well samples are presented in Table 6. Analytical results for 1,4-dioxane are also reported in this table. (Copies of the laboratory reports for these samples are provided in Enclosure B.) The only detection of site-related VOCs in the samples from the two Surficial Aquifer wells was 1,4-dioxane (6.5 mircograms per liter [µg/l]) in the sample from MW-28-45 (Figure 2). For the wells completed in the Lower Patapsco Aquifer, VOC concentrations in the sample from well MW-25-130 are similar to previous monitoring results for offsite well MW-24-128, which is located on the Williams-Scotsman property north of Maryland Route 100. The lower concentrations of VOCs in the sample from the deeper well at the MW-25 location (MW-25-192) is consistent with the vertical distribution of constituents determined from groundwater profiling at other deep monitoring wells at the site. The sampling data for the deep monitoring wells located further to the south and east of the MW-25 location contained trace to low concentrations of the site-related COCs.

2.3 Residential Well Sampling

- During the week of September 8, 2014 water samples were collected at five of the six residences with potable wells that were identified by MDE for continued monitoring. The residential well located at 1012 Minnetonka Road was not sampled due to the inability to schedule the sampling event with the home owner during this time period.

- The analytical results for these residential well samples were received in late September 2014; a copy of the laboratory report is included in Enclosure C. No site-related VOCs were detected above applicable groundwater comparative criteria in any of the well samples.

3.0 Planned Activities for Next Reporting Period (October 2014 – December 2014)

3.1 Onsite Activities

- Collect groundwater samples from selected Surficial Aquifer monitoring wells west of the manufacturing building to gather additional hydrogeochemical data for this portion of the site.

- Prepare the Response Action Plan (RAP) Addendum to address the VOC-affected groundwater on the Kop-Flex property.

3.2 Off-Property Area

- Attempt to collect a water sample from the residential well at 1012 Minnetonka Road during the month of October.

- Conduct the fourth quarterly sampling event for the six residential wells designated by MDE.

4.0 Key Personnel Changes

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

Figures

LEGEND
- PROPERTY LINE
- WATER MAIN
- WATER MAIN EXTENSION
- STREAM
- WATER BODY
- SHALLOW AND DEEP MONITORING WELLS
- DEEP MONITORING WELL
- PRIVATE WELL (APPROXIMATE LOCATION)
- POTENTIOMETRIC SURFACE CONTOUR (FEET MSL)

MW-27D-113
MW-19-56
MW-23D-92
KOP–FLEX
MW-16D-101
MW-2D-138
MW-17D-97
MW-25D-105
MW-22D-114
MW-21D-102
MW-1D-112
WILLIAMS SCOTSMAN, INC.
MW-24D-128
STONY RUN
PENN CENTRAL RAILROAD TRACKS
ROUTE 100
DEEP WATERS LANE
MW-25
MW-28
MW-31
MW-33
MW-35
80
75
70
65
60
55
50
WATER LINE EXTENSION
MINNETONKA ROAD
MORGAN STANLEY DRIVE
SEVERN ELEMENTARY SCHOOL
OLD CAMP MEADE ROAD
SEVERN ROAD – ROUTE 174
SEVERN POST OFFICE
TEAGUE HARBOR ROAD
OLD DONALDSON AVENUE
BITTERSWEET ROAD
TEAGUE LANE
PINE TREE ROAD
SEVERN GREEN ROAD
SEVERN CROSSING ROAD
SEVERN ROAD
BEECH ROAD
FARMINGTON CIRCLE
FARMINGTON ROAD
FOREST ROAD
FOREST GLEN ROAD
FOREST GLEN CIRCLE
FOREST GLEN COURT
FOREST GLEN LANE
FOREST GLEN PLACE
FOREST GLEN WAY
FOREST GLEN TERRACE
FOREST GLEN DRIVE
FOREST GLEN ROAD
FOREST GLEN CIRCLE
FOREST GLEN COURT
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2	Revised:	Chkd:	Appr.:
3	Revised:	Chkd:	Appr.:

SEAL

DATE

DRAWN BY: ECC
CHECKED: KJW 10/9/2014
APPROVED: KJW

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POTENTIOMETRIC SURFACE CONTOURS FOR THE LOWER PATAPSCO AQUIFER (SEPTEMBER 2014)

KOP–FLEX VCP SITE
HANOVER, MARYLAND
PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

WSP
WSP USA Corp.
11190 Sunrise Valley Drive, Suite 300
Reston, Virginia 20191
(703) 709-6500
www.wspgroup.com/usa

FIGURE 1

Drawing Number
00039196–009

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LEGEND
- PROPERTY LINE
- WATER MAIN
- WATER MAIN EXTENSION
- STREAM
- WATER BODY
- SHALLOW AND DEEP MONITORING WELLS
- DEEP MONITORING WELL
- PRIVATE WELL (APPROXIMATE LOCATION)

MW-28		
	35' - 45'	200' - 210'
1,1-DCA	ND	ND
1,2-DCA	ND	ND
1,1-DCE	ND	6.8
cis-1,2-DCE	ND	ND
1,4- Dioxane	6.5	5.1
TCE	ND	ND
1,1,1-TCA	ND	ND

WELL ID
SCREEN INTERVAL (FEET BGS)
CONCENTRATION (ppb)
(BOLD INDICATES ABOVE MDE GENERIC STANDARDS)
CONSTITUENT

DCA DICHLOROETHANE
DCE DICHLOROETHENE
TCA TRICHLOROETHANE
TCE TRICHLOROETHENE
ND NOT DETECTED

MW-25			
	30' - 40'	120' - 130'	182' - 192'
1,1-DCA	ND	47	10.8
1,2-DCA	ND	**12.3**	ND
1,1-DCE	ND	**1140**	**52.2**
cis-1,2-DCE	ND	6.1	ND
1,4- Dioxane	ND	**492**	**65.1**
TCE	ND	**11.2**	ND
1,1,1-TCA	ND	64.2	14

MW-28		
	35' - 45'	200' - 210'
1,1-DCA	ND	ND
1,2-DCA	ND	ND
1,1-DCE	ND	6.8
cis-1,2-DCE	ND	ND
1,4- Dioxane	6.5	5.1
TCE	ND	ND
1,1,1-TCA	ND	ND

MW-35	
	288' - 298'
1,1-DCA	ND
1,2-DCA	ND
1,1-DCE	ND
cis-1,2-DCE	ND
1,4- Dioxane	**36.7**
TCE	ND
1,1,1-TCA	ND

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

MW-33		
	226' - 236'	285' - 295'
1,1-DCA	ND	ND
1,2-DCA	ND	ND
1,1-DCE	ND	3.3
cis-1,2-DCE	ND	ND
1,4- Dioxane	ND	**7.2**
TCE	ND	ND
1,1,1-TCA	ND	ND

MW-27D-113, MW-19-56, MW-23D-92, MW-16D-101, MW-2D-138, MW-17D-97, MW-26D-105, MW-22D-114, MW-21D-102, MW-1D-112, MW-24D-128, MW-25, MW-28, MW-35, MW-33, MW-31

KOP–FLEX
STONY RUN
PENN CENTRAL RAILROAD TRACKS
WILLIAMS SCOTSMAN, INC.
ROUTE 100
WATER LINE EXTENSION
TELEGRAPH ROAD – ROUTE 170
MINNETONKA ROAD
MORGAN STATION DRIVE
SIDEN DRIVE
KIDWELL CT
FAIRBANKS DRIVE
CHURCH
SCENA DRIVE
BOULDER LANE
TUCKERMAN DRIVE
BOULDER CT
WISP COURT
FAIRBANKS CT
RICKER ROAD
SEVERN STATION ROAD
SEVERN ROAD
SCATTERED PINES COURT
REECE ROAD
OLD CAMP MEADE ROAD
TWIN OAKS ROAD
SEVERN ELEMENTARY SCHOOL
REECE ROAD – ROUTE 174
SEVERN POST OFFICE
DONALDSON AVENUE
CLARK STATION ROAD
OLD DONALDSON AVE
BARNHILL CIRCLE
ANDORICK DRIVE
GREEN MOSS GLEN
TEABERRY LANE
BITTERSWEET ROAD
PRIDE TREE CIRCLE
FRIEND THYME PLACE
MONTEREY HEIGHTS CT
GABRIELLE CARTER CT
1066, 1063, 1059, 1054, 7708, 7710, 7709, 715, 7718, 1041, 1043, 7742, 7758, 1245, 7769, 7932, 1409, 1397, 1388

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FIGURE 2

WSP USA Corp.
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www.wspgroup.com/usa

OFFSITE MONITORING WELL VOC CONCENTRATIONS SEPTEMBER 2014

KOP–FLEX VCP SITE
HANOVER, MARYLAND

PREPARED FOR

EMERSON
ST. LOUIS, MISSOURI

DRAWN BY	EGC
CHECKED	RJW 10/7/2014
APPROVED	

SEAL

DATE

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REV	DESCRIPTION		
1	Revised:	Chkd:	Appr.:
2	Revised:	Chkd:	Appr.:
3	Revised:	Chkd:	Appr.:

Tables

Table 1

Monitoring Well MW-25 Groundwater Profiling Results
Kop-Flex VCP Site
Hanover, Maryland

Analyte (b)	Well Location / Sample Depth (ft.) / Sample Date	MW-25 31 6/17/2014	MW-25 41 4/8/2014	MW-25 124 6/27/2014	MW-25 134 6/27/2014	MW-25 153 6/23/2014	MW-25 165 6/23/2014	MW-25 174 6/24/2014	MW-25 183 6/24/2014	MW-25 194 6/24/2014	MW-25 243 6/25/2014
1,1,1-Trichloroethane		1 U	1 U	110	8	29	32	15	1.3	5.8	1 U
1,1,2-Trichloroethane		1 U	1 U	3.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane		1 U	1 U	67	5.4	20	20	13	1.7	4.3	1 U
1,1-Dichloroethene		1 U	1 U	3,100	160	120	110	56	5.6	17	1 U
1,2-Dichloroethane		1 U	1 U	18	1.2	1.6	1.5	1 U	1 U	1 U	1 U
Tetrachloroethene		1 U	1 U	2.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene		1 U	1 U	16	1.5	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene		1 U	1 U	8.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Detected Site VOCs		---	---	**3,325**	**176.1**	**170.6**	**163.5**	**84**	**8.6**	**27.1**	---

a/ U = not detected at a concentration above the method reporting limit
b/ All concentrations in micrograms per liter (µg/l)

Table 2

Monitoring Well MW-28 Groundwater Profiling Results
Kop-Flex VCP Site
Hanover, Maryland

Analyte (b)	Well Location / Sample Depth (ft.) / Sample Date	MW-28 43 7/1/2014	MW-28 63 7/1/2014	MW-28 162 7/7/2014	MW-28 203 7/7/2014	MW-28 213 7/7/2014
1,1,1-Trichloroethane		1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane		1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane		1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene		1 U	1 U	1 U	4.3	1 U
1,2-Dichloroethane		1 U	1 U	1 U	1 U	1 U
Tetrachloroethene		1 U	1 U	1 U	1 U	1 U
Trichloroethene		1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene		1 U	1 U	1 U	1 U	1 U
Total Detected Site VOCs		---	---	---	**4.3**	---

a/ U = not detected at a concentration above the method reporting limit
b/ All concentrations in micrograms per liter (µg/l)

Table 3

Monitoring Well MW-31 Groundwater Profiling Results
Kop-Flex VCP Site
Hanover, Maryland

Analyte (b)	Well Location / Sample Depth (ft.) / Sample Date	MW-31 213 7/30/2014	MW-31 253 7/31/2014	MW-31 263 7/31/2014	MW-31 273 7/31/2014	MW-31 283 8/1/2014	MW-31 293 8/1/2014
1,1,1-Trichloroethane		1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane		1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane		1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene		1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane		1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene		1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene		1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene		1 U	1 U	1 U	1 U	1 U	1 U
Total Detected Site VOCs		---	---	---	---	---	---

a/ U = not detected at a concentration above the method reporting limit
b/ All concentrations in micrograms per liter (µg/l)

Table 4

Monitoring Well MW-33 Groundwater Profiling Results
Kop-Flex VCP Site
Hanover, Maryland

Analyte (b)	Well Location Sample Depth (ft.) Sample Date	MW-33 216 7/14/2014	MW-33 226 7/14/2014	MW-33 236 7/15/2014	MW-33 276 7/16/2014	MW-33 286 7/17/2014	MW-33 303 7/18/2014
1,1,1-Trichloroethane		1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane		1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane		1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene		1 U	1 U	1 U	2.4	2	1
1,2-Dichloroethane		1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene		1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene		1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene		1 U	1 U	1 U	1 U	1 U	1 U
Total Detected Site VOCs		---	---	---	**2.4**	**2**	**1**

a/ U = not detected at a concentration above the method reporting limit
b/ All concentrations in micrograms per liter (µg/l)

Table 5

Monitoring Well MW-35 Groundwater Profiling Results
Kop-Flex VCP Site
Hanover, Maryland

Analyte (b)	Well Location / Sample Depth (ft.) / Sample Date	MW-35 243 8/7/2014	MW-35 273 8/8/2014	MW-35 293 8/13/2014	MW-35 303 8/14/2014	MW-35 312 8/14/2014
1,1,1-Trichloroethane		1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane		1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane		1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene		1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane		1 U	1 U	1 U	1 U	1 U
Tetrachloroethene		1 U	1 U	1 U	1 U	1 U
Trichloroethene		1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene		1 U	1 U	1 U	1 U	1 U
Total Detected Site VOCs		---	---	---	---	---

a/ U = not detected at a concentration above the method reporting limit
b/ All concentrations in micrograms per liter (µg/l)

Table 6

Offsite Groundwater Monitoring Well Sampling Results
Kop-Flex VCP Site
Hanover, Maryland
September 2014

Analyte (ug/L)	Maryland Groundwater Quality Standards (ug/L)	MW-25-40 9/15/2014	MW-25-130 9/16/2014	MW-25-190 9/16/2014	MW-28-45 9/17/2014	MW-28-210 9/17/2014	MW-31 9/15/2014	MW-33-236 9/18/2014	MW-33-295 9/18/2014	MW-35 9/17/2014	MW-200 (b) 9/16/2014
Acetone	550	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Butanone	700	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	1 U	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5
1,1-Dichloroethane	90	1 U	47	10.8	1 U	1 U	1 U	1 U	1 U	1 U	47
1,2-Dichloroethane	5	1 U	**12.3**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**12.2**
1,1-Dichloroethene	7	1 U	**1,140**	**52.2**	1 U	6.8	1 U	1 U	3.3	1 U	**1110**
cis-1,2-Dichloroethene	70	1 U	6.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	6.1
trans-1,2-Dichloroethene	100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4- Dioxane	6.7 (c)	2 U	**492**	**65.1**	6.5	5.1	2 U	2 U	**7.2**	**36.7**	**513**
Methylene Chloride	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Tetrachloroethene	5	1 U	1.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1
Trichloroethene	5	1 U	**11.2**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**11.4**
1,1,1-Trichloroethane	200	1 U	64.2	14	1 U	1 U	1 U	1 U	1 U	1 U	65.1
1,1,2-Trichloroethane	5	1 U	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.1
Vinyl Chloride	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

a/ U = analyte not detected above reporting limit
Bolded number indicates concentration above Maryland groundwater quality standards
b/ Field duplicate sample of MW-25-130
c/ Value represents the Maryland Department of Environment risk-based level.

Enclosure A – Laboratory Reports for Offsite Monitoring Well Groundwater Profiling Samples

MW-25 Location

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14061818

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : E0003705

June 19, 2014

Phase Separation Science, Inc.

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Baltimore, MD 21228
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ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

June 19, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14061818**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: E0003705

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14061818**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on July 23, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14061818

Project ID: E0003705

The following samples were received under chain of custody by Phase Separation Science (PSS) on 06/18/2014 at 02:30 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14061818-001	MW-25D (31)	WATER	06/17/14 13:52
14061818-002	MW-25D (41)	WATER	06/17/14 15:34
14061818-003	TB	WATER	06/18/14 14:30

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14061818

WSP Environment & Energy - Reston, Reston, VA

June 19, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (31) **Date/Time Sampled: 06/17/2014 13:52** **PSS Sample ID: 14061818-001**
Matrix: WATER **Date/Time Received: 06/18/2014 14:30**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Chloromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Vinyl Chloride	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Bromomethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Chloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Acetone	ND	ug/L	10		1	06/18/14	06/18/14 17:49	1011
Cyclohexane	ND	ug/L	10		1	06/18/14	06/18/14 17:49	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	06/18/14	06/18/14 17:49	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Methylene Chloride	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Methyl-t-butyl ether	**1.1**	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
2-Butanone (MEK)	ND	ug/L	10		1	06/18/14	06/18/14 17:49	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Bromochloromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Chloroform	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Benzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Methyl Acetate	ND	ug/L	10		1	06/18/14	06/18/14 17:49	1011
Methylcyclohexane	ND	ug/L	10		1	06/18/14	06/18/14 17:49	1011
Trichloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Carbon Disulfide	ND	ug/L	10		1	06/18/14	06/18/14 17:49	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/18/14	06/18/14 17:49	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14061818

WSP Environment & Energy - Reston, Reston, VA

June 19, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (31) **Date/Time Sampled: 06/17/2014 13:52** **PSS Sample ID: 14061818-001**
Matrix: WATER **Date/Time Received: 06/18/2014 14:30**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Toluene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
2-Hexanone	ND	ug/L	10		1	06/18/14	06/18/14 17:49	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Bromoform	ND	ug/L	5.0		1	06/18/14	06/18/14 17:49	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Chlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Ethylbenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
m,p-Xylenes	ND	ug/L	2.0		1	06/18/14	06/18/14 17:49	1011
Styrene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
o-Xylene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/18/14	06/18/14 17:49	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
Naphthalene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:49	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14061818

WSP Environment & Energy - Reston, Reston, VA

June 19, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (41) **Date/Time Sampled: 06/17/2014 15:34** **PSS Sample ID: 14061818-002**
Matrix: WATER **Date/Time Received: 06/18/2014 14:30**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Chloromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Vinyl Chloride	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Bromomethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Chloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Acetone	ND	ug/L	10		1	06/18/14	06/18/14 18:24	1011
Cyclohexane	ND	ug/L	10		1	06/18/14	06/18/14 18:24	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	06/18/14	06/18/14 18:24	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Methylene Chloride	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Methyl-t-butyl ether	**1.1**	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
2-Butanone (MEK)	ND	ug/L	10		1	06/18/14	06/18/14 18:24	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Bromochloromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Chloroform	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Benzene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Methyl Acetate	ND	ug/L	10		1	06/18/14	06/18/14 18:24	1011
Methylcyclohexane	ND	ug/L	10		1	06/18/14	06/18/14 18:24	1011
Trichloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Carbon Disulfide	ND	ug/L	10		1	06/18/14	06/18/14 18:24	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/18/14	06/18/14 18:24	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14061818

WSP Environment & Energy - Reston, Reston, VA

June 19, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (41) **Date/Time Sampled: 06/17/2014 15:34** **PSS Sample ID: 14061818-002**
Matrix: WATER **Date/Time Received: 06/18/2014 14:30**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Toluene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
2-Hexanone	ND	ug/L	10		1	06/18/14	06/18/14 18:24	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Bromoform	ND	ug/L	5.0		1	06/18/14	06/18/14 18:24	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Chlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Ethylbenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
m,p-Xylenes	ND	ug/L	2.0		1	06/18/14	06/18/14 18:24	1011
Styrene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
o-Xylene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/18/14	06/18/14 18:24	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
Naphthalene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 18:24	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14061818

WSP Environment & Energy - Reston, Reston, VA

June 19, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: TB **Date/Time Sampled: 06/18/2014 14:30** **PSS Sample ID: 14061818-003**
Matrix: WATER **Date/Time Received: 06/18/2014 14:30**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Chloromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Vinyl Chloride	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Bromomethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Chloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Acetone	ND	ug/L	10		1	06/18/14	06/18/14 17:14	1011
Cyclohexane	ND	ug/L	10		1	06/18/14	06/18/14 17:14	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	06/18/14	06/18/14 17:14	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Methylene Chloride	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
2-Butanone (MEK)	ND	ug/L	10		1	06/18/14	06/18/14 17:14	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Bromochloromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Chloroform	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Benzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Methyl Acetate	ND	ug/L	10		1	06/18/14	06/18/14 17:14	1011
Methylcyclohexane	ND	ug/L	10		1	06/18/14	06/18/14 17:14	1011
Trichloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Carbon Disulfide	ND	ug/L	10		1	06/18/14	06/18/14 17:14	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/18/14	06/18/14 17:14	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14061818

WSP Environment & Energy - Reston, Reston, VA

June 19, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: TB **Date/Time Sampled: 06/18/2014 14:30** **PSS Sample ID: 14061818-003**
Matrix: WATER **Date/Time Received: 06/18/2014 14:30**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Toluene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
2-Hexanone	ND	ug/L	10		1	06/18/14	06/18/14 17:14	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Bromoform	ND	ug/L	5.0		1	06/18/14	06/18/14 17:14	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Chlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Ethylbenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
m,p-Xylenes	ND	ug/L	2.0		1	06/18/14	06/18/14 17:14	1011
Styrene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
o-Xylene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/18/14	06/18/14 17:14	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
Naphthalene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/18/14	06/18/14 17:14	1011

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14061818
Project ID: E0003705

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

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

Sample Receipt:

All sample receipt conditions were acceptable.

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

Analytical Data Package Information Summary

Work Order(s): 14061818
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	MW-25D (31)	Initial	14061818-001	1011	W	50856	114676	06/17/2014	06/18/2014 10:00	06/18/2014 17:49
	MW-25D (41)	Initial	14061818-002	1011	W	50856	114676	06/17/2014	06/18/2014 10:00	06/18/2014 18:24
	TB	Initial	14061818-003	1011	W	50856	114676	06/18/2014	06/18/2014 10:00	06/18/2014 17:14
	50856-1-BKS	BKS	50856-1-BKS	1011	W	50856	114676	--------	06/18/2014 10:00	06/18/2014 10:03
	50856-1-BLK	BLK	50856-1-BLK	1011	W	50856	114676	--------	06/18/2014 10:00	06/18/2014 11:12
	GW-6-17-14 G S	MS	14061717-001 S	1011	W	50856	114676	06/17/2014	06/18/2014 10:00	06/18/2014 12:22
	GW-6-17-14 G SD	MSD	14061717-001 SD	1011	W	50856	114676	06/17/2014	06/18/2014 10:00	06/18/2014 12:57

PHASE SEPARATION SCIENCE, INC.

QC Summary 14061818

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114676 Matrix: Water Date Prep: 06/18/2014
PSS Sample ID: 14061818-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	103		84-110	%	06/18/14 17:49
Toluene-D8	102		94-109	%	06/18/14 17:49
4-Bromofluorobenzene	100		81-133	%	06/18/14 17:49

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114676 Matrix: Water Date Prep: 06/18/2014
PSS Sample ID: 14061818-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	101		84-110	%	06/18/14 18:24
Toluene-D8	101		94-109	%	06/18/14 18:24
4-Bromofluorobenzene	101		81-133	%	06/18/14 18:24

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114676 Matrix: Water Date Prep: 06/18/2014
PSS Sample ID: 14061818-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	105		84-110	%	06/18/14 17:14
Toluene-D8	103		94-109	%	06/18/14 17:14
4-Bromofluorobenzene	96		81-133	%	06/18/14 17:14

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14061818

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114676 Matrix: Water Date Prep: 06/18/14

MB Sample Id: 50856-1-BLK LCS Sample Id: 50856-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	50.17	100	54-139	ug/L	06/18/14 10:03	
Chloromethane	<1.000	50.00	62.99	126	62-131	ug/L	06/18/14 10:03	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	46.38	93	56-126	ug/L	06/18/14 10:03	
Vinyl Chloride	<1.000	50.00	52.18	104	64-132	ug/L	06/18/14 10:03	
Bromomethane	<1.000	50.00	55.27	111	40-147	ug/L	06/18/14 10:03	
Chloroethane	<1.000	50.00	54.38	109	59-132	ug/L	06/18/14 10:03	
Acetone	<10.00	50.00	52.90	106	53-146	ug/L	06/18/14 10:03	
Cyclohexane	<10.00	50.00	52.52	105	46-150	ug/L	06/18/14 10:03	
Trichlorofluoromethane	<5.000	50.00	54.36	109	45-130	ug/L	06/18/14 10:03	
1,1-Dichloroethene	<1.000	50.00	52.81	106	59-123	ug/L	06/18/14 10:03	
Methylene Chloride	<1.000	50.00	48.74	97	61-126	ug/L	06/18/14 10:03	
trans-1,2-Dichloroethene	<1.000	50.00	53.34	107	58-134	ug/L	06/18/14 10:03	
Methyl-t-butyl ether	<1.000	50.00	53.76	108	30-168	ug/L	06/18/14 10:03	
1,1-Dichloroethane	<1.000	50.00	50.90	102	51-136	ug/L	06/18/14 10:03	
2-Butanone (MEK)	<10.00	50.00	42.38	85	56-133	ug/L	06/18/14 10:03	
cis-1,2-Dichloroethene	<1.000	50.00	55.82	112	77-119	ug/L	06/18/14 10:03	
Bromochloromethane	<1.000	50.00	56.24	112	71-122	ug/L	06/18/14 10:03	
Chloroform	<1.000	50.00	51.54	103	71-118	ug/L	06/18/14 10:03	
1,1,1-Trichloroethane	<1.000	50.00	51.93	104	66-133	ug/L	06/18/14 10:03	
1,2-Dichloroethane	<1.000	50.00	50.64	101	64-130	ug/L	06/18/14 10:03	
Carbon Tetrachloride	<1.000	50.00	54.90	110	74-127	ug/L	06/18/14 10:03	
Benzene	<1.000	50.00	53.68	107	77-122	ug/L	06/18/14 10:03	
1,2-Dichloropropane	<1.000	50.00	52.20	104	75-125	ug/L	06/18/14 10:03	
Methyl Acetate	<10.00	50.00	52.31	105	47-145	ug/L	06/18/14 10:03	
Methylcyclohexane	<10.00	50.00	53.22	106	61-155	ug/L	06/18/14 10:03	
Trichloroethene	<1.000	50.00	52.61	105	72-127	ug/L	06/18/14 10:03	
Carbon Disulfide	<10.00	50.00	54.06	108	62-134	ug/L	06/18/14 10:03	
Bromodichloromethane	<1.000	50.00	56.58	113	76-122	ug/L	06/18/14 10:03	
cis-1,3-Dichloropropene	<1.000	50.00	52.06	104	74-123	ug/L	06/18/14 10:03	
4-Methyl-2-Pentanone	<5.000	50.00	49.08	98	45-145	ug/L	06/18/14 10:03	
trans-1,3-Dichloropropene	<1.000	50.00	53.21	106	73-116	ug/L	06/18/14 10:03	
1,1,2-Trichloroethane	<1.000	50.00	51.30	103	72-128	ug/L	06/18/14 10:03	
Toluene	<1.000	50.00	55.84	112	77-123	ug/L	06/18/14 10:03	
2-Hexanone	<10.00	50.00	47.41	95	56-134	ug/L	06/18/14 10:03	
1,2-Dibromoethane (EDB)	<1.000	50.00	52.83	106	78-121	ug/L	06/18/14 10:03	
Dibromochloromethane	<1.000	50.00	53.66	107	75-114	ug/L	06/18/14 10:03	
Bromoform	<5.000	50.00	56.15	112	69-115	ug/L	06/18/14 10:03	
Tetrachloroethene	<1.000	50.00	57.25	115	78-113	ug/L	06/18/14 10:03	H
Chlorobenzene	<1.000	50.00	53.34	107	76-116	ug/L	06/18/14 10:03	
Ethylbenzene	<1.000	50.00	54.11	108	79-122	ug/L	06/18/14 10:03	
m,p-Xylenes	<2.000	100	105.9	106	78-119	ug/L	06/18/14 10:03	
Styrene	<1.000	50.00	53.48	107	73-118	ug/L	06/18/14 10:03	
1,1,2,2-Tetrachloroethane	<1.000	50.00	43.89	88	71-126	ug/L	06/18/14 10:03	
o-Xylene	<1.000	50.00	53.82	108	79-123	ug/L	06/18/14 10:03	
Isopropylbenzene	<1.000	50.00	47.10	94	80-128	ug/L	06/18/14 10:03	
1,3-Dichlorobenzene	<1.000	50.00	55.79	112	80-122	ug/L	06/18/14 10:03	
1,4-Dichlorobenzene	<1.000	50.00	52.14	104	77-118	ug/L	06/18/14 10:03	
1,2-Dichlorobenzene	<1.000	50.00	56.44	113	80-122	ug/L	06/18/14 10:03	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	51.99	104	59-135	ug/L	06/18/14 10:03	
1,2,4-Trichlorobenzene	<1.000	50.00	54.24	108	72-143	ug/L	06/18/14 10:03	
Naphthalene	<1.000	50.00	52.25	105	46-154	ug/L	06/18/14 10:03	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14061818

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114676 Matrix: Water Date Prep: 06/18/14

MB Sample Id: 50856-1-BLK LCS Sample Id: 50856-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	53.45	107	66-140	ug/L	06/18/14 10:03	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	104		101		84-110	%	06/18/14 10:03
Toluene-D8	101		102		94-109	%	06/18/14 10:03
4-Bromofluorobenzene	99		85		81-133	%	06/18/14 10:03

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

CHAIN OF CUSTODY RECORD

~~LP~~ AP 14061818

Page 1 of 1

Project Number:	Site and Location:
E0003705	Kop-Flex Hanover, MD
Contact Name:	**Contact Email:**
Eric Johnson	
Sampler's Name:	**Sampler's Signature:**
E. Johnson/R. Wallace	

Matrices: S = Soil; Aq = Water; A = Air: Bu = Bulk; W = Wipe; Bi = Biota; OW = Oily Waste; O = Other

Requested Analyses

Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	VOCs (EPA 8260)									Nº Remarks
MW-25D(31)	31'	06/17/14	1352	AQ	3	X									24-hr. TAT ⊛
MW-25D(41)	41'	"	1534	AQ	3	X									
TB	—	—	—	Aq	2	X									
															Colorimetric tube screening result for HDCE < 0.1 ppm

# of Coolers: 1
Custody Seal: AQ
Ice Present: Yes
Temp: 2°C
Shipping Carrier: UPS

Relinquished by (Signature):	Date / Time	Received by (Signature):
R. Wallace	06/18/14 1430	D Brunk
Relinquished by (Signature):	Date / Time	Received by (Signature):
Turn-Around Time: 24 hours ⊛		Tracking Number:

Laboratory Name: Phase Separation Science
Laboratory Location: Baltimore, MD
Custody Seal Numbers: —
Method of Shipment: WSP delivery

WSP Environment & Energy

☒ Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
☐ Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
☐ San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
☐ New Jersey Office: 200 Cottontail Ln., Somerset, NJ 08873 / Tel: 732-564-0888
☐ Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
☐ Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
☐ Woburn Office: 300 Trade Center, Suite 4690, Woburn, MA 01801
☐ Cazenovia Office: 5 Sullivan St., Cazenovia, NY 13035 / Tel: 315-655-3900

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14061818	**Received By**	Jacob Prucnal
Client Name	WSP Environment & Energy - Restor	**Date Received**	06/18/2014 02:30:00 PM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	E0003705	**Tracking No**	Not Applicable
Disposal Date	07/23/2014	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	2
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 3

Total No. of Containers Received 8

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Samples Inspected/Checklist Completed By:  Date: 06/18/2014

Rachel Davis

PM Review and Approval:  Date: 06/18/2014

Simon Crisp

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14062309

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : E0003705

June 24, 2014

Phase Separation Science, Inc.

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

OFFICES:
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410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

June 24, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14062309**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: E0003705

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14062309**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on July 28, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Cathy Thompson
QA Officer

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14062309

Project ID: E0003705

The following samples were received under chain of custody by Phase Separation Science (PSS) on 06/23/2014 at 02:30 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14062309-001	MW-25D (151-156)	WATER	06/23/14 10:54
14062309-002	MW-25 (163-166)	WATER	06/23/14 13:10
14062309-003	Trip Blank	WATER	06/23/14 08:00

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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

PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062309

WSP Environment & Energy - Reston, Reston, VA

June 24, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (151-156) **Date/Time Sampled: 06/23/2014 10:54** **PSS Sample ID: 14062309-001**
Matrix: WATER **Date/Time Received: 06/23/2014 14:30**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Chloromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Vinyl Chloride	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Bromomethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Chloroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Acetone	ND	ug/L	10		1	06/23/14	06/24/14 05:42	1011
Cyclohexane	ND	ug/L	10		1	06/23/14	06/24/14 05:42	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	06/23/14	06/24/14 05:42	1011
1,1-Dichloroethene	**120**	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Methylene Chloride	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
1,1-Dichloroethane	**20**	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
2-Butanone (MEK)	ND	ug/L	10		1	06/23/14	06/24/14 05:42	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Bromochloromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Chloroform	**1.6**	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
1,1,1-Trichloroethane	**29**	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
1,2-Dichloroethane	**1.6**	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Benzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Methyl Acetate	ND	ug/L	10		1	06/23/14	06/24/14 05:42	1011
Methylcyclohexane	ND	ug/L	10		1	06/23/14	06/24/14 05:42	1011
Trichloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Carbon Disulfide	ND	ug/L	10		1	06/23/14	06/24/14 05:42	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/23/14	06/24/14 05:42	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062309

WSP Environment & Energy - Reston, Reston, VA

June 24, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (151-156) **Date/Time Sampled: 06/23/2014 10:54** **PSS Sample ID: 14062309-001**
Matrix: WATER **Date/Time Received: 06/23/2014 14:30**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Toluene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
2-Hexanone	ND	ug/L	10		1	06/23/14	06/24/14 05:42	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Bromoform	ND	ug/L	5.0		1	06/23/14	06/24/14 05:42	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Chlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Ethylbenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
m,p-Xylenes	ND	ug/L	2.0		1	06/23/14	06/24/14 05:42	1011
Styrene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
o-Xylene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/23/14	06/24/14 05:42	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
Naphthalene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:42	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062309

WSP Environment & Energy - Reston, Reston, VA

June 24, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25 (163-166) **Date/Time Sampled: 06/23/2014 13:10** **PSS Sample ID: 14062309-002**
Matrix: WATER **Date/Time Received: 06/23/2014 14:30**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Chloromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Vinyl Chloride	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Bromomethane	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Chloroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Acetone	ND	ug/L	10		1	06/23/14	06/24/14 06:09	1011
Cyclohexane	ND	ug/L	10		1	06/23/14	06/24/14 06:09	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	06/23/14	06/24/14 06:09	1011
1,1-Dichloroethene	**110**	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Methylene Chloride	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
1,1-Dichloroethane	**20**	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
2-Butanone (MEK)	ND	ug/L	10		1	06/23/14	06/24/14 06:09	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Bromochloromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Chloroform	**4.0**	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
1,1,1-Trichloroethane	**32**	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
1,2-Dichloroethane	**1.5**	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Benzene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Methyl Acetate	ND	ug/L	10		1	06/23/14	06/24/14 06:09	1011
Methylcyclohexane	ND	ug/L	10		1	06/23/14	06/24/14 06:09	1011
Trichloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Carbon Disulfide	ND	ug/L	10		1	06/23/14	06/24/14 06:09	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/23/14	06/24/14 06:09	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062309

WSP Environment & Energy - Reston, Reston, VA

June 24, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25 (163-166) **Date/Time Sampled: 06/23/2014 13:10** **PSS Sample ID: 14062309-002**
Matrix: WATER **Date/Time Received: 06/23/2014 14:30**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Toluene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
2-Hexanone	ND	ug/L	10		1	06/23/14	06/24/14 06:09	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Bromoform	ND	ug/L	5.0		1	06/23/14	06/24/14 06:09	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Chlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Ethylbenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
m,p-Xylenes	ND	ug/L	2.0		1	06/23/14	06/24/14 06:09	1011
Styrene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
o-Xylene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/23/14	06/24/14 06:09	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
Naphthalene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 06:09	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062309

WSP Environment & Energy - Reston, Reston, VA

June 24, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: Trip Blank **Date/Time Sampled: 06/23/2014 08:00** **PSS Sample ID: 14062309-003**
Matrix: WATER **Date/Time Received: 06/23/2014 14:30**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Chloromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Vinyl Chloride	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Bromomethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Chloroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Acetone	ND	ug/L	10		1	06/23/14	06/24/14 05:14	1011
Cyclohexane	ND	ug/L	10		1	06/23/14	06/24/14 05:14	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	06/23/14	06/24/14 05:14	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Methylene Chloride	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
2-Butanone (MEK)	ND	ug/L	10		1	06/23/14	06/24/14 05:14	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Bromochloromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Chloroform	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Benzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Methyl Acetate	ND	ug/L	10		1	06/23/14	06/24/14 05:14	1011
Methylcyclohexane	ND	ug/L	10		1	06/23/14	06/24/14 05:14	1011
Trichloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Carbon Disulfide	ND	ug/L	10		1	06/23/14	06/24/14 05:14	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/23/14	06/24/14 05:14	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062309

WSP Environment & Energy - Reston, Reston, VA

June 24, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: Trip Blank **Date/Time Sampled: 06/23/2014 08:00** **PSS Sample ID: 14062309-003**
Matrix: WATER **Date/Time Received: 06/23/2014 14:30**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Toluene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
2-Hexanone	ND	ug/L	10		1	06/23/14	06/24/14 05:14	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Bromoform	ND	ug/L	5.0		1	06/23/14	06/24/14 05:14	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Chlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Ethylbenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
m,p-Xylenes	ND	ug/L	2.0		1	06/23/14	06/24/14 05:14	1011
Styrene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
o-Xylene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/23/14	06/24/14 05:14	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
Naphthalene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/23/14	06/24/14 05:14	1011

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14062309
Project ID: E0003705

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

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

Sample Receipt:

Container labels for COC sample MW-25(163-166) read MW-25D(163-166).

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

Analytical Data Package Information Summary

Work Order(s): 14062309
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	MW-25D (151-156)	Initial	14062309-001	1011	W	50931	114792	06/23/2014	06/23/2014 13:00	06/24/2014 05:42
	MW-25 (163-166)	Initial	14062309-002	1011	W	50931	114792	06/23/2014	06/23/2014 13:00	06/24/2014 06:09
	Trip Blank	Initial	14062309-003	1011	W	50931	114792	06/23/2014	06/23/2014 13:00	06/24/2014 05:14
	50931-1-BKS	BKS	50931-1-BKS	1011	W	50931	114792	--------	06/23/2014 13:00	06/23/2014 21:22
	50931-1-BLK	BLK	50931-1-BLK	1011	W	50931	114792	--------	06/23/2014 13:00	06/23/2014 22:45
	MW-13 S	MS	14061821-021 S	1011	W	50931	114792	06/17/2014	06/23/2014 13:00	06/24/2014 02:27
	MW-13 SD	MSD	14061821-021 SD	1011	W	50931	114792	06/17/2014	06/23/2014 13:00	06/24/2014 02:55

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062309

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114792 Matrix: Water Date Prep: 06/23/2014
PSS Sample ID: 14062309-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	100		84-110	%	06/24/14 05:42
Toluene-D8	100		94-109	%	06/24/14 05:42
4-Bromofluorobenzene	104		81-133	%	06/24/14 05:42

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114792 Matrix: Water Date Prep: 06/23/2014
PSS Sample ID: 14062309-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	100		84-110	%	06/24/14 06:09
Toluene-D8	99		94-109	%	06/24/14 06:09
4-Bromofluorobenzene	104		81-133	%	06/24/14 06:09

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114792 Matrix: Water Date Prep: 06/23/2014
PSS Sample ID: 14062309-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	98		84-110	%	06/24/14 05:14
Toluene-D8	99		94-109	%	06/24/14 05:14
4-Bromofluorobenzene	103		81-133	%	06/24/14 05:14

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062309

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114792 Matrix: Water Date Prep: 06/23/14

MB Sample Id: 50931-1-BLK LCS Sample Id: 50931-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	42.64	85	54-139	ug/L	06/23/14 21:22	
Chloromethane	<1.000	50.00	44.97	90	62-131	ug/L	06/23/14 21:22	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	45.51	91	56-126	ug/L	06/23/14 21:22	
Vinyl Chloride	<1.000	50.00	45.91	92	64-132	ug/L	06/23/14 21:22	
Bromomethane	<1.000	50.00	46.87	94	40-147	ug/L	06/23/14 21:22	
Chloroethane	<1.000	50.00	46.39	93	59-132	ug/L	06/23/14 21:22	
Acetone	<10.00	50.00	53.98	108	53-146	ug/L	06/23/14 21:22	
Cyclohexane	<10.00	50.00	46.21	92	46-150	ug/L	06/23/14 21:22	
Trichlorofluoromethane	<5.000	50.00	44.94	90	45-130	ug/L	06/23/14 21:22	
1,1-Dichloroethene	<1.000	50.00	45.90	92	59-123	ug/L	06/23/14 21:22	
Methylene Chloride	<1.000	50.00	46.51	93	61-126	ug/L	06/23/14 21:22	
trans-1,2-Dichloroethene	<1.000	50.00	46.69	93	58-134	ug/L	06/23/14 21:22	
Methyl-t-butyl ether	<1.000	50.00	46.80	94	30-168	ug/L	06/23/14 21:22	
1,1-Dichloroethane	<1.000	50.00	46.80	94	51-136	ug/L	06/23/14 21:22	
2-Butanone (MEK)	<10.00	50.00	46.33	93	56-133	ug/L	06/23/14 21:22	
cis-1,2-Dichloroethene	<1.000	50.00	47.11	94	77-119	ug/L	06/23/14 21:22	
Bromochloromethane	<1.000	50.00	47.26	95	71-122	ug/L	06/23/14 21:22	
Chloroform	<1.000	50.00	46.66	93	71-118	ug/L	06/23/14 21:22	
1,1,1-Trichloroethane	<1.000	50.00	46.75	94	66-133	ug/L	06/23/14 21:22	
1,2-Dichloroethane	<1.000	50.00	46.49	93	64-130	ug/L	06/23/14 21:22	
Carbon Tetrachloride	<1.000	50.00	47.28	95	74-127	ug/L	06/23/14 21:22	
Benzene	<1.000	50.00	47.52	95	77-122	ug/L	06/23/14 21:22	
1,2-Dichloropropane	<1.000	50.00	47.84	96	75-125	ug/L	06/23/14 21:22	
Methyl Acetate	<10.00	50.00	49.21	98	47-145	ug/L	06/23/14 21:22	
Methylcyclohexane	<10.00	50.00	47.05	94	61-155	ug/L	06/23/14 21:22	
Trichloroethene	<1.000	50.00	47.68	95	72-127	ug/L	06/23/14 21:22	
Carbon Disulfide	<10.00	50.00	48.33	97	62-134	ug/L	06/23/14 21:22	
Bromodichloromethane	<1.000	50.00	49.86	100	76-122	ug/L	06/23/14 21:22	
cis-1,3-Dichloropropene	<1.000	50.00	43.71	87	74-123	ug/L	06/23/14 21:22	
4-Methyl-2-Pentanone	<5.000	50.00	49.47	99	45-145	ug/L	06/23/14 21:22	
trans-1,3-Dichloropropene	<1.000	50.00	42.97	86	73-116	ug/L	06/23/14 21:22	
1,1,2-Trichloroethane	<1.000	50.00	47.14	94	72-128	ug/L	06/23/14 21:22	
Toluene	<1.000	50.00	47.22	94	77-123	ug/L	06/23/14 21:22	
2-Hexanone	<10.00	50.00	47.46	95	56-134	ug/L	06/23/14 21:22	
1,2-Dibromoethane (EDB)	<1.000	50.00	47.46	95	78-121	ug/L	06/23/14 21:22	
Dibromochloromethane	<1.000	50.00	44.31	89	75-114	ug/L	06/23/14 21:22	
Bromoform	<5.000	50.00	41.62	83	69-115	ug/L	06/23/14 21:22	
Tetrachloroethene	<1.000	50.00	46.13	92	78-113	ug/L	06/23/14 21:22	
Chlorobenzene	<1.000	50.00	46.27	93	76-116	ug/L	06/23/14 21:22	
Ethylbenzene	<1.000	50.00	48.24	96	79-122	ug/L	06/23/14 21:22	
m,p-Xylenes	<2.000	100	97.32	97	78-119	ug/L	06/23/14 21:22	
Styrene	<1.000	50.00	50.13	100	73-118	ug/L	06/23/14 21:22	
1,1,2,2-Tetrachloroethane	<1.000	50.00	46.00	92	71-126	ug/L	06/23/14 21:22	
o-Xylene	<1.000	50.00	49.40	99	79-123	ug/L	06/23/14 21:22	
Isopropylbenzene	<1.000	50.00	49.37	99	80-128	ug/L	06/23/14 21:22	
1,3-Dichlorobenzene	<1.000	50.00	46.92	94	80-122	ug/L	06/23/14 21:22	
1,4-Dichlorobenzene	<1.000	50.00	45.80	92	77-118	ug/L	06/23/14 21:22	
1,2-Dichlorobenzene	<1.000	50.00	48.26	97	80-122	ug/L	06/23/14 21:22	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	54.23	108	59-135	ug/L	06/23/14 21:22	
1,2,4-Trichlorobenzene	<1.000	50.00	48.47	97	72-143	ug/L	06/23/14 21:22	
Naphthalene	<1.000	50.00	48.79	98	46-154	ug/L	06/23/14 21:22	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062309

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114792 Matrix: Water Date Prep: 06/23/14

MB Sample Id: 50931-1-BLK LCS Sample Id: 50931-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	51.90	104	66-140	ug/L	06/23/14 21:22	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	98		100		84-110	%	06/23/14 21:22
Toluene-D8	100		101		94-109	%	06/23/14 21:22
4-Bromofluorobenzene	103		99		81-133	%	06/23/14 21:22

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

CHAIN OF CUSTODY RECORD 140623O9

Project Number:	Site and Location:
E0003705	Kop-Flex Hanover, MD
Contact Name: E. Johnson	**Contact Email:**
Sampler's Name: E. Johnson/R. Wallace	**Sampler's Signature:**

Matrices: S = Soil; Aq = Water; A = Air: Bu = Bulk; W = Wipe; Bi = Biota; OW = Oily Waste; O = Other

	Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	VOCs (EPA 8260)									Remarks
							Requested Analyses									Nº
1	MW-25D (151-156)	151-156	06/23/14	1054	AQ	3	X									All samples cooled w/ ice
2	MW-25 (163-166)	163-166	"	1310	"	3	X									
3	Trip Blank	—	"	0800	"	2	X									24 hr. TAT (*)

# of Coolers: 1
Custody Seal: ABS
Ice Present: YES Temp: 11°C
Shipping Carrier: CLIENT

Relinquished by *(Signature)*:	06/23/2014 1320 Date | Time	Received by *(Signature)*:	Laboratory Name: Phase Separation Science
Relinquished by *(Signature)*:	6/23/14 1430 Date | Time	Received by *(Signature)*:	Laboratory Location: Baltimore MD
Turn-Around Time: < 24 hours (*)		Tracking Number: —	Custody Seal Numbers: — Method of Shipment: WSP delivery

WSP Environment & Energy

- ☒ Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
- ☐ Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
- ☐ San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
- ☐ New Jersey Office: 200 Cottontail Ln., Somerset, NJ 08873 / Tel: 732-564-0888
- ☐ Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
- ☐ Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
- ☐ Woburn Office: 300 Trade Center, Suite 4690, Woburn, MA 01801
- ☐ Cazenovia Office: 5 Sullivan St., Cazenovia, NY 13035 / Tel: 315-655-3900

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14062309	**Received By**	Rachel Davis
Client Name	WSP Environment & Energy - Restor	**Date Received**	06/23/2014 02:30:00 PM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	E0003705	**Tracking No**	Not Applicable
Disposal Date	07/28/2014	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	11
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 3

Total No. of Containers Received 8

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Container labels for COC sample MW-25(163-166) read MW-25D(163-166).

Samples Inspected/Checklist Completed By:  Date: 06/23/2014

Rachel Davis

PM Review and Approval:  Date: 06/23/2014

Simon Crisp

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14062412

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : E0003705

June 25, 2014

Phase Separation Science, Inc.

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Baltimore, MD 21228
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PHASE SEPARATION SCIENCE, INC.

June 25, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14062412**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: E0003705

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14062412**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on July 29, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Cathy Thompson
QA Officer

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14062412

Project ID: E0003705

The following samples were received under chain of custody by Phase Separation Science (PSS) on 06/24/2014 at 02:20 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14062412-001	TB062414	WATER	06/24/14 08:35
14062412-002	MW-25D (173-176)	WATER	06/24/14 08:35
14062412-003	MW-25D (181-184)	WATER	06/24/14 09:25
14062412-004	MW-25D (191-196)	WATER	06/24/14 12:09

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062412

WSP Environment & Energy - Reston, Reston, VA

June 25, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: TB062414 **Date/Time Sampled: 06/24/2014 08:35** **PSS Sample ID: 14062412-001**
Matrix: WATER **Date/Time Received: 06/24/2014 14:20**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Chloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Vinyl Chloride	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Bromomethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Chloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Acetone	ND	ug/L	10		1	06/24/14	06/24/14 14:59	1011
Cyclohexane	ND	ug/L	10		1	06/24/14	06/24/14 14:59	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	06/24/14	06/24/14 14:59	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Methylene Chloride	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
2-Butanone (MEK)	ND	ug/L	10		1	06/24/14	06/24/14 14:59	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Bromochloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Chloroform	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Benzene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Methyl Acetate	ND	ug/L	10		1	06/24/14	06/24/14 14:59	1011
Methylcyclohexane	ND	ug/L	10		1	06/24/14	06/24/14 14:59	1011
Trichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Carbon Disulfide	ND	ug/L	10		1	06/24/14	06/24/14 14:59	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/24/14	06/24/14 14:59	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062412

WSP Environment & Energy - Reston, Reston, VA

June 25, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: TB062414 **Date/Time Sampled: 06/24/2014 08:35** **PSS Sample ID: 14062412-001**
Matrix: WATER **Date/Time Received: 06/24/2014 14:20**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Toluene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
2-Hexanone	ND	ug/L	10		1	06/24/14	06/24/14 14:59	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Bromoform	ND	ug/L	5.0		1	06/24/14	06/24/14 14:59	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Chlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Ethylbenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
m,p-Xylenes	ND	ug/L	2.0		1	06/24/14	06/24/14 14:59	1011
Styrene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
o-Xylene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/24/14	06/24/14 14:59	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
Naphthalene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 14:59	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062412

WSP Environment & Energy - Reston, Reston, VA

June 25, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (173-176) **Date/Time Sampled: 06/24/2014 08:35** **PSS Sample ID: 14062412-002**
Matrix: WATER **Date/Time Received: 06/24/2014 14:20**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Chloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Vinyl Chloride	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Bromomethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Chloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Acetone	ND	ug/L	10		1	06/24/14	06/24/14 15:27	1011
Cyclohexane	ND	ug/L	10		1	06/24/14	06/24/14 15:27	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	06/24/14	06/24/14 15:27	1011
1,1-Dichloroethene	**56**	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Methylene Chloride	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
1,1-Dichloroethane	**13**	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
2-Butanone (MEK)	ND	ug/L	10		1	06/24/14	06/24/14 15:27	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Bromochloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Chloroform	**2.2**	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
1,1,1-Trichloroethane	**15**	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Benzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Methyl Acetate	ND	ug/L	10		1	06/24/14	06/24/14 15:27	1011
Methylcyclohexane	ND	ug/L	10		1	06/24/14	06/24/14 15:27	1011
Trichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Carbon Disulfide	ND	ug/L	10		1	06/24/14	06/24/14 15:27	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/24/14	06/24/14 15:27	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062412

WSP Environment & Energy - Reston, Reston, VA

June 25, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (173-176) **Date/Time Sampled: 06/24/2014 08:35** **PSS Sample ID: 14062412-002**
Matrix: WATER **Date/Time Received: 06/24/2014 14:20**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Toluene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
2-Hexanone	ND	ug/L	10		1	06/24/14	06/24/14 15:27	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Bromoform	ND	ug/L	5.0		1	06/24/14	06/24/14 15:27	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Chlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Ethylbenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
m,p-Xylenes	ND	ug/L	2.0		1	06/24/14	06/24/14 15:27	1011
Styrene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
o-Xylene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/24/14	06/24/14 15:27	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
Naphthalene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:27	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062412

WSP Environment & Energy - Reston, Reston, VA

June 25, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (181-184) **Date/Time Sampled: 06/24/2014 09:25** **PSS Sample ID: 14062412-003**
Matrix: WATER **Date/Time Received: 06/24/2014 14:20**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Chloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Vinyl Chloride	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Bromomethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Chloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Acetone	ND	ug/L	10		1	06/24/14	06/24/14 15:55	1011
Cyclohexane	ND	ug/L	10		1	06/24/14	06/24/14 15:55	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	06/24/14	06/24/14 15:55	1011
1,1-Dichloroethene	**5.6**	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Methylene Chloride	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
1,1-Dichloroethane	**1.7**	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
2-Butanone (MEK)	ND	ug/L	10		1	06/24/14	06/24/14 15:55	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Bromochloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Chloroform	**3.4**	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
1,1,1-Trichloroethane	**1.3**	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Benzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Methyl Acetate	ND	ug/L	10		1	06/24/14	06/24/14 15:55	1011
Methylcyclohexane	ND	ug/L	10		1	06/24/14	06/24/14 15:55	1011
Trichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Carbon Disulfide	ND	ug/L	10		1	06/24/14	06/24/14 15:55	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/24/14	06/24/14 15:55	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062412

WSP Environment & Energy - Reston, Reston, VA

June 25, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (181-184) **Date/Time Sampled: 06/24/2014 09:25** **PSS Sample ID: 14062412-003**
Matrix: WATER **Date/Time Received: 06/24/2014 14:20**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Toluene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
2-Hexanone	ND	ug/L	10		1	06/24/14	06/24/14 15:55	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Bromoform	ND	ug/L	5.0		1	06/24/14	06/24/14 15:55	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Chlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Ethylbenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
m,p-Xylenes	ND	ug/L	2.0		1	06/24/14	06/24/14 15:55	1011
Styrene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
o-Xylene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/24/14	06/24/14 15:55	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
Naphthalene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 15:55	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062412

WSP Environment & Energy - Reston, Reston, VA

June 25, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (191-196) **Date/Time Sampled: 06/24/2014 12:09** **PSS Sample ID: 14062412-004**
Matrix: WATER **Date/Time Received: 06/24/2014 14:20**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Chloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Vinyl Chloride	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Bromomethane	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Chloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Acetone	ND	ug/L	10		1	06/24/14	06/24/14 16:23	1011
Cyclohexane	ND	ug/L	10		1	06/24/14	06/24/14 16:23	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	06/24/14	06/24/14 16:23	1011
1,1-Dichloroethene	**17**	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Methylene Chloride	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
1,1-Dichloroethane	**4.3**	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
2-Butanone (MEK)	ND	ug/L	10		1	06/24/14	06/24/14 16:23	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Bromochloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Chloroform	**1.7**	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
1,1,1-Trichloroethane	**5.8**	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Benzene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Methyl Acetate	ND	ug/L	10		1	06/24/14	06/24/14 16:23	1011
Methylcyclohexane	ND	ug/L	10		1	06/24/14	06/24/14 16:23	1011
Trichloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Carbon Disulfide	ND	ug/L	10		1	06/24/14	06/24/14 16:23	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/24/14	06/24/14 16:23	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062412

WSP Environment & Energy - Reston, Reston, VA

June 25, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (191-196) **Date/Time Sampled: 06/24/2014 12:09** **PSS Sample ID: 14062412-004**
Matrix: WATER **Date/Time Received: 06/24/2014 14:20**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Toluene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
2-Hexanone	ND	ug/L	10		1	06/24/14	06/24/14 16:23	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Bromoform	ND	ug/L	5.0		1	06/24/14	06/24/14 16:23	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Chlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Ethylbenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
m,p-Xylenes	ND	ug/L	2.0		1	06/24/14	06/24/14 16:23	1011
Styrene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
o-Xylene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/24/14	06/24/14 16:23	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
Naphthalene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/24/14	06/24/14 16:23	1011

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14062412
Project ID: E0003705

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

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

Sample Receipt:

All sample receipt conditions were acceptable.

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

Analytical Data Package Information Summary

Work Order(s): **14062412**
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	TB062414	Initial	14062412-001	1011	W	50953	114829	06/24/2014	06/24/2014 08:00	06/24/2014 14:59
	MW-25D (173-176)	Initial	14062412-002	1011	W	50953	114829	06/24/2014	06/24/2014 08:00	06/24/2014 15:27
	MW-25D (181-184)	Initial	14062412-003	1011	W	50953	114829	06/24/2014	06/24/2014 08:00	06/24/2014 15:55
	MW-25D (191-196)	Initial	14062412-004	1011	W	50953	114829	06/24/2014	06/24/2014 08:00	06/24/2014 16:23
	50953-1-BKS	BKS	50953-1-BKS	1011	W	50953	114829	--------	06/24/2014 08:00	06/24/2014 07:32
	50953-1-BLK	BLK	50953-1-BLK	1011	W	50953	114829	--------	06/24/2014 08:00	06/24/2014 08:28
	MW8D S	MS	14061914-009 S	1011	W	50953	114829	06/18/2014	06/24/2014 08:00	06/24/2014 13:29
	MW8 SD	MSD	14061914-009 SD	1011	W	50953	114829	06/18/2014	06/24/2014 08:00	06/24/2014 13:57

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062412

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114829 Matrix: Water Date Prep: 06/24/2014
PSS Sample ID: 14062412-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	99		84-110	%	06/24/14 14:59
Toluene-D8	100		94-109	%	06/24/14 14:59
4-Bromofluorobenzene	104		81-133	%	06/24/14 14:59

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114829 Matrix: Water Date Prep: 06/24/2014
PSS Sample ID: 14062412-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	99		84-110	%	06/24/14 15:27
Toluene-D8	100		94-109	%	06/24/14 15:27
4-Bromofluorobenzene	103		81-133	%	06/24/14 15:27

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114829 Matrix: Water Date Prep: 06/24/2014
PSS Sample ID: 14062412-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	98		84-110	%	06/24/14 15:55
Toluene-D8	99		94-109	%	06/24/14 15:55
4-Bromofluorobenzene	103		81-133	%	06/24/14 15:55

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114829 Matrix: Water Date Prep: 06/24/2014
PSS Sample ID: 14062412-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	99		84-110	%	06/24/14 16:23
Toluene-D8	100		94-109	%	06/24/14 16:23
4-Bromofluorobenzene	105		81-133	%	06/24/14 16:23

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062412

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114829 Matrix: Water Date Prep: 06/24/14

MB Sample Id: 50953-1-BLK LCS Sample Id: 50953-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	45.32	91	54-139	ug/L	06/24/14 07:32	
Chloromethane	<1.000	50.00	46.81	94	62-131	ug/L	06/24/14 07:32	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	48.87	98	56-126	ug/L	06/24/14 07:32	
Vinyl Chloride	<1.000	50.00	48.69	97	64-132	ug/L	06/24/14 07:32	
Bromomethane	<1.000	50.00	49.42	99	40-147	ug/L	06/24/14 07:32	
Chloroethane	<1.000	50.00	47.63	95	59-132	ug/L	06/24/14 07:32	
Acetone	<10.00	50.00	58.87	118	53-146	ug/L	06/24/14 07:32	
Cyclohexane	<10.00	50.00	48.47	97	46-150	ug/L	06/24/14 07:32	
Trichlorofluoromethane	<5.000	50.00	48.54	97	45-130	ug/L	06/24/14 07:32	
1,1-Dichloroethene	<1.000	50.00	49.05	98	59-123	ug/L	06/24/14 07:32	
Methylene Chloride	<1.000	50.00	48.51	97	61-126	ug/L	06/24/14 07:32	
trans-1,2-Dichloroethene	<1.000	50.00	49.37	99	58-134	ug/L	06/24/14 07:32	
Methyl-t-butyl ether	<1.000	50.00	46.37	93	30-168	ug/L	06/24/14 07:32	
1,1-Dichloroethane	<1.000	50.00	49.09	98	51-136	ug/L	06/24/14 07:32	
2-Butanone (MEK)	<10.00	50.00	46.09	92	56-133	ug/L	06/24/14 07:32	
cis-1,2-Dichloroethene	<1.000	50.00	47.53	95	77-119	ug/L	06/24/14 07:32	
Bromochloromethane	<1.000	50.00	47.01	94	71-122	ug/L	06/24/14 07:32	
Chloroform	<1.000	50.00	46.82	94	71-118	ug/L	06/24/14 07:32	
1,1,1-Trichloroethane	<1.000	50.00	47.37	95	66-133	ug/L	06/24/14 07:32	
1,2-Dichloroethane	<1.000	50.00	46.05	92	64-130	ug/L	06/24/14 07:32	
Carbon Tetrachloride	<1.000	50.00	48.98	98	74-127	ug/L	06/24/14 07:32	
Benzene	<1.000	50.00	47.39	95	77-122	ug/L	06/24/14 07:32	
1,2-Dichloropropane	<1.000	50.00	47.74	95	75-125	ug/L	06/24/14 07:32	
Methyl Acetate	<10.00	50.00	47.99	96	47-145	ug/L	06/24/14 07:32	
Methylcyclohexane	<10.00	50.00	48.79	98	61-155	ug/L	06/24/14 07:32	
Trichloroethene	<1.000	50.00	48.39	97	72-127	ug/L	06/24/14 07:32	
Carbon Disulfide	<10.00	50.00	51.33	103	62-134	ug/L	06/24/14 07:32	
Bromodichloromethane	<1.000	50.00	49.88	100	76-122	ug/L	06/24/14 07:32	
cis-1,3-Dichloropropene	<1.000	50.00	42.34	85	74-123	ug/L	06/24/14 07:32	
4-Methyl-2-Pentanone	<5.000	50.00	48.40	97	45-145	ug/L	06/24/14 07:32	
trans-1,3-Dichloropropene	<1.000	50.00	41.25	83	73-116	ug/L	06/24/14 07:32	
1,1,2-Trichloroethane	<1.000	50.00	46.73	93	72-128	ug/L	06/24/14 07:32	
Toluene	<1.000	50.00	48.13	96	77-123	ug/L	06/24/14 07:32	
2-Hexanone	<10.00	50.00	46.50	93	56-134	ug/L	06/24/14 07:32	
1,2-Dibromoethane (EDB)	<1.000	50.00	47.20	94	78-121	ug/L	06/24/14 07:32	
Dibromochloromethane	<1.000	50.00	44.73	89	75-114	ug/L	06/24/14 07:32	
Bromoform	<5.000	50.00	40.87	82	69-115	ug/L	06/24/14 07:32	
Tetrachloroethene	<1.000	50.00	46.65	93	78-113	ug/L	06/24/14 07:32	
Chlorobenzene	<1.000	50.00	46.59	93	76-116	ug/L	06/24/14 07:32	
Ethylbenzene	<1.000	50.00	48.87	98	79-122	ug/L	06/24/14 07:32	
m,p-Xylenes	<2.000	100	98.95	99	78-119	ug/L	06/24/14 07:32	
Styrene	<1.000	50.00	50.38	101	73-118	ug/L	06/24/14 07:32	
1,1,2,2-Tetrachloroethane	<1.000	50.00	44.88	90	71-126	ug/L	06/24/14 07:32	
o-Xylene	<1.000	50.00	50.08	100	79-123	ug/L	06/24/14 07:32	
Isopropylbenzene	<1.000	50.00	49.68	99	80-128	ug/L	06/24/14 07:32	
1,3-Dichlorobenzene	<1.000	50.00	46.50	93	80-122	ug/L	06/24/14 07:32	
1,4-Dichlorobenzene	<1.000	50.00	44.66	89	77-118	ug/L	06/24/14 07:32	
1,2-Dichlorobenzene	<1.000	50.00	47.37	95	80-122	ug/L	06/24/14 07:32	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	50.67	101	59-135	ug/L	06/24/14 07:32	
1,2,4-Trichlorobenzene	<1.000	50.00	45.94	92	72-143	ug/L	06/24/14 07:32	
Naphthalene	<1.000	50.00	44.80	90	46-154	ug/L	06/24/14 07:32	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062412

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114829 Matrix: Water Date Prep: 06/24/14

MB Sample Id: 50953-1-BLK LCS Sample Id: 50953-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	48.21	96	66-140	ug/L	06/24/14 07:32	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	98		101		84-110	%	06/24/14 07:32
Toluene-D8	99		101		94-109	%	06/24/14 07:32
4-Bromofluorobenzene	104		98		81-133	%	06/24/14 07:32

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

CHAIN OF CUSTODY RECORD 14062412

Page 1 of 1

Nº 03957

Project Number:	Site and Location:
E0003705	Kop-Flex Hanover, MD

Contact Name:	Contact Email:
E. Johnson	

Sampler's Name:	Sampler's Signature:
E. Johnson / R. Wallace	

Matrices: S = Soil; Aq = Water; A = Air: Bu = Bulk; W = Wipe; Bi = Biota; OW = Oily Waste; O = Other

Requested Analyses

Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	VOCs (8260)	Remarks
TB062414	—	06/24/14	0835	AQ	3	X	
MW-25D (173-176)	173'-176'	06/23/14	1550	AQ	3	X	VOC detection during field screening
MW-25D (181-184)	181'-184'	06/24/14	0952	AQ	3	X	All samples cooled w/ ice
MW-25D (191-196)	191'-196'	06/24/14	1209	AQ	3	X	24-hour TAT for all samples

# of Coolers: 1
Custody Seal: ABS
Ice Present: PRES Temp: 9°C
Shipping Carrier: CLIENT

Relinquished by (Signature):	Date / Time	Received by (Signature):
R. Wallace	6/24 1420	
Relinquished by (Signature):	Date / Time	Received by (Signature):
Turn-Around Time: 24-hours ⊛		Tracking Number: —

Laboratory Name: Phase Separation Science
Laboratory Location: Baltimore MD
Custody Seal Numbers: —
Method of Shipment: WSP Delivery

WSP
WSP Environment & Energy

☒ Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
☐ Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
☐ San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
☐ New Jersey Office: 334 Elizabeth Ave., Somerset, NJ 08873 / Tel: 732-564-0888
☐ Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
☐ Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
☐ Boxborough Office: 1740 Massachusetts Ave., Boxborough, MA 01719 / Tel: 978-635-9600
☐ Cazenovia Office: 5 Sullivan St., Cazenovia, NY 13035 / Tel: 315-655-3900

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14062412	**Received By**	Lynn Jackson
Client Name	WSP Environment & Energy - Restor	**Date Received**	06/24/2014 02:20:00 PM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	E0003705	**Tracking No**	Not Applicable
Disposal Date	07/29/2014	**Logged In By**	Lynn Jackson

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	9
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 4

Total No. of Containers Received 12

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Samples Inspected/Checklist Completed By: N L Jackson — Date: 06/24/2014

Lynn Jackson

PM Review and Approval: — Date: 06/24/2014

Simon Crisp

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14062512

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project ID : 39196

June 26, 2014

Phase Separation Science, Inc.

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Baltimore, MD 21228
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PHASE SEPARATION SCIENCE, INC.

June 26, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14062512**
Project Name: Kop-Flex
Project Location: N/A
Project ID.: 39196

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14062512**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on July 30, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Cathy Thompson
QA Officer

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14062512

Project ID: 39196

The following samples were received under chain of custody by Phase Separation Science (PSS) on 06/25/2014 at 11:17 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14062512-001	MW-25D (241-246)	WATER	06/25/14 09:34
14062512-002	Trip Blank	WATER	06/25/14 10:30

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062512

WSP Environment & Energy - Reston, Reston, VA

June 26, 2014

Project Name: Kop-Flex

Project ID: 39196

Sample ID: MW-25D (241-246) **Date/Time Sampled: 06/25/2014 09:34** **PSS Sample ID: 14062512-001**

Matrix: WATER **Date/Time Received: 06/25/2014 11:17**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Chloromethane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Vinyl Chloride	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Bromomethane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Chloroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Acetone	ND	ug/L	10		1	06/25/14	06/25/14 14:10	1014
Cyclohexane	ND	ug/L	10		1	06/25/14	06/25/14 14:10	1014
Trichlorofluoromethane	ND	ug/L	5.0		1	06/25/14	06/25/14 14:10	1014
1,1-Dichloroethene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Methylene Chloride	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
1,1-Dichloroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
2-Butanone (MEK)	ND	ug/L	10		1	06/25/14	06/25/14 14:10	1014
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Bromochloromethane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Chloroform	**3.4**	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
1,2-Dichloroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Carbon Tetrachloride	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Benzene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
1,2-Dichloropropane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Methyl Acetate	ND	ug/L	10		1	06/25/14	06/25/14 14:10	1014
Methylcyclohexane	ND	ug/L	10		1	06/25/14	06/25/14 14:10	1014
Trichloroethene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Carbon Disulfide	ND	ug/L	10		1	06/25/14	06/25/14 14:10	1014
Bromodichloromethane	**1.2**	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/25/14	06/25/14 14:10	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062512

WSP Environment & Energy - Reston, Reston, VA

June 26, 2014

Project Name: Kop-Flex

Project ID: 39196

Sample ID: MW-25D (241-246) **Date/Time Sampled: 06/25/2014 09:34** **PSS Sample ID: 14062512-001**

Matrix: WATER **Date/Time Received: 06/25/2014 11:17**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Toluene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
2-Hexanone	ND	ug/L	10		1	06/25/14	06/25/14 14:10	1014
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Dibromochloromethane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Bromoform	ND	ug/L	5.0		1	06/25/14	06/25/14 14:10	1014
Tetrachloroethene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Chlorobenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Ethylbenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
m,p-Xylenes	ND	ug/L	2.0		1	06/25/14	06/25/14 14:10	1014
Styrene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
o-Xylene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Isopropylbenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/25/14	06/25/14 14:10	1014
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
Naphthalene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 14:10	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062512

WSP Environment & Energy - Reston, Reston, VA

June 26, 2014

Project Name: Kop-Flex

Project ID: 39196

Sample ID: Trip Blank **Date/Time Sampled: 06/25/2014 10:30** **PSS Sample ID: 14062512-002**

Matrix: WATER **Date/Time Received: 06/25/2014 11:17**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Chloromethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Vinyl Chloride	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Bromomethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Chloroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Acetone	ND	ug/L	10		1	06/25/14	06/25/14 13:35	1014
Cyclohexane	ND	ug/L	10		1	06/25/14	06/25/14 13:35	1014
Trichlorofluoromethane	ND	ug/L	5.0		1	06/25/14	06/25/14 13:35	1014
1,1-Dichloroethene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Methylene Chloride	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
1,1-Dichloroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
2-Butanone (MEK)	ND	ug/L	10		1	06/25/14	06/25/14 13:35	1014
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Bromochloromethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Chloroform	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
1,2-Dichloroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Carbon Tetrachloride	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Benzene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
1,2-Dichloropropane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Methyl Acetate	ND	ug/L	10		1	06/25/14	06/25/14 13:35	1014
Methylcyclohexane	ND	ug/L	10		1	06/25/14	06/25/14 13:35	1014
Trichloroethene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Carbon Disulfide	ND	ug/L	10		1	06/25/14	06/25/14 13:35	1014
Bromodichloromethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/25/14	06/25/14 13:35	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062512

WSP Environment & Energy - Reston, Reston, VA

June 26, 2014

Project Name: Kop-Flex

Project ID: 39196

Sample ID: Trip Blank **Date/Time Sampled: 06/25/2014 10:30** **PSS Sample ID: 14062512-002**

Matrix: WATER **Date/Time Received: 06/25/2014 11:17**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Toluene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
2-Hexanone	ND	ug/L	10		1	06/25/14	06/25/14 13:35	1014
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Dibromochloromethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Bromoform	ND	ug/L	5.0		1	06/25/14	06/25/14 13:35	1014
Tetrachloroethene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Chlorobenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Ethylbenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
m,p-Xylenes	ND	ug/L	2.0		1	06/25/14	06/25/14 13:35	1014
Styrene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
o-Xylene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Isopropylbenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/25/14	06/25/14 13:35	1014
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
Naphthalene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/25/14	06/25/14 13:35	1014

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14062512
Project ID: 39196

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

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

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

TCL Volatile Organic Compounds

Batch: 114847

The internal area of 1,4-Dichlorobenzene was less than 50%.

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

Analytical Data Package Information Summary

Work Order(s): **14062512**
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	MW-25D (241-246)	Initial	14062512-001	1014	W	50963	114847	06/25/2014	06/25/2014 13:00	06/25/2014 14:10
	Trip Blank	Initial	14062512-002	1014	W	50963	114847	06/25/2014	06/25/2014 13:00	06/25/2014 13:35
	50963-1-BKS	BKS	50963-1-BKS	1014	W	50963	114847	--------	06/25/2014 10:05	06/25/2014 10:05
	50963-1-BLK	BLK	50963-1-BLK	1014	W	50963	114847	--------	06/25/2014 13:00	06/25/2014 13:00
	MW-25D (241-246) S	MS	14062512-001 S	1014	W	50963	114847	06/25/2014	06/25/2014 13:00	06/25/2014 20:38
	MW-25D (241-246) SD	MSD	14062512-001 SD	1014	W	50963	114847	06/25/2014	06/25/2014 13:00	06/25/2014 21:14

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062512

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114847 Matrix: Water Date Prep: 06/25/2014

PSS Sample ID: 14062512-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	101		84-110	%	06/25/14 14:10
Toluene-D8	100		94-109	%	06/25/14 14:10
4-Bromofluorobenzene	101		81-133	%	06/25/14 14:10

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

Seq Number: 114847 Matrix: Water Date Prep: 06/25/2014

PSS Sample ID: 14062512-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	100		84-110	%	06/25/14 13:35
Toluene-D8	98		94-109	%	06/25/14 13:35
4-Bromofluorobenzene	102		81-133	%	06/25/14 13:35

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062512

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114847 Matrix: Water Date Prep: 06/25/14

MB Sample Id: 50963-1-BLK LCS Sample Id: 50963-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	44.75	90	54-139	ug/L	06/25/14 10:05	
Chloromethane	<1.000	50.00	48.64	97	62-131	ug/L	06/25/14 10:05	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	40.63	81	56-126	ug/L	06/25/14 10:05	
Vinyl Chloride	<1.000	50.00	43.11	86	64-132	ug/L	06/25/14 10:05	
Bromomethane	<1.000	50.00	44.86	90	40-147	ug/L	06/25/14 10:05	
Chloroethane	<1.000	50.00	46.38	93	59-132	ug/L	06/25/14 10:05	
Acetone	<10.00	50.00	43.55	87	53-146	ug/L	06/25/14 10:05	
Cyclohexane	<10.00	50.00	42.11	84	46-150	ug/L	06/25/14 10:05	
Trichlorofluoromethane	<5.000	50.00	42.37	85	45-130	ug/L	06/25/14 10:05	
1,1-Dichloroethene	<1.000	50.00	42.15	84	59-123	ug/L	06/25/14 10:05	
Methylene Chloride	<1.000	50.00	47.15	94	61-126	ug/L	06/25/14 10:05	
trans-1,2-Dichloroethene	<1.000	50.00	48.08	96	58-134	ug/L	06/25/14 10:05	
Methyl-t-butyl ether	<1.000	50.00	41.27	83	30-168	ug/L	06/25/14 10:05	
1,1-Dichloroethane	<1.000	50.00	46.07	92	51-136	ug/L	06/25/14 10:05	
2-Butanone (MEK)	<10.00	50.00	46.91	94	56-133	ug/L	06/25/14 10:05	
cis-1,2-Dichloroethene	<1.000	50.00	49.30	99	77-119	ug/L	06/25/14 10:05	
Bromochloromethane	<1.000	50.00	45.90	92	71-122	ug/L	06/25/14 10:05	
Chloroform	<1.000	50.00	43.72	87	71-118	ug/L	06/25/14 10:05	
1,1,1-Trichloroethane	<1.000	50.00	43.89	88	66-133	ug/L	06/25/14 10:05	
1,2-Dichloroethane	<1.000	50.00	42.23	84	64-130	ug/L	06/25/14 10:05	
Carbon Tetrachloride	<1.000	50.00	43.44	87	74-127	ug/L	06/25/14 10:05	
Benzene	<1.000	50.00	49.07	98	77-122	ug/L	06/25/14 10:05	
1,2-Dichloropropane	<1.000	50.00	49.06	98	75-125	ug/L	06/25/14 10:05	
Methyl Acetate	<10.00	50.00	42.35	85	47-145	ug/L	06/25/14 10:05	
Methylcyclohexane	<10.00	50.00	43.36	87	61-155	ug/L	06/25/14 10:05	
Trichloroethene	<1.000	50.00	46.13	92	72-127	ug/L	06/25/14 10:05	
Carbon Disulfide	<10.00	50.00	49.94	100	62-134	ug/L	06/25/14 10:05	
Bromodichloromethane	<1.000	50.00	45.85	92	76-122	ug/L	06/25/14 10:05	
cis-1,3-Dichloropropene	<1.000	50.00	43.23	86	74-123	ug/L	06/25/14 10:05	
4-Methyl-2-Pentanone	<5.000	50.00	44.58	89	45-145	ug/L	06/25/14 10:05	
trans-1,3-Dichloropropene	<1.000	50.00	43.22	86	73-116	ug/L	06/25/14 10:05	
1,1,2-Trichloroethane	<1.000	50.00	46.54	93	72-128	ug/L	06/25/14 10:05	
Toluene	<1.000	50.00	46.06	92	77-123	ug/L	06/25/14 10:05	
2-Hexanone	<10.00	50.00	41.34	83	56-134	ug/L	06/25/14 10:05	
1,2-Dibromoethane (EDB)	<1.000	50.00	43.04	86	78-121	ug/L	06/25/14 10:05	
Dibromochloromethane	<1.000	50.00	42.54	85	75-114	ug/L	06/25/14 10:05	
Bromoform	<5.000	50.00	42.34	85	69-115	ug/L	06/25/14 10:05	
Tetrachloroethene	<1.000	50.00	44.19	88	78-113	ug/L	06/25/14 10:05	
Chlorobenzene	<1.000	50.00	48.71	97	76-116	ug/L	06/25/14 10:05	
Ethylbenzene	<1.000	50.00	45.09	90	79-122	ug/L	06/25/14 10:05	
m,p-Xylenes	<2.000	100	96.38	96	78-119	ug/L	06/25/14 10:05	
Styrene	<1.000	50.00	47.54	95	73-118	ug/L	06/25/14 10:05	
1,1,2,2-Tetrachloroethane	<1.000	50.00	39.92	80	71-126	ug/L	06/25/14 10:05	
o-Xylene	<1.000	50.00	46.29	93	79-123	ug/L	06/25/14 10:05	
Isopropylbenzene	<1.000	50.00	44.57	89	80-128	ug/L	06/25/14 10:05	
1,3-Dichlorobenzene	<1.000	50.00	48.53	97	80-122	ug/L	06/25/14 10:05	
1,4-Dichlorobenzene	<1.000	50.00	46.73	93	77-118	ug/L	06/25/14 10:05	
1,2-Dichlorobenzene	<1.000	50.00	43.25	87	80-122	ug/L	06/25/14 10:05	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	39.08	78	59-135	ug/L	06/25/14 10:05	
1,2,4-Trichlorobenzene	<1.000	50.00	37.31	75	72-143	ug/L	06/25/14 10:05	
Naphthalene	<1.000	50.00	35.48	71	46-154	ug/L	06/25/14 10:05	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062512

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114847 Matrix: Water Date Prep: 06/25/14

MB Sample Id: 50963-1-BLK LCS Sample Id: 50963-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	37.38	75	66-140	ug/L	06/25/14 10:05	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	99		96		84-110	%	06/25/14 10:05
Toluene-D8	98		99		94-109	%	06/25/14 10:05
4-Bromofluorobenzene	102		84		81-133	%	06/25/14 10:05

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062512

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114847 Matrix: Water Date Prep: 06/25/14

Parent Sample Id: 14062512-001 MS Sample Id: 14062512-001 S MSD Sample Id: 14062512-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	43.30	87	40.12	80	47-159	8	25	ug/L	06/25/14 20:38	
Chloromethane	<1.000	50.00	46.73	93	41.21	82	59-144	13	25	ug/L	06/25/14 20:38	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	42.52	85	40.56	81	47-139	5	25	ug/L	06/25/14 20:38	
Vinyl Chloride	<1.000	50.00	46.23	92	41.00	82	60-146	12	25	ug/L	06/25/14 20:38	
Bromomethane	<1.000	50.00	44.14	88	39.75	80	29-154	10	25	ug/L	06/25/14 20:38	
Chloroethane	<1.000	50.00	44.74	89	40.99	82	40-150	9	25	ug/L	06/25/14 20:38	
Acetone	<10.00	50.00	55.37	111	48.51	97	41-161	13	25	ug/L	06/25/14 20:38	
Cyclohexane	<10.00	50.00	45.03	90	42.40	85	34-161	6	25	ug/L	06/25/14 20:38	
Trichlorofluoromethane	<5.000	50.00	42.94	86	40.16	80	37-147	7	25	ug/L	06/25/14 20:38	
1,1-Dichloroethene	<1.000	50.00	41.76	84	39.00	78	50-136	7	25	ug/L	06/25/14 20:38	
Methylene Chloride	<1.000	50.00	46.42	93	43.97	88	56-137	5	25	ug/L	06/25/14 20:38	
trans-1,2-Dichloroethene	<1.000	50.00	48.64	97	45.39	91	54-144	7	25	ug/L	06/25/14 20:38	
Methyl-t-butyl ether	<1.000	50.00	41.67	83	39.66	79	22-182	5	25	ug/L	06/25/14 20:38	
1,1-Dichloroethane	<1.000	50.00	45.81	92	41.87	84	44-152	9	25	ug/L	06/25/14 20:38	
2-Butanone (MEK)	<10.00	50.00	49.03	98	45.37	91	47-140	8	25	ug/L	06/25/14 20:38	
cis-1,2-Dichloroethene	<1.000	50.00	48.56	97	44.87	90	76-127	8	25	ug/L	06/25/14 20:38	
Bromochloromethane	<1.000	50.00	45.94	92	43.03	86	67-130	7	25	ug/L	06/25/14 20:38	
Chloroform	3.430	50.00	46.81	87	43.49	80	67-130	7	25	ug/L	06/25/14 20:38	
1,1,1-Trichloroethane	<1.000	50.00	44.67	89	41.04	82	70-138	8	25	ug/L	06/25/14 20:38	
1,2-Dichloroethane	<1.000	50.00	41.26	83	38.86	78	60-142	6	25	ug/L	06/25/14 20:38	
Carbon Tetrachloride	<1.000	50.00	45.34	91	41.74	83	74-136	8	25	ug/L	06/25/14 20:38	
Benzene	<1.000	50.00	48.69	97	44.98	90	75-132	8	25	ug/L	06/25/14 20:38	
1,2-Dichloropropane	<1.000	50.00	47.97	96	44.32	89	70-139	8	25	ug/L	06/25/14 20:38	
Methyl Acetate	<10.00	50.00	39.93	80	38.33	77	37-143	4	25	ug/L	06/25/14 20:38	
Methylcyclohexane	<10.00	50.00	43.73	87	41.47	83	55-148	5	25	ug/L	06/25/14 20:38	
Trichloroethene	<1.000	50.00	45.31	91	42.27	85	67-139	7	25	ug/L	06/25/14 20:38	
Carbon Disulfide	<10.00	50.00	49.58	99	45.93	92	59-146	8	25	ug/L	06/25/14 20:38	
Bromodichloromethane	1.210	50.00	45.95	89	43.36	84	69-134	6	25	ug/L	06/25/14 20:38	
cis-1,3-Dichloropropene	<1.000	50.00	41.23	82	38.57	77	64-127	7	25	ug/L	06/25/14 20:38	
4-Methyl-2-Pentanone	<5.000	50.00	39.26	79	39.26	79	44-133	0	25	ug/L	06/25/14 20:38	
trans-1,3-Dichloropropene	<1.000	50.00	41.14	82	38.30	77	62-123	7	25	ug/L	06/25/14 20:38	
1,1,2-Trichloroethane	<1.000	50.00	46.52	93	43.73	87	65-143	6	25	ug/L	06/25/14 20:38	
Toluene	<1.000	50.00	45.06	90	41.81	84	74-132	7	25	ug/L	06/25/14 20:38	
2-Hexanone	<10.00	50.00	43.16	86	40.36	81	50-130	7	25	ug/L	06/25/14 20:38	
1,2-Dibromoethane (EDB)	<1.000	50.00	42.15	84	39.67	79	72-126	6	25	ug/L	06/25/14 20:38	
Dibromochloromethane	<1.000	50.00	42.50	85	39.52	79	73-114	7	25	ug/L	06/25/14 20:38	
Bromoform	<5.000	50.00	42.18	84	38.55	77	65-115	9	25	ug/L	06/25/14 20:38	
Tetrachloroethene	<1.000	50.00	45.13	90	42.02	84	69-126	7	25	ug/L	06/25/14 20:38	
Chlorobenzene	<1.000	50.00	47.22	94	43.33	87	78-115	9	25	ug/L	06/25/14 20:38	
Ethylbenzene	<1.000	50.00	44.32	89	40.40	81	74-129	9	25	ug/L	06/25/14 20:38	
m,p-Xylenes	<2.000	100	93.89	94	85.57	86	78-119	9	25	ug/L	06/25/14 20:38	
Styrene	<1.000	50.00	43.79	88	38.42	77	67-121	13	25	ug/L	06/25/14 20:38	
1,1,2,2-Tetrachloroethane	<1.000	50.00	40.27	81	39.13	78	68-127	3	25	ug/L	06/25/14 20:38	
o-Xylene	<1.000	50.00	44.73	89	37.93	76	80-123	16	25	ug/L	06/25/14 20:38	X
Isopropylbenzene	<1.000	50.00	44.00	88	42.20	84	72-130	4	25	ug/L	06/25/14 20:38	
1,3-Dichlorobenzene	<1.000	50.00	46.37	93	43.24	86	73-117	7	25	ug/L	06/25/14 20:38	
1,4-Dichlorobenzene	<1.000	50.00	45.11	90	42.53	85	72-111	6	25	ug/L	06/25/14 20:38	
1,2-Dichlorobenzene	<1.000	50.00	41.15	82	39.41	79	73-117	4	25	ug/L	06/25/14 20:38	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	39.06	78	36.90	74	45-125	6	25	ug/L	06/25/14 20:38	
1,2,4-Trichlorobenzene	<1.000	50.00	33.18	66	31.28	63	31-135	6	25	ug/L	06/25/14 20:38	
Naphthalene	<1.000	50.00	34.08	68	32.21	64	7-137	6	25	ug/L	06/25/14 20:38	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062512

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114847 Matrix: Water Date Prep: 06/25/14

Parent Sample Id: 14062512-001 MS Sample Id: 14062512-001 S MSD Sample Id: 14062512-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	34.45	69	31.81	64	9-139	8	25	ug/L	06/25/14 20:38	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	97		97		84-110	%	06/25/14 20:38
Toluene-D8	99		99		94-109	%	06/25/14 20:38
4-Bromofluorobenzene	85		86		81-133	%	06/25/14 20:38

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

CHAIN OF CUSTODY RECORD 1406252

Project Number:	Site and Location:
39196	Kop-Flex

Contact Name:	Contact Email:
~~Eric Johnson~~ Eric	Johnson@WSPgroup.com

Sampler's Name:	Sampler's Signature:
Rob Wallace	

Matrices:
S = Soil:
Aq = Water
A = Air: Bu = Bulk
W = Wipe
Bi = Biota:
OW = Oily Waste:
O = Other

Requested Analyses

Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	VOCs 8260									Nº Remarks
MW-25D (241-246')	241-246	6/25/14	0934	Aq	3	X									
Trip Blank	—	6/25/14	1030	Aq	2	X									

# of Coolers: 1
Custody Seal: ABS
Ice Present: Yes Temp: 12°
Shipping Carrier: Client

Relinquished by (Signature):	Date | Time	Received by (Signature):	Laboratory Name:
	6/26 11:17		Phase
Relinquished by (Signature):	Date | Time	Received by (Signature):	Laboratory Location: Baltimore
			Custody Seal Numbers:
Turn-Around Time: 24-hours		Tracking Number:	Method of Shipment: Delivery

WSP Environment & Energy

- [x] Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
- [ ] Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
- [ ] San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
- [ ] New Jersey Office: 200 Cottontail Ln., Somerset, NJ 08873 / Tel: 732-564-0888
- [ ] Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
- [ ] Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
- [ ] Woburn Office: 300 Trade Center, Suite 4690, Woburn, MA 01801
- [ ] Cazenovia Office: 5 Sullivan St., Cazenovia, NY 13035 / Tel: 315-655-3900

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14062512	**Received By**	Simon Crisp
Client Name	WSP Environment & Energy - Restor	**Date Received**	06/25/2014 11:17:00 AM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	39196	**Tracking No**	Not Applicable
Disposal Date	07/30/2014	**Logged In By**	Lynn Jackson

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	12
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 2

Total No. of Containers Received 5

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Samples Inspected/Checklist Completed By: N L Jackson — Date: 06/25/2014

Lynn Jackson

PM Review and Approval: — Date: 06/25/2014

Simon Crisp

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14062724

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : E0003705

July 2, 2014

Phase Separation Science, Inc.

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PHASE SEPARATION SCIENCE, INC.

July 2, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14062724**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: E0003705

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14062724**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on August 1, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14062724

Project ID: E0003705

The following samples were received under chain of custody by Phase Separation Science (PSS) on 06/27/2014 at 04:25 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14062724-001	Trip Blank	WATER	06/27/14 08:30
14062724-002	MW-25D (122-126)	WATER	06/27/14 09:35
14062724-003	MW-25D (131-136)	WATER	06/27/14 11:55

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062724

WSP Environment & Energy - Reston, Reston, VA

July 2, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: Trip Blank **Date/Time Sampled: 06/27/2014 08:30** **PSS Sample ID: 14062724-001**
Matrix: WATER **Date/Time Received: 06/27/2014 16:25**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Chloromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Vinyl Chloride	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Bromomethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Chloroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Acetone	ND	ug/L	10		1	06/28/14	06/29/14 00:28	1014
Cyclohexane	ND	ug/L	10		1	06/28/14	06/29/14 00:28	1014
Trichlorofluoromethane	ND	ug/L	5.0		1	06/28/14	06/29/14 00:28	1014
1,1-Dichloroethene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Methylene Chloride	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
1,1-Dichloroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
2-Butanone (MEK)	ND	ug/L	10		1	06/28/14	06/29/14 00:28	1014
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Bromochloromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Chloroform	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
1,2-Dichloroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Carbon Tetrachloride	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Benzene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
1,2-Dichloropropane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Methyl Acetate	ND	ug/L	10		1	06/28/14	06/29/14 00:28	1014
Methylcyclohexane	ND	ug/L	10		1	06/28/14	06/29/14 00:28	1014
Trichloroethene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Carbon Disulfide	ND	ug/L	10		1	06/28/14	06/29/14 00:28	1014
Bromodichloromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/28/14	06/29/14 00:28	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062724

WSP Environment & Energy - Reston, Reston, VA

July 2, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: Trip Blank **Date/Time Sampled: 06/27/2014 08:30** **PSS Sample ID: 14062724-001**
Matrix: WATER **Date/Time Received: 06/27/2014 16:25**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Toluene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
2-Hexanone	ND	ug/L	10		1	06/28/14	06/29/14 00:28	1014
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Dibromochloromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Bromoform	ND	ug/L	5.0		1	06/28/14	06/29/14 00:28	1014
Tetrachloroethene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Chlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Ethylbenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
m,p-Xylenes	ND	ug/L	2.0		1	06/28/14	06/29/14 00:28	1014
Styrene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
o-Xylene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Isopropylbenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/28/14	06/29/14 00:28	1014
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
Naphthalene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 00:28	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062724

WSP Environment & Energy - Reston, Reston, VA

July 2, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (122-126) **Date/Time Sampled: 06/27/2014 09:35** **PSS Sample ID: 14062724-002**
Matrix: WATER **Date/Time Received: 06/27/2014 16:25**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Chloromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Vinyl Chloride	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Bromomethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Chloroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Acetone	ND	ug/L	10		1	06/28/14	06/29/14 01:03	1014
Cyclohexane	ND	ug/L	10		1	06/28/14	06/29/14 01:03	1014
Trichlorofluoromethane	ND	ug/L	5.0		1	06/28/14	06/29/14 01:03	1014
1,1-Dichloroethene	**3,100**	ug/L	100		100	06/28/14	07/01/14 06:40	1014
Methylene Chloride	**1.4**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
1,1-Dichloroethane	**67**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
2-Butanone (MEK)	ND	ug/L	10		1	06/28/14	06/29/14 01:03	1014
cis-1,2-Dichloroethene	**8.6**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Bromochloromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Chloroform	**2.5**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
1,1,1-Trichloroethane	**110**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
1,2-Dichloroethane	**18**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Carbon Tetrachloride	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Benzene	**4.5**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
1,2-Dichloropropane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Methyl Acetate	ND	ug/L	10		1	06/28/14	06/29/14 01:03	1014
Methylcyclohexane	ND	ug/L	10		1	06/28/14	06/29/14 01:03	1014
Trichloroethene	**16**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Carbon Disulfide	ND	ug/L	10		1	06/28/14	06/29/14 01:03	1014
Bromodichloromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/28/14	06/29/14 01:03	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062724

WSP Environment & Energy - Reston, Reston, VA

July 2, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (122-126) **Date/Time Sampled: 06/27/2014 09:35** **PSS Sample ID: 14062724-002**
Matrix: WATER **Date/Time Received: 06/27/2014 16:25**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
1,1,2-Trichloroethane	**3.2**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Toluene	**6.0**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
2-Hexanone	ND	ug/L	10		1	06/28/14	06/29/14 01:03	1014
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Dibromochloromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Bromoform	ND	ug/L	5.0		1	06/28/14	06/29/14 01:03	1014
Tetrachloroethene	**2.2**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Chlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Ethylbenzene	**1.6**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
m,p-Xylenes	ND	ug/L	2.0		1	06/28/14	06/29/14 01:03	1014
Styrene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
o-Xylene	**1.2**	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Isopropylbenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/28/14	06/29/14 01:03	1014
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
Naphthalene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:03	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062724

WSP Environment & Energy - Reston, Reston, VA

July 2, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (131-136) **Date/Time Sampled: 06/27/2014 11:55** **PSS Sample ID: 14062724-003**
Matrix: WATER **Date/Time Received: 06/27/2014 16:25**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Chloromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Vinyl Chloride	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Bromomethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Chloroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Acetone	ND	ug/L	10		1	06/28/14	06/29/14 01:38	1014
Cyclohexane	ND	ug/L	10		1	06/28/14	06/29/14 01:38	1014
Trichlorofluoromethane	ND	ug/L	5.0		1	06/28/14	06/29/14 01:38	1014
1,1-Dichloroethene	**160**	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Methylene Chloride	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Methyl-t-butyl ether	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
1,1-Dichloroethane	**5.4**	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
2-Butanone (MEK)	ND	ug/L	10		1	06/28/14	06/29/14 01:38	1014
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Bromochloromethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Chloroform	**3.5**	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
1,1,1-Trichloroethane	**8.0**	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
1,2-Dichloroethane	**1.2**	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Carbon Tetrachloride	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Benzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
1,2-Dichloropropane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Methyl Acetate	ND	ug/L	10		1	06/28/14	06/29/14 01:38	1014
Methylcyclohexane	ND	ug/L	10		1	06/28/14	06/29/14 01:38	1014
Trichloroethene	**1.5**	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Carbon Disulfide	ND	ug/L	10		1	06/28/14	06/29/14 01:38	1014
Bromodichloromethane	**1.7**	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	06/28/14	06/29/14 01:38	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14062724

WSP Environment & Energy - Reston, Reston, VA

July 2, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-25D (131-136) **Date/Time Sampled: 06/27/2014 11:55** **PSS Sample ID: 14062724-003**
Matrix: WATER **Date/Time Received: 06/27/2014 16:25**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Toluene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
2-Hexanone	ND	ug/L	10		1	06/28/14	06/29/14 01:38	1014
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Dibromochloromethane	**1.2**	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Bromoform	ND	ug/L	5.0		1	06/28/14	06/29/14 01:38	1014
Tetrachloroethene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Chlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Ethylbenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
m,p-Xylenes	ND	ug/L	2.0		1	06/28/14	06/29/14 01:38	1014
Styrene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
o-Xylene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Isopropylbenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	06/28/14	06/29/14 01:38	1014
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
Naphthalene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/28/14	06/29/14 01:38	1014

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14062724
Project ID: E0003705

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

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

Sample Receipt:

All sample receipt conditions were acceptable.

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

Analytical Data Package Information Summary

Work Order(s): 14062724
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	Trip Blank	Initial	14062724-001	1014	W	51025	114952	06/27/2014	06/28/2014 00:00	06/29/2014 00:28
	MW-25D (122-126)	Initial	14062724-002	1014	W	51025	114952	06/27/2014	06/28/2014 00:00	06/29/2014 01:03
	MW-25D (131-136)	Initial	14062724-003	1014	W	51025	114952	06/27/2014	06/28/2014 00:00	06/29/2014 01:38
	51025-1-BKS	BKS	51025-1-BKS	1014	W	51025	114952	--------	06/28/2014 00:00	06/28/2014 21:32
	51025-1-BLK	BLK	51025-1-BLK	1014	W	51025	114952	--------	06/28/2014 00:00	06/28/2014 23:52
	51025-1-BSD	BSD	51025-1-BSD	1014	W	51025	114952	--------	06/28/2014 00:00	06/28/2014 22:08
	MW-25D (122-126) S	MS	14062724-002 S	1014	W	51025	114952	06/27/2014	06/28/2014 00:00	06/29/2014 06:53
	MW-25D (122-126) S	Reanalysis	14062724-002 S	1014	W	51025	114952	06/27/2014	06/28/2014 00:00	06/29/2014 06:53
	MW-25D (122-126) SD	MSD	14062724-002 SD	1014	W	51025	114952	06/27/2014	06/28/2014 00:00	06/29/2014 07:28
	MW-25D (122-126) SD	Reanalysis	14062724-002 SD	1014	W	51025	114952	06/27/2014	06/28/2014 00:00	06/29/2014 07:28
	51047-1-BKS	BKS	51047-1-BKS	1014	W	51047	114979	--------	06/30/2014 00:00	06/30/2014 22:28
	51047-1-BLK	BLK	51047-1-BLK	1014	W	51047	114979	--------	06/30/2014 00:00	07/01/2014 00:49
	51047-1-BSD	BSD	51047-1-BSD	1014	W	51047	114979	--------	06/30/2014 00:00	06/30/2014 23:03
	TPW1 S	MS	14062415-008 S	1014	W	51047	114979	06/23/2014	06/30/2014 00:00	07/01/2014 07:50
	TPW1 SD	MSD	14062415-008 SD	1014	W	51047	114979	06/23/2014	06/30/2014 00:00	07/01/2014 08:25
	MW-25D (122-126)	Reanalysis	14062724-002	1014	W	51025	114979	06/27/2014	06/28/2014 00:00	07/01/2014 06:40

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062724

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114952 Matrix: Water Date Prep: 06/28/2014
PSS Sample ID: 14062724-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		84-110	%	06/29/14 00:28
Toluene-D8	100		94-109	%	06/29/14 00:28
4-Bromofluorobenzene	103		81-133	%	06/29/14 00:28

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114952 Matrix: Water Date Prep: 06/28/2014
PSS Sample ID: 14062724-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	98		84-110	%	06/29/14 01:03
Toluene-D8	100		94-109	%	06/29/14 01:03
4-Bromofluorobenzene	101		81-133	%	06/29/14 01:03

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 114952 Matrix: Water Date Prep: 06/28/2014
PSS Sample ID: 14062724-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	100		84-110	%	06/29/14 01:38
Toluene-D8	100		94-109	%	06/29/14 01:38
4-Bromofluorobenzene	103		81-133	%	06/29/14 01:38

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062724

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114952 Matrix: Water Date Prep: 06/28/14

MB Sample Id: 51025-1-BLK LCS Sample Id: 51025-1-BKS LCSD Sample Id: 51025-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	55.78	112	51.58	103	54-139	8	20	ug/L	06/28/14 21:32	
Chloromethane	<1.000	50.00	47.77	96	45.70	91	62-131	4	20	ug/L	06/28/14 21:32	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	50.50	101	47.35	95	56-126	6	20	ug/L	06/28/14 21:32	
Vinyl Chloride	<1.000	50.00	53.32	107	49.72	99	64-132	7	20	ug/L	06/28/14 21:32	
Bromomethane	<1.000	50.00	48.42	97	47.50	95	40-147	2	20	ug/L	06/28/14 21:32	
Chloroethane	<1.000	50.00	47.68	95	47.00	94	59-132	1	20	ug/L	06/28/14 21:32	
Acetone	<10.00	50.00	46.61	93	51.08	102	53-146	9	20	ug/L	06/28/14 21:32	
Cyclohexane	<10.00	50.00	60.97	122	57.07	114	46-150	7	20	ug/L	06/28/14 21:32	
Trichlorofluoromethane	<5.000	50.00	56.54	113	53.22	106	45-130	6	20	ug/L	06/28/14 21:32	
1,1-Dichloroethene	<1.000	50.00	49.24	98	48.56	97	59-123	1	20	ug/L	06/28/14 21:32	
Methylene Chloride	<1.000	50.00	50.24	100	49.31	99	61-126	2	20	ug/L	06/28/14 21:32	
trans-1,2-Dichloroethene	<1.000	50.00	55.01	110	53.36	107	58-134	3	20	ug/L	06/28/14 21:32	
Methyl-t-butyl ether	<1.000	50.00	50.92	102	51.90	104	30-168	2	20	ug/L	06/28/14 21:32	
1,1-Dichloroethane	<1.000	50.00	50.99	102	49.92	100	51-136	2	20	ug/L	06/28/14 21:32	
2-Butanone (MEK)	<10.00	50.00	53.13	106	54.52	109	56-133	3	20	ug/L	06/28/14 21:32	
cis-1,2-Dichloroethene	<1.000	50.00	55.79	112	54.97	110	77-119	1	20	ug/L	06/28/14 21:32	
Bromochloromethane	<1.000	50.00	51.19	102	50.35	101	71-122	2	20	ug/L	06/28/14 21:32	
Chloroform	<1.000	50.00	50.43	101	49.90	100	71-118	1	20	ug/L	06/28/14 21:32	
1,1,1-Trichloroethane	<1.000	50.00	53.10	106	52.77	106	66-133	1	20	ug/L	06/28/14 21:32	
1,2-Dichloroethane	<1.000	50.00	51.20	102	50.70	101	64-130	1	20	ug/L	06/28/14 21:32	
Carbon Tetrachloride	<1.000	50.00	54.91	110	53.23	106	74-127	3	20	ug/L	06/28/14 21:32	
Benzene	<1.000	50.00	53.64	107	52.41	105	77-122	2	20	ug/L	06/28/14 21:32	
1,2-Dichloropropane	<1.000	50.00	50.69	101	48.97	98	75-125	3	20	ug/L	06/28/14 21:32	
Methyl Acetate	<10.00	50.00	46.70	93	49.18	98	47-145	5	20	ug/L	06/28/14 21:32	
Methylcyclohexane	<10.00	50.00	59.90	120	55.47	111	61-155	8	20	ug/L	06/28/14 21:32	
Trichloroethene	<1.000	50.00	53.60	107	52.60	105	72-127	2	20	ug/L	06/28/14 21:32	
Carbon Disulfide	<10.00	50.00	54.03	108	52.43	105	62-134	3	20	ug/L	06/28/14 21:32	
Bromodichloromethane	<1.000	50.00	53.87	108	52.63	105	76-122	2	20	ug/L	06/28/14 21:32	
cis-1,3-Dichloropropene	<1.000	50.00	48.42	97	47.78	96	74-123	1	20	ug/L	06/28/14 21:32	
4-Methyl-2-Pentanone	<5.000	50.00	50.55	101	55.18	110	45-145	9	20	ug/L	06/28/14 21:32	
trans-1,3-Dichloropropene	<1.000	50.00	49.00	98	48.27	97	73-116	2	20	ug/L	06/28/14 21:32	
1,1,2-Trichloroethane	<1.000	50.00	51.73	103	50.02	100	72-128	3	20	ug/L	06/28/14 21:32	
Toluene	<1.000	50.00	54.52	109	53.70	107	77-123	2	20	ug/L	06/28/14 21:32	
2-Hexanone	<10.00	50.00	47.61	95	48.83	98	56-134	3	20	ug/L	06/28/14 21:32	
1,2-Dibromoethane (EDB)	<1.000	50.00	53.24	106	53.63	107	78-121	1	20	ug/L	06/28/14 21:32	
Dibromochloromethane	<1.000	50.00	50.88	102	49.96	100	75-114	2	20	ug/L	06/28/14 21:32	
Bromoform	<5.000	50.00	50.51	101	51.18	102	69-115	1	20	ug/L	06/28/14 21:32	
Tetrachloroethene	<1.000	50.00	55.31	111	53.52	107	78-113	3	20	ug/L	06/28/14 21:32	
Chlorobenzene	<1.000	50.00	51.54	103	50.58	101	76-116	2	20	ug/L	06/28/14 21:32	
Ethylbenzene	<1.000	50.00	52.85	106	52.25	105	79-122	1	20	ug/L	06/28/14 21:32	
m,p-Xylenes	<2.000	100	105.3	105	102.9	103	78-119	2	20	ug/L	06/28/14 21:32	
Styrene	<1.000	50.00	50.91	102	49.94	100	73-118	2	20	ug/L	06/28/14 21:32	
1,1,2,2-Tetrachloroethane	<1.000	50.00	56.86	114	56.37	113	71-126	1	20	ug/L	06/28/14 21:32	
o-Xylene	<1.000	50.00	51.98	104	50.52	101	79-123	3	20	ug/L	06/28/14 21:32	
Isopropylbenzene	<1.000	50.00	52.87	106	51.12	102	80-128	3	20	ug/L	06/28/14 21:32	
1,3-Dichlorobenzene	<1.000	50.00	55.96	112	55.42	111	80-122	1	20	ug/L	06/28/14 21:32	
1,4-Dichlorobenzene	<1.000	50.00	50.66	101	49.97	100	77-118	1	20	ug/L	06/28/14 21:32	
1,2-Dichlorobenzene	<1.000	50.00	54.60	109	54.38	109	80-122	0	20	ug/L	06/28/14 21:32	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	51.81	104	53.40	107	59-135	3	20	ug/L	06/28/14 21:32	
1,2,4-Trichlorobenzene	<1.000	50.00	52.87	106	53.26	107	72-143	1	20	ug/L	06/28/14 21:32	
Naphthalene	<1.000	50.00	53.48	107	54.32	109	46-154	2	20	ug/L	06/28/14 21:32	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062724

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114952 Matrix: Water Date Prep: 06/28/14

MB Sample Id: 51025-1-BLK LCS Sample Id: 51025-1-BKS LCSD Sample Id: 51025-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	54.53	109	55.11	110	66-140	1	20	ug/L	06/28/14 21:32	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	100		100		100		84-110	%	06/28/14 21:32
Toluene-D8	100		101		101		94-109	%	06/28/14 21:32
4-Bromofluorobenzene	102		113		111		81-133	%	06/28/14 21:32

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

Seq Number: 114979 Matrix: Water Date Prep: 06/30/14

MB Sample Id: 51047-1-BLK LCS Sample Id: 51047-1-BKS LCSD Sample Id: 51047-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,1-Dichloroethene	<1.000	50.00	53.91	108	56.85	114	59-123	5	20	ug/L	06/30/14 22:28	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	100		99		100		84-110	%	06/30/14 22:28
Toluene-D8	98		94		94		94-109	%	06/30/14 22:28
4-Bromofluorobenzene	106		101		97		81-133	%	06/30/14 22:28

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062724

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114952 Matrix: Water Date Prep: 06/28/14

Parent Sample Id: 14062724-002 MS Sample Id: 14062724-002 S MSD Sample Id: 14062724-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	61.17	122	48.50	97	47-159	23	25	ug/L	06/29/14 06:53	
Chloromethane	<1.000	50.00	39.17	78	38.67	77	59-144	1	25	ug/L	06/29/14 06:53	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	51.56	103	38.46	77	47-139	29	25	ug/L	06/29/14 06:53	F
Vinyl Chloride	<1.000	50.00	51.62	103	48.97	98	60-146	5	25	ug/L	06/29/14 06:53	
Bromomethane	<1.000	50.00	38.27	77	37.78	76	29-154	1	25	ug/L	06/29/14 06:53	
Chloroethane	<1.000	50.00	41.04	82	40.41	81	40-150	2	25	ug/L	06/29/14 06:53	
Acetone	<10.00	50.00	79.25	159	75.55	151	41-161	5	25	ug/L	06/29/14 06:53	
Cyclohexane	<10.00	50.00	69.01	138	57.66	115	34-161	18	25	ug/L	06/29/14 06:53	
Trichlorofluoromethane	<5.000	50.00	50.24	100	45.40	91	37-147	10	25	ug/L	06/29/14 06:53	
1,1-Dichloroethene	2093	50.00	1860	0	1798	0	50-136	3	25	ug/L	06/29/14 06:53	X
Methylene Chloride	1.360	50.00	40.76	79	42.07	81	56-137	3	25	ug/L	06/29/14 06:53	
trans-1,2-Dichloroethene	<1.000	50.00	45.45	91	46.13	92	54-144	1	25	ug/L	06/29/14 06:53	
Methyl-t-butyl ether	<1.000	50.00	45.16	90	47.10	94	22-182	4	25	ug/L	06/29/14 06:53	
1,1-Dichloroethane	66.59	50.00	107.5	82	110.3	87	44-152	3	25	ug/L	06/29/14 06:53	
2-Butanone (MEK)	<10.00	50.00	60.48	121	65.58	131	47-140	8	25	ug/L	06/29/14 06:53	
cis-1,2-Dichloroethene	8.640	50.00	54.94	93	56.76	96	76-127	3	25	ug/L	06/29/14 06:53	
Bromochloromethane	<1.000	50.00	40.01	80	42.05	84	67-130	5	25	ug/L	06/29/14 06:53	
Chloroform	2.490	50.00	44.63	84	45.82	87	67-130	3	25	ug/L	06/29/14 06:53	
1,1,1-Trichloroethane	111.4	50.00	172.2	122	174.6	126	70-138	1	25	ug/L	06/29/14 06:53	
1,2-Dichloroethane	17.62	50.00	64.05	93	66.94	99	60-142	4	25	ug/L	06/29/14 06:53	
Carbon Tetrachloride	<1.000	50.00	50.65	101	50.59	101	74-136	0	25	ug/L	06/29/14 06:53	
Benzene	4.540	50.00	48.27	87	49.08	89	75-132	2	25	ug/L	06/29/14 06:53	
1,2-Dichloropropane	<1.000	50.00	40.36	81	41.61	83	70-139	3	25	ug/L	06/29/14 06:53	
Methyl Acetate	<10.00	50.00	33.36	67	31.11	62	37-143	7	25	ug/L	06/29/14 06:53	
Methylcyclohexane	<10.00	50.00	66.72	133	50.76	102	55-148	27	25	ug/L	06/29/14 06:53	F
Trichloroethene	15.92	50.00	62.93	94	64.41	97	67-139	2	25	ug/L	06/29/14 06:53	
Carbon Disulfide	<10.00	50.00	43.53	87	43.34	87	59-146	0	25	ug/L	06/29/14 06:53	
Bromodichloromethane	<1.000	50.00	43.99	88	45.54	91	69-134	3	25	ug/L	06/29/14 06:53	
cis-1,3-Dichloropropene	<1.000	50.00	37.81	76	39.20	78	64-127	4	25	ug/L	06/29/14 06:53	
4-Methyl-2-Pentanone	<5.000	50.00	47.43	95	49.14	98	44-133	4	25	ug/L	06/29/14 06:53	
trans-1,3-Dichloropropene	<1.000	50.00	37.97	76	39.79	80	62-123	5	25	ug/L	06/29/14 06:53	
1,1,2-Trichloroethane	3.150	50.00	44.32	82	46.21	86	65-143	4	25	ug/L	06/29/14 06:53	
Toluene	5.950	50.00	51.85	92	53.02	94	74-132	2	25	ug/L	06/29/14 06:53	
2-Hexanone	<10.00	50.00	53.34	107	55.19	110	50-130	3	25	ug/L	06/29/14 06:53	
1,2-Dibromoethane (EDB)	<1.000	50.00	43.96	88	45.92	92	72-126	4	25	ug/L	06/29/14 06:53	
Dibromochloromethane	<1.000	50.00	41.27	83	43.15	86	73-114	4	25	ug/L	06/29/14 06:53	
Bromoform	<5.000	50.00	39.59	79	41.71	83	65-115	5	25	ug/L	06/29/14 06:53	
Tetrachloroethene	2.230	50.00	47.49	91	48.07	92	69-126	1	25	ug/L	06/29/14 06:53	
Chlorobenzene	<1.000	50.00	40.76	82	38.06	76	78-115	7	25	ug/L	06/29/14 06:53	X
Ethylbenzene	1.580	50.00	46.38	90	44.49	86	74-129	4	25	ug/L	06/29/14 06:53	
m,p-Xylenes	<2.000	100	87.38	87	89.37	89	78-119	2	25	ug/L	06/29/14 06:53	
Styrene	<1.000	50.00	41.33	83	42.46	85	67-121	3	25	ug/L	06/29/14 06:53	
1,1,2,2-Tetrachloroethane	<1.000	50.00	42.22	84	43.19	86	68-127	2	25	ug/L	06/29/14 06:53	
o-Xylene	1.180	50.00	44.11	86	45.33	88	80-123	3	25	ug/L	06/29/14 06:53	
Isopropylbenzene	<1.000	50.00	38.35	77	38.72	77	72-130	1	25	ug/L	06/29/14 06:53	
1,3-Dichlorobenzene	<1.000	50.00	43.52	87	44.73	89	73-117	3	25	ug/L	06/29/14 06:53	
1,4-Dichlorobenzene	<1.000	50.00	41.37	83	42.61	85	72-111	3	25	ug/L	06/29/14 06:53	
1,2-Dichlorobenzene	<1.000	50.00	45.89	92	47.29	95	73-117	3	25	ug/L	06/29/14 06:53	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	39.13	78	40.54	81	45-125	4	25	ug/L	06/29/14 06:53	
1,2,4-Trichlorobenzene	<1.000	50.00	41.98	84	43.05	86	31-135	3	25	ug/L	06/29/14 06:53	
Naphthalene	<1.000	50.00	46.68	93	48.76	98	7-137	4	25	ug/L	06/29/14 06:53	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14062724

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 114952 Matrix: Water Date Prep: 06/28/14

Parent Sample Id: 14062724-002 MS Sample Id: 14062724-002 S MSD Sample Id: 14062724-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	43.45	87	45.44	91	9-139	4	25	ug/L	06/29/14 06:53	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	100		101		84-110	%	06/29/14 06:53
Toluene-D8	100		101		94-109	%	06/29/14 06:53
4-Bromofluorobenzene	102		101		81-133	%	06/29/14 06:53

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

CHAIN OF CUSTODY RECORD

Project Number:	Site and Location:
E0003705	Kop-Flex Hanover, MD

Contact Name:	Contact Email:
E. Johnson	

Sampler's Name:	Sampler's Signature:
E. Johnson	E Johnson

Matrices:
S = Soil:
Aq = Water
A = Air: Bu = Bulk
W = Wipe
Bi = Biota:
OW = Oily Waste:
O = Other

Requested Analyses

Nº 03958

140627724

	Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	VOCs (EPA 8260)									Remarks
1	Trip Blank	—	06/27/14	0830	AQ	2	X									
2	MW-25D (122-126)	122'-126'	↓	0935	↓	3	X									Field screening of 11DCE > 10 ppm
3	MW-25D (131-136)	131'-136'	↓	1155	↓	3	X									" " " " > 10 ppm
																All samples cooled with ice

# of Coolers: 1
Custody Seal: ABS
Ice Present: YES Temp: 2°c
Shipping Carrier: CLIENT

Relinquished by (Signature):	Date / Time	Received by (Signature):
R. Johnson	06/27/14 1625	
Relinquished by (Signature):	Date / Time	Received by (Signature):
Turn-Around Time:		Tracking Number:
72 hours		—

Laboratory Name: Phase Separation Science
Laboratory Location: Baltimore, MD
Custody Seal Numbers: —
Method of Shipment: WSP delivery

WSP
WSP Environment & Energy

☒ Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
☐ Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
☐ San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
☐ New Jersey Office: 334 Elizabeth Ave., Somerset, NJ 08873 / Tel: 732-564-0888
☐ Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
☐ Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
☐ Boxborough Office: 1740 Massachusetts Ave., Boxborough, MA 01719 / Tel: 978-635-9600
☐ Cazenovia Office: 5 Sullivan St., Cazenovia, NY 13035 / Tel: 315-655-3900

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14062724	**Received By**	Rachel Davis
Client Name	WSP Environment & Energy - Restor	**Date Received**	06/27/2014 04:25:00 PM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	E0003705	**Tracking No**	Not Applicable
Disposal Date	08/01/2014	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	2
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 3

Total No. of Containers Received 8

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Samples Inspected/Checklist Completed By:  Date: 06/27/2014

Rachel Davis

PM Review and Approval:  Date: 06/27/2014

Simon Crisp

MW-28 Location

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14070232

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : E0003705

July 3, 2014

Phase Separation Science, Inc.

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

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PHASE SEPARATION SCIENCE, INC.

July 3, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14070232**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: E0003705

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14070232**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on August 6, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Dan Prucnal

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14070232

Project ID: E0003705

The following samples were received under chain of custody by Phase Separation Science (PSS) on 07/02/2014 at 05:00 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14070232-001	MW-28D (41-46)	WATER	07/01/14 12:39
14070232-002	Trip Blank	WATER	07/01/14 08:15
14070232-003	MW-28D (61-66)	WATER	07/01/14 15:00

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070232

WSP Environment & Energy - Reston, Reston, VA

July 3, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-28D (41-46) **Date/Time Sampled: 07/01/2014 12:39** **PSS Sample ID: 14070232-001**
Matrix: WATER **Date/Time Received: 07/02/2014 17:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Chloromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Vinyl Chloride	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Bromomethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Chloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Acetone	ND	ug/L	10		1	07/02/14	07/03/14 08:00	1014
Cyclohexane	ND	ug/L	10		1	07/02/14	07/03/14 08:00	1014
Trichlorofluoromethane	ND	ug/L	5.0		1	07/02/14	07/03/14 08:00	1014
1,1-Dichloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Methylene Chloride	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
1,1-Dichloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
2-Butanone (MEK)	ND	ug/L	10		1	07/02/14	07/03/14 08:00	1014
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Bromochloromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Chloroform	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
1,2-Dichloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Carbon Tetrachloride	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Benzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
1,2-Dichloropropane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Methyl Acetate	ND	ug/L	10		1	07/02/14	07/03/14 08:00	1014
Methylcyclohexane	ND	ug/L	10		1	07/02/14	07/03/14 08:00	1014
Trichloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Carbon Disulfide	ND	ug/L	10		1	07/02/14	07/03/14 08:00	1014
Bromodichloromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/02/14	07/03/14 08:00	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070232

WSP Environment & Energy - Reston, Reston, VA

July 3, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-28D (41-46) **Date/Time Sampled: 07/01/2014 12:39** **PSS Sample ID: 14070232-001**
Matrix: WATER **Date/Time Received: 07/02/2014 17:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Toluene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
2-Hexanone	ND	ug/L	10		1	07/02/14	07/03/14 08:00	1014
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Dibromochloromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Bromoform	ND	ug/L	5.0		1	07/02/14	07/03/14 08:00	1014
Tetrachloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Chlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Ethylbenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
m,p-Xylenes	ND	ug/L	2.0		1	07/02/14	07/03/14 08:00	1014
Styrene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
o-Xylene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Isopropylbenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/02/14	07/03/14 08:00	1014
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
Naphthalene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:00	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070232

WSP Environment & Energy - Reston, Reston, VA

July 3, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: Trip Blank **Date/Time Sampled: 07/01/2014 08:15** **PSS Sample ID: 14070232-002**
Matrix: WATER **Date/Time Received: 07/02/2014 17:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Chloromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Vinyl Chloride	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Bromomethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Chloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Acetone	ND	ug/L	10		1	07/02/14	07/03/14 07:25	1014
Cyclohexane	ND	ug/L	10		1	07/02/14	07/03/14 07:25	1014
Trichlorofluoromethane	ND	ug/L	5.0		1	07/02/14	07/03/14 07:25	1014
1,1-Dichloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Methylene Chloride	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
1,1-Dichloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
2-Butanone (MEK)	ND	ug/L	10		1	07/02/14	07/03/14 07:25	1014
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Bromochloromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Chloroform	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
1,2-Dichloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Carbon Tetrachloride	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Benzene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
1,2-Dichloropropane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Methyl Acetate	ND	ug/L	10		1	07/02/14	07/03/14 07:25	1014
Methylcyclohexane	ND	ug/L	10		1	07/02/14	07/03/14 07:25	1014
Trichloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Carbon Disulfide	ND	ug/L	10		1	07/02/14	07/03/14 07:25	1014
Bromodichloromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/02/14	07/03/14 07:25	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070232

WSP Environment & Energy - Reston, Reston, VA

July 3, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: Trip Blank **Date/Time Sampled: 07/01/2014 08:15** **PSS Sample ID: 14070232-002**
Matrix: WATER **Date/Time Received: 07/02/2014 17:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Toluene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
2-Hexanone	ND	ug/L	10		1	07/02/14	07/03/14 07:25	1014
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Dibromochloromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Bromoform	ND	ug/L	5.0		1	07/02/14	07/03/14 07:25	1014
Tetrachloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Chlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Ethylbenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
m,p-Xylenes	ND	ug/L	2.0		1	07/02/14	07/03/14 07:25	1014
Styrene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
o-Xylene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Isopropylbenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/02/14	07/03/14 07:25	1014
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
Naphthalene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 07:25	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070232

WSP Environment & Energy - Reston, Reston, VA

July 3, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-28D (61-66) **Date/Time Sampled: 07/01/2014 15:00** **PSS Sample ID: 14070232-003**
Matrix: WATER **Date/Time Received: 07/02/2014 17:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Chloromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Vinyl Chloride	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Bromomethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Chloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Acetone	ND	ug/L	10		1	07/02/14	07/03/14 08:35	1014
Cyclohexane	ND	ug/L	10		1	07/02/14	07/03/14 08:35	1014
Trichlorofluoromethane	ND	ug/L	5.0		1	07/02/14	07/03/14 08:35	1014
1,1-Dichloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Methylene Chloride	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
1,1-Dichloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
2-Butanone (MEK)	ND	ug/L	10		1	07/02/14	07/03/14 08:35	1014
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Bromochloromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Chloroform	**1.0**	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
1,2-Dichloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Carbon Tetrachloride	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Benzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
1,2-Dichloropropane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Methyl Acetate	ND	ug/L	10		1	07/02/14	07/03/14 08:35	1014
Methylcyclohexane	ND	ug/L	10		1	07/02/14	07/03/14 08:35	1014
Trichloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Carbon Disulfide	ND	ug/L	10		1	07/02/14	07/03/14 08:35	1014
Bromodichloromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/02/14	07/03/14 08:35	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070232

WSP Environment & Energy - Reston, Reston, VA

July 3, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0003705

Sample ID: MW-28D (61-66) **Date/Time Sampled: 07/01/2014 15:00** **PSS Sample ID: 14070232-003**
Matrix: WATER **Date/Time Received: 07/02/2014 17:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Toluene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
2-Hexanone	ND	ug/L	10		1	07/02/14	07/03/14 08:35	1014
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Dibromochloromethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Bromoform	ND	ug/L	5.0		1	07/02/14	07/03/14 08:35	1014
Tetrachloroethene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Chlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Ethylbenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
m,p-Xylenes	ND	ug/L	2.0		1	07/02/14	07/03/14 08:35	1014
Styrene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
o-Xylene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Isopropylbenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/02/14	07/03/14 08:35	1014
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
Naphthalene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/02/14	07/03/14 08:35	1014

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14070232
Project ID: E0003705

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

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

Sample Receipt:

All sample receipt conditions were acceptable.

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

Analytical Data Package Information Summary

Work Order(s): **14070232**
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	MW-28D (41-46)	Initial	14070232-001	1014	W	51084	115041	07/01/2014	07/02/2014 23:00	07/03/2014 08:00
	Trip Blank	Initial	14070232-002	1014	W	51084	115041	07/01/2014	07/02/2014 23:00	07/03/2014 07:25
	MW-28D (61-66)	Initial	14070232-003	1014	W	51084	115041	07/01/2014	07/02/2014 23:00	07/03/2014 08:35
	51084-1-BKS	BKS	51084-1-BKS	1014	W	51084	115041	--------	07/02/2014 23:00	07/03/2014 00:24
	51084-1-BLK	BLK	51084-1-BLK	1014	W	51084	115041	--------	07/02/2014 23:00	07/03/2014 02:45
	51084-1-BSD	BSD	51084-1-BSD	1014	W	51084	115041	--------	07/02/2014 23:00	07/03/2014 00:59
	Trip Blank S	MS	14070232-002 S	1014	W	51084	115041	07/01/2014	07/02/2014 23:00	07/03/2014 09:45
	Trip Blank SD	MSD	14070232-002 SD	1014	W	51084	115041	07/01/2014	07/02/2014 23:00	07/03/2014 10:20

PHASE SEPARATION SCIENCE, INC.

QC Summary 14070232

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115041 Matrix: Water Date Prep: 07/02/2014
PSS Sample ID: 14070232-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	103		84-110	%	07/03/14 08:00
Toluene-D8	101		94-109	%	07/03/14 08:00
4-Bromofluorobenzene	103		81-133	%	07/03/14 08:00

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115041 Matrix: Water Date Prep: 07/02/2014
PSS Sample ID: 14070232-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	105		84-110	%	07/03/14 07:25
Toluene-D8	102		94-109	%	07/03/14 07:25
4-Bromofluorobenzene	106		81-133	%	07/03/14 07:25

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115041 Matrix: Water Date Prep: 07/02/2014
PSS Sample ID: 14070232-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	104		84-110	%	07/03/14 08:35
Toluene-D8	102		94-109	%	07/03/14 08:35
4-Bromofluorobenzene	102		81-133	%	07/03/14 08:35

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14070232

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115041 Matrix: Water Date Prep: 07/02/14

MB Sample Id: 51084-1-BLK LCS Sample Id: 51084-1-BKS LCSD Sample Id: 51084-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	50.43	101	50.91	102	54-139	1	20	ug/L	07/03/14 00:24	
Chloromethane	<1.000	50.00	46.81	94	44.21	88	62-131	6	20	ug/L	07/03/14 00:24	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	57.84	116	54.60	109	56-126	6	20	ug/L	07/03/14 00:24	
Vinyl Chloride	<1.000	50.00	51.78	104	49.36	99	64-132	5	20	ug/L	07/03/14 00:24	
Bromomethane	<1.000	50.00	49.20	98	45.36	91	40-147	8	20	ug/L	07/03/14 00:24	
Chloroethane	<1.000	50.00	50.00	100	47.98	96	59-132	4	20	ug/L	07/03/14 00:24	
Acetone	<10.00	50.00	50.21	100	47.62	95	53-146	5	20	ug/L	07/03/14 00:24	
Cyclohexane	<10.00	50.00	45.65	91	49.11	98	46-150	7	20	ug/L	07/03/14 00:24	
Trichlorofluoromethane	<5.000	50.00	58.03	116	55.54	111	45-130	4	20	ug/L	07/03/14 00:24	
1,1-Dichloroethene	<1.000	50.00	49.27	99	47.26	95	59-123	4	20	ug/L	07/03/14 00:24	
Methylene Chloride	<1.000	50.00	50.03	100	47.20	94	61-126	6	20	ug/L	07/03/14 00:24	
trans-1,2-Dichloroethene	<1.000	50.00	51.89	104	49.10	98	58-134	6	20	ug/L	07/03/14 00:24	
Methyl-t-butyl ether	<1.000	50.00	50.98	102	48.95	98	30-168	4	20	ug/L	07/03/14 00:24	
1,1-Dichloroethane	<1.000	50.00	50.21	100	48.30	97	51-136	4	20	ug/L	07/03/14 00:24	
2-Butanone (MEK)	<10.00	50.00	53.78	108	47.15	94	56-133	13	20	ug/L	07/03/14 00:24	
cis-1,2-Dichloroethene	<1.000	50.00	52.51	105	50.99	102	77-119	3	20	ug/L	07/03/14 00:24	
Bromochloromethane	<1.000	50.00	46.21	92	44.63	89	71-122	3	20	ug/L	07/03/14 00:24	
Chloroform	<1.000	50.00	48.29	97	46.46	93	71-118	4	20	ug/L	07/03/14 00:24	
1,1,1-Trichloroethane	<1.000	50.00	54.36	109	52.89	106	66-133	3	20	ug/L	07/03/14 00:24	
1,2-Dichloroethane	<1.000	50.00	50.38	101	48.37	97	64-130	4	20	ug/L	07/03/14 00:24	
Carbon Tetrachloride	<1.000	50.00	57.19	114	55.71	111	74-127	3	20	ug/L	07/03/14 00:24	
Benzene	<1.000	50.00	50.46	101	48.85	98	77-122	3	20	ug/L	07/03/14 00:24	
1,2-Dichloropropane	<1.000	50.00	49.73	99	47.34	95	75-125	5	20	ug/L	07/03/14 00:24	
Methyl Acetate	<10.00	50.00	49.65	99	47.13	94	47-145	5	20	ug/L	07/03/14 00:24	
Methylcyclohexane	<10.00	50.00	47.13	94	47.63	95	61-155	1	20	ug/L	07/03/14 00:24	
Trichloroethene	<1.000	50.00	49.67	99	48.68	97	72-127	2	20	ug/L	07/03/14 00:24	
Carbon Disulfide	<10.00	50.00	52.78	106	50.21	100	62-134	5	20	ug/L	07/03/14 00:24	
Bromodichloromethane	<1.000	50.00	51.52	103	49.78	100	76-122	3	20	ug/L	07/03/14 00:24	
cis-1,3-Dichloropropene	<1.000	50.00	47.29	95	44.98	90	74-123	5	20	ug/L	07/03/14 00:24	
4-Methyl-2-Pentanone	<5.000	50.00	53.57	107	45.84	92	45-145	16	20	ug/L	07/03/14 00:24	
trans-1,3-Dichloropropene	<1.000	50.00	47.80	96	45.94	92	73-116	4	20	ug/L	07/03/14 00:24	
1,1,2-Trichloroethane	<1.000	50.00	47.17	94	46.13	92	72-128	2	20	ug/L	07/03/14 00:24	
Toluene	<1.000	50.00	49.41	99	47.67	95	77-123	4	20	ug/L	07/03/14 00:24	
2-Hexanone	<10.00	50.00	46.14	92	45.06	90	56-134	2	20	ug/L	07/03/14 00:24	
1,2-Dibromoethane (EDB)	<1.000	50.00	49.46	99	47.35	95	78-121	4	20	ug/L	07/03/14 00:24	
Dibromochloromethane	<1.000	50.00	47.03	94	44.24	88	75-114	6	20	ug/L	07/03/14 00:24	
Bromoform	<5.000	50.00	42.57	85	39.48	79	69-115	8	20	ug/L	07/03/14 00:24	
Tetrachloroethene	<1.000	50.00	49.42	99	48.83	98	78-113	1	20	ug/L	07/03/14 00:24	
Chlorobenzene	<1.000	50.00	47.35	95	45.06	90	76-116	5	20	ug/L	07/03/14 00:24	
Ethylbenzene	<1.000	50.00	47.25	95	46.00	92	79-122	3	20	ug/L	07/03/14 00:24	
m,p-Xylenes	<2.000	100	93.62	94	90.32	90	78-119	4	20	ug/L	07/03/14 00:24	
Styrene	<1.000	50.00	42.60	85	41.07	82	73-118	4	20	ug/L	07/03/14 00:24	
1,1,2,2-Tetrachloroethane	<1.000	50.00	45.97	92	42.85	86	71-126	7	20	ug/L	07/03/14 00:24	
o-Xylene	<1.000	50.00	44.44	89	43.42	87	79-123	2	20	ug/L	07/03/14 00:24	
Isopropylbenzene	<1.000	50.00	46.82	94	46.46	93	80-128	1	20	ug/L	07/03/14 00:24	
1,3-Dichlorobenzene	<1.000	50.00	50.20	100	48.83	98	80-122	3	20	ug/L	07/03/14 00:24	
1,4-Dichlorobenzene	<1.000	50.00	46.44	93	45.30	91	77-118	2	20	ug/L	07/03/14 00:24	
1,2-Dichlorobenzene	<1.000	50.00	49.53	99	48.36	97	80-122	2	20	ug/L	07/03/14 00:24	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	44.90	90	40.35	81	59-135	11	20	ug/L	07/03/14 00:24	
1,2,4-Trichlorobenzene	<1.000	50.00	44.41	89	43.29	87	72-143	3	20	ug/L	07/03/14 00:24	
Naphthalene	<1.000	50.00	43.83	88	42.02	84	46-154	4	20	ug/L	07/03/14 00:24	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14070232

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115041 Matrix: Water Date Prep: 07/02/14

MB Sample Id: 51084-1-BLK LCS Sample Id: 51084-1-BKS LCSD Sample Id: 51084-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	49.39	99	49.25	99	66-140	0	20	ug/L	07/03/14 00:24	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	104		104		104		84-110	%	07/03/14 00:24
Toluene-D8	102		103		101		94-109	%	07/03/14 00:24
4-Bromofluorobenzene	106		98		98		81-133	%	07/03/14 00:24

PHASE SEPARATION SCIENCE, INC.

QC Summary 14070232

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115041 Matrix: Water Date Prep: 07/02/14

Parent Sample Id: 14070232-002 MS Sample Id: 14070232-002 S MSD Sample Id: 14070232-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	64.08	128	62.44	125	47-159	3	25	ug/L	07/03/14 09:45	
Chloromethane	<1.000	50.00	40.99	82	39.66	79	59-144	3	25	ug/L	07/03/14 09:45	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	61.98	124	54.37	109	47-139	13	25	ug/L	07/03/14 09:45	
Vinyl Chloride	<1.000	50.00	51.76	104	47.64	95	60-146	8	25	ug/L	07/03/14 09:45	
Bromomethane	<1.000	50.00	39.66	79	38.59	77	29-154	3	25	ug/L	07/03/14 09:45	
Chloroethane	<1.000	50.00	44.10	88	42.76	86	40-150	3	25	ug/L	07/03/14 09:45	
Acetone	<10.00	50.00	48.52	97	46.21	92	41-161	5	25	ug/L	07/03/14 09:45	
Cyclohexane	<10.00	50.00	54.56	109	51.22	102	34-161	6	25	ug/L	07/03/14 09:45	
Trichlorofluoromethane	<5.000	50.00	55.94	112	51.03	102	37-147	9	25	ug/L	07/03/14 09:45	
1,1-Dichloroethene	<1.000	50.00	45.43	91	43.09	86	50-136	5	25	ug/L	07/03/14 09:45	
Methylene Chloride	<1.000	50.00	38.75	78	38.06	76	56-137	2	25	ug/L	07/03/14 09:45	
trans-1,2-Dichloroethene	<1.000	50.00	41.95	84	40.53	81	54-144	3	25	ug/L	07/03/14 09:45	
Methyl-t-butyl ether	<1.000	50.00	35.03	70	36.33	73	22-182	4	25	ug/L	07/03/14 09:45	
1,1-Dichloroethane	<1.000	50.00	42.23	84	41.06	82	44-152	3	25	ug/L	07/03/14 09:45	
2-Butanone (MEK)	<10.00	50.00	42.03	84	41.41	83	47-140	1	25	ug/L	07/03/14 09:45	
cis-1,2-Dichloroethene	<1.000	50.00	43.19	86	42.40	85	76-127	2	25	ug/L	07/03/14 09:45	
Bromochloromethane	<1.000	50.00	38.16	76	37.63	75	67-130	1	25	ug/L	07/03/14 09:45	
Chloroform	<1.000	50.00	41.64	83	40.11	80	67-130	4	25	ug/L	07/03/14 09:45	
1,1,1-Trichloroethane	<1.000	50.00	50.21	100	46.93	94	70-138	7	25	ug/L	07/03/14 09:45	
1,2-Dichloroethane	<1.000	50.00	41.70	83	40.61	81	60-142	3	25	ug/L	07/03/14 09:45	
Carbon Tetrachloride	<1.000	50.00	57.15	114	52.99	106	74-136	8	25	ug/L	07/03/14 09:45	
Benzene	<1.000	50.00	45.05	90	42.84	86	75-132	5	25	ug/L	07/03/14 09:45	
1,2-Dichloropropane	<1.000	50.00	42.58	85	41.14	82	70-139	3	25	ug/L	07/03/14 09:45	
Methyl Acetate	<10.00	50.00	33.07	66	35.28	71	37-143	6	25	ug/L	07/03/14 09:45	
Methylcyclohexane	<10.00	50.00	55.56	111	49.83	100	55-148	11	25	ug/L	07/03/14 09:45	
Trichloroethene	<1.000	50.00	44.11	88	41.60	83	67-139	6	25	ug/L	07/03/14 09:45	
Carbon Disulfide	<10.00	50.00	43.26	87	41.64	83	59-146	4	25	ug/L	07/03/14 09:45	
Bromodichloromethane	<1.000	50.00	42.50	85	42.14	84	69-134	1	25	ug/L	07/03/14 09:45	
cis-1,3-Dichloropropene	<1.000	50.00	38.79	78	38.07	76	64-127	2	25	ug/L	07/03/14 09:45	
4-Methyl-2-Pentanone	<5.000	50.00	38.99	78	38.85	78	44-133	0	25	ug/L	07/03/14 09:45	
trans-1,3-Dichloropropene	<1.000	50.00	39.51	79	39.21	78	62-123	1	25	ug/L	07/03/14 09:45	
1,1,2-Trichloroethane	<1.000	50.00	40.11	80	40.27	81	65-143	0	25	ug/L	07/03/14 09:45	
Toluene	<1.000	50.00	44.96	90	43.12	86	74-132	4	25	ug/L	07/03/14 09:45	
2-Hexanone	<10.00	50.00	41.21	82	41.15	82	50-130	0	25	ug/L	07/03/14 09:45	
1,2-Dibromoethane (EDB)	<1.000	50.00	38.48	77	39.65	79	72-126	3	25	ug/L	07/03/14 09:45	
Dibromochloromethane	<1.000	50.00	37.93	76	37.17	74	73-114	2	25	ug/L	07/03/14 09:45	
Bromoform	<5.000	50.00	36.03	72	35.04	70	65-115	3	25	ug/L	07/03/14 09:45	
Tetrachloroethene	<1.000	50.00	48.75	98	44.53	89	69-126	9	25	ug/L	07/03/14 09:45	
Chlorobenzene	<1.000	50.00	41.45	83	40.21	80	78-115	3	25	ug/L	07/03/14 09:45	
Ethylbenzene	<1.000	50.00	43.44	87	41.43	83	74-129	5	25	ug/L	07/03/14 09:45	
m,p-Xylenes	<2.000	100	85.92	86	83.94	84	78-119	2	25	ug/L	07/03/14 09:45	
Styrene	<1.000	50.00	39.01	78	38.07	76	67-121	2	25	ug/L	07/03/14 09:45	
1,1,2,2-Tetrachloroethane	<1.000	50.00	31.64	63	32.29	65	68-127	2	25	ug/L	07/03/14 09:45	X
o-Xylene	<1.000	50.00	40.21	80	39.15	78	80-123	3	25	ug/L	07/03/14 09:45	X
Isopropylbenzene	<1.000	50.00	36.94	74	36.01	72	72-130	3	25	ug/L	07/03/14 09:45	
1,3-Dichlorobenzene	<1.000	50.00	41.16	82	41.56	83	73-117	1	25	ug/L	07/03/14 09:45	
1,4-Dichlorobenzene	<1.000	50.00	39.93	80	40.10	80	72-111	0	25	ug/L	07/03/14 09:45	
1,2-Dichlorobenzene	<1.000	50.00	41.10	82	42.29	85	73-117	3	25	ug/L	07/03/14 09:45	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	33.24	66	35.47	71	45-125	6	25	ug/L	07/03/14 09:45	
1,2,4-Trichlorobenzene	<1.000	50.00	32.90	66	32.95	66	31-135	0	25	ug/L	07/03/14 09:45	
Naphthalene	<1.000	50.00	29.91	60	31.71	63	7-137	6	25	ug/L	07/03/14 09:45	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14070232

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115041 Matrix: Water Date Prep: 07/02/14

Parent Sample Id: 14070232-002 MS Sample Id: 14070232-002 S MSD Sample Id: 14070232-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	36.05	72	37.65	75	9-139	4	25	ug/L	07/03/14 09:45	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		101		84-110	%	07/03/14 09:45
Toluene-D8	101		102		94-109	%	07/03/14 09:45
4-Bromofluorobenzene	88		85		81-133	%	07/03/14 09:45

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

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14070232	**Received By**	Lynn Jackson
Client Name	WSP Environment & Energy - Restor	**Date Received**	07/02/2014 05:00:00 PM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	E0003705	**Tracking No**	Not Applicable
Disposal Date	08/06/2014	**Logged In By**	Lynn Jackson

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	3
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 3

Total No. of Containers Received 8

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Samples Inspected/Checklist Completed By:  Date: 07/02/2014

Lynn Jackson

PM Review and Approval:  Date: 07/02/2014

Simon Crisp

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14070820

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : E0039196

July 9, 2014

Phase Separation Science, Inc.

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

OFFICES:
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ROUTE 40 WEST
BALTIMORE, MD 21228
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PHASE SEPARATION SCIENCE, INC.

July 9, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14070820**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: E0039196

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14070820**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on August 12, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14070820

Project ID: E0039196

The following samples were received under chain of custody by Phase Separation Science (PSS) on 07/08/2014 at 04:17 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14070820-001	TB070714	WATER	07/07/14 09:10
14070820-002	MW-28D(161-163)	WATER	07/07/14 12:10
14070820-003	MW-28D(201-206)	WATER	07/07/14 16:33
14070820-004	MW-28D(211-216)	WATER	07/07/14 14:23

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070820

WSP Environment & Energy - Reston, Reston, VA

July 9, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: TB070714 **Date/Time Sampled: 07/07/2014 09:10** **PSS Sample ID: 14070820-001**
Matrix: WATER **Date/Time Received: 07/08/2014 16:17**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Chloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Bromomethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Chloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Acetone	ND	ug/L	10		1	07/08/14	07/09/14 06:39	1011
Cyclohexane	ND	ug/L	10		1	07/08/14	07/09/14 06:39	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/08/14	07/09/14 06:39	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Methylene Chloride	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/08/14	07/09/14 06:39	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Bromochloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Chloroform	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Benzene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Methyl Acetate	ND	ug/L	10		1	07/08/14	07/09/14 06:39	1011
Methylcyclohexane	ND	ug/L	10		1	07/08/14	07/09/14 06:39	1011
Trichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Carbon Disulfide	ND	ug/L	10		1	07/08/14	07/09/14 06:39	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/08/14	07/09/14 06:39	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070820

WSP Environment & Energy - Reston, Reston, VA

July 9, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: TB070714 **Date/Time Sampled: 07/07/2014 09:10** **PSS Sample ID: 14070820-001**
Matrix: WATER **Date/Time Received: 07/08/2014 16:17**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Toluene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
2-Hexanone	ND	ug/L	10		1	07/08/14	07/09/14 06:39	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Bromoform	ND	ug/L	5.0		1	07/08/14	07/09/14 06:39	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Chlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Ethylbenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/08/14	07/09/14 06:39	1011
Styrene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
o-Xylene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/08/14	07/09/14 06:39	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
Naphthalene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 06:39	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070820

WSP Environment & Energy - Reston, Reston, VA

July 9, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: MW-28D(161-163) **Date/Time Sampled: 07/07/2014 12:10** **PSS Sample ID: 14070820-002**
Matrix: WATER **Date/Time Received: 07/08/2014 16:17**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Chloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Bromomethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Chloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Acetone	ND	ug/L	10		1	07/08/14	07/09/14 07:15	1011
Cyclohexane	ND	ug/L	10		1	07/08/14	07/09/14 07:15	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/08/14	07/09/14 07:15	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Methylene Chloride	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/08/14	07/09/14 07:15	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Bromochloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Chloroform	**2.0**	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Benzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Methyl Acetate	ND	ug/L	10		1	07/08/14	07/09/14 07:15	1011
Methylcyclohexane	ND	ug/L	10		1	07/08/14	07/09/14 07:15	1011
Trichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Carbon Disulfide	ND	ug/L	10		1	07/08/14	07/09/14 07:15	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/08/14	07/09/14 07:15	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070820

WSP Environment & Energy - Reston, Reston, VA

July 9, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: MW-28D(161-163) **Date/Time Sampled: 07/07/2014 12:10** **PSS Sample ID: 14070820-002**
Matrix: WATER **Date/Time Received: 07/08/2014 16:17**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Toluene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
2-Hexanone	ND	ug/L	10		1	07/08/14	07/09/14 07:15	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Bromoform	ND	ug/L	5.0		1	07/08/14	07/09/14 07:15	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Chlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Ethylbenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/08/14	07/09/14 07:15	1011
Styrene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
o-Xylene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/08/14	07/09/14 07:15	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
Naphthalene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:15	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070820

WSP Environment & Energy - Reston, Reston, VA

July 9, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: MW-28D(201-206) **Date/Time Sampled: 07/07/2014 16:33** **PSS Sample ID: 14070820-003**
Matrix: WATER **Date/Time Received: 07/08/2014 16:17**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Chloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Bromomethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Chloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Acetone	ND	ug/L	10		1	07/08/14	07/09/14 07:50	1011
Cyclohexane	ND	ug/L	10		1	07/08/14	07/09/14 07:50	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/08/14	07/09/14 07:50	1011
1,1-Dichloroethene	**4.3**	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Methylene Chloride	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/08/14	07/09/14 07:50	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Bromochloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Chloroform	**3.0**	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Benzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Methyl Acetate	ND	ug/L	10		1	07/08/14	07/09/14 07:50	1011
Methylcyclohexane	ND	ug/L	10		1	07/08/14	07/09/14 07:50	1011
Trichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Carbon Disulfide	ND	ug/L	10		1	07/08/14	07/09/14 07:50	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/08/14	07/09/14 07:50	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070820

WSP Environment & Energy - Reston, Reston, VA

July 9, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: MW-28D(201-206) **Date/Time Sampled: 07/07/2014 16:33** **PSS Sample ID: 14070820-003**
Matrix: WATER **Date/Time Received: 07/08/2014 16:17**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Toluene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
2-Hexanone	ND	ug/L	10		1	07/08/14	07/09/14 07:50	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Bromoform	ND	ug/L	5.0		1	07/08/14	07/09/14 07:50	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Chlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Ethylbenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/08/14	07/09/14 07:50	1011
Styrene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
o-Xylene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/08/14	07/09/14 07:50	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
Naphthalene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 07:50	1011

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BALTIMORE, MD 21228
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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070820

WSP Environment & Energy - Reston, Reston, VA

July 9, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: MW-28D(211-216) **Date/Time Sampled: 07/07/2014 14:23** **PSS Sample ID: 14070820-004**
Matrix: WATER **Date/Time Received: 07/08/2014 16:17**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Chloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Bromomethane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Chloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Acetone	ND	ug/L	10		1	07/08/14	07/09/14 08:25	1011
Cyclohexane	ND	ug/L	10		1	07/08/14	07/09/14 08:25	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/08/14	07/09/14 08:25	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Methylene Chloride	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/08/14	07/09/14 08:25	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Bromochloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Chloroform	**5.6**	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Benzene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Methyl Acetate	ND	ug/L	10		1	07/08/14	07/09/14 08:25	1011
Methylcyclohexane	ND	ug/L	10		1	07/08/14	07/09/14 08:25	1011
Trichloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Carbon Disulfide	ND	ug/L	10		1	07/08/14	07/09/14 08:25	1011
Bromodichloromethane	**1.3**	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/08/14	07/09/14 08:25	1011

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FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14070820

WSP Environment & Energy - Reston, Reston, VA

July 9, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: MW-28D(211-216) **Date/Time Sampled: 07/07/2014 14:23** **PSS Sample ID: 14070820-004**
Matrix: WATER **Date/Time Received: 07/08/2014 16:17**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Toluene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
2-Hexanone	ND	ug/L	10		1	07/08/14	07/09/14 08:25	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Bromoform	ND	ug/L	5.0		1	07/08/14	07/09/14 08:25	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Chlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Ethylbenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/08/14	07/09/14 08:25	1011
Styrene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
o-Xylene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/08/14	07/09/14 08:25	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
Naphthalene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/08/14	07/09/14 08:25	1011

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14070820
Project ID: E0039196

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

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

Sample Receipt:

Per client: Trip blanks from sample 14070820-001 to be used for sample 14070821 as well. Arrived in same cooler.

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

Analytical Data Package Information Summary

Work Order(s): 14070820
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	TB070714	Initial	14070820-001	1011	W	51138	115129	07/07/2014	07/08/2014 13:00	07/09/2014 06:39
	MW-28D(161-163)	Initial	14070820-002	1011	W	51138	115129	07/07/2014	07/08/2014 13:00	07/09/2014 07:15
	MW-28D(201-206)	Initial	14070820-003	1011	W	51138	115129	07/07/2014	07/08/2014 13:00	07/09/2014 07:50
	MW-28D(211-216)	Initial	14070820-004	1011	W	51138	115129	07/07/2014	07/08/2014 13:00	07/09/2014 08:25
	51138-1-BKS	BKS	51138-1-BKS	1011	W	51138	115129	--------	07/08/2014 13:00	07/08/2014 23:37
	51138-1-BLK	BLK	51138-1-BLK	1011	W	51138	115129	--------	07/08/2014 13:00	07/09/2014 00:47
	MW3 S	MS	14070210-003 S	1011	W	51138	115129	06/30/2014	07/08/2014 13:00	07/09/2014 01:57
	MW3 SD	MSD	14070210-003 SD	1011	W	51138	115129	06/30/2014	07/08/2014 13:00	07/09/2014 02:33

PHASE SEPARATION SCIENCE, INC.

QC Summary 14070820

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115129 Matrix: Water Date Prep: 07/08/2014
PSS Sample ID: 14070820-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	104		84-110	%	07/09/14 06:39
Toluene-D8	100		94-109	%	07/09/14 06:39
4-Bromofluorobenzene	104		81-133	%	07/09/14 06:39

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115129 Matrix: Water Date Prep: 07/08/2014
PSS Sample ID: 14070820-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	105		84-110	%	07/09/14 07:15
Toluene-D8	102		94-109	%	07/09/14 07:15
4-Bromofluorobenzene	107		81-133	%	07/09/14 07:15

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115129 Matrix: Water Date Prep: 07/08/2014
PSS Sample ID: 14070820-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	105		84-110	%	07/09/14 07:50
Toluene-D8	100		94-109	%	07/09/14 07:50
4-Bromofluorobenzene	102		81-133	%	07/09/14 07:50

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115129 Matrix: Water Date Prep: 07/08/2014
PSS Sample ID: 14070820-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	104		84-110	%	07/09/14 08:25
Toluene-D8	101		94-109	%	07/09/14 08:25
4-Bromofluorobenzene	104		81-133	%	07/09/14 08:25

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14070820

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115129 Matrix: Water Date Prep: 07/08/14

MB Sample Id: 51138-1-BLK LCS Sample Id: 51138-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	48.86	98	54-139	ug/L	07/08/14 23:37	
Chloromethane	<1.000	50.00	40.80	82	62-131	ug/L	07/08/14 23:37	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	47.84	96	56-126	ug/L	07/08/14 23:37	
Vinyl Chloride	<1.000	50.00	43.93	88	64-132	ug/L	07/08/14 23:37	
Bromomethane	<1.000	50.00	41.49	83	40-147	ug/L	07/08/14 23:37	
Chloroethane	<1.000	50.00	44.43	89	59-132	ug/L	07/08/14 23:37	
Acetone	<10.00	50.00	60.98	122	53-146	ug/L	07/08/14 23:37	
Cyclohexane	<10.00	50.00	54.28	109	46-150	ug/L	07/08/14 23:37	
Trichlorofluoromethane	<5.000	50.00	45.43	91	45-130	ug/L	07/08/14 23:37	
1,1-Dichloroethene	<1.000	50.00	44.60	89	59-123	ug/L	07/08/14 23:37	
Methylene Chloride	<1.000	50.00	43.25	87	61-126	ug/L	07/08/14 23:37	
trans-1,2-Dichloroethene	<1.000	50.00	45.35	91	58-134	ug/L	07/08/14 23:37	
Methyl-t-butyl ether	<1.000	50.00	45.36	91	30-168	ug/L	07/08/14 23:37	
1,1-Dichloroethane	<1.000	50.00	48.54	97	51-136	ug/L	07/08/14 23:37	
2-Butanone (MEK)	<10.00	50.00	53.32	107	56-133	ug/L	07/08/14 23:37	
cis-1,2-Dichloroethene	<1.000	50.00	47.70	95	77-119	ug/L	07/08/14 23:37	
Bromochloromethane	<1.000	50.00	46.30	93	71-122	ug/L	07/08/14 23:37	
Chloroform	<1.000	50.00	46.77	94	71-118	ug/L	07/08/14 23:37	
1,1,1-Trichloroethane	<1.000	50.00	47.58	95	66-133	ug/L	07/08/14 23:37	
1,2-Dichloroethane	<1.000	50.00	46.08	92	64-130	ug/L	07/08/14 23:37	
Carbon Tetrachloride	<1.000	50.00	47.52	95	74-127	ug/L	07/08/14 23:37	
Benzene	<1.000	50.00	49.59	99	77-122	ug/L	07/08/14 23:37	
1,2-Dichloropropane	<1.000	50.00	48.10	96	75-125	ug/L	07/08/14 23:37	
Methyl Acetate	<10.00	50.00	36.38	73	47-145	ug/L	07/08/14 23:37	
Methylcyclohexane	<10.00	50.00	53.29	107	61-155	ug/L	07/08/14 23:37	
Trichloroethene	<1.000	50.00	47.96	96	72-127	ug/L	07/08/14 23:37	
Carbon Disulfide	<10.00	50.00	43.65	87	62-134	ug/L	07/08/14 23:37	
Bromodichloromethane	<1.000	50.00	48.44	97	76-122	ug/L	07/08/14 23:37	
cis-1,3-Dichloropropene	<1.000	50.00	44.60	89	74-123	ug/L	07/08/14 23:37	
4-Methyl-2-Pentanone	<5.000	50.00	53.85	108	45-145	ug/L	07/08/14 23:37	
trans-1,3-Dichloropropene	<1.000	50.00	43.68	87	73-116	ug/L	07/08/14 23:37	
1,1,2-Trichloroethane	<1.000	50.00	48.05	96	72-128	ug/L	07/08/14 23:37	
Toluene	<1.000	50.00	48.87	98	77-123	ug/L	07/08/14 23:37	
2-Hexanone	<10.00	50.00	51.36	103	56-134	ug/L	07/08/14 23:37	
1,2-Dibromoethane (EDB)	<1.000	50.00	48.45	97	78-121	ug/L	07/08/14 23:37	
Dibromochloromethane	<1.000	50.00	45.37	91	75-114	ug/L	07/08/14 23:37	
Bromoform	<5.000	50.00	41.59	83	69-115	ug/L	07/08/14 23:37	
Tetrachloroethene	<1.000	50.00	47.29	95	78-113	ug/L	07/08/14 23:37	
Chlorobenzene	<1.000	50.00	48.11	96	76-116	ug/L	07/08/14 23:37	
Ethylbenzene	<1.000	50.00	50.38	101	79-122	ug/L	07/08/14 23:37	
m,p-Xylenes	<2.000	100	90.51	91	78-119	ug/L	07/08/14 23:37	
Styrene	<1.000	50.00	45.15	90	73-118	ug/L	07/08/14 23:37	
1,1,2,2-Tetrachloroethane	<1.000	50.00	44.12	88	71-126	ug/L	07/08/14 23:37	
o-Xylene	<1.000	50.00	44.66	89	79-123	ug/L	07/08/14 23:37	
Isopropylbenzene	<1.000	50.00	44.47	89	80-128	ug/L	07/08/14 23:37	
1,3-Dichlorobenzene	<1.000	50.00	48.85	98	80-122	ug/L	07/08/14 23:37	
1,4-Dichlorobenzene	<1.000	50.00	46.68	93	77-118	ug/L	07/08/14 23:37	
1,2-Dichlorobenzene	<1.000	50.00	48.11	96	80-122	ug/L	07/08/14 23:37	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	44.73	89	59-135	ug/L	07/08/14 23:37	
1,2,4-Trichlorobenzene	<1.000	50.00	51.35	103	72-143	ug/L	07/08/14 23:37	
Naphthalene	<1.000	50.00	42.91	86	46-154	ug/L	07/08/14 23:37	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14070820

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115129 Matrix: Water Date Prep: 07/08/14
MB Sample Id: 51138-1-BLK LCS Sample Id: 51138-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	50.39	101	66-140	ug/L	07/08/14 23:37	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	104		100		84-110	%	07/08/14 23:37
Toluene-D8	102		99		94-109	%	07/08/14 23:37
4-Bromofluorobenzene	104		93		81-133	%	07/08/14 23:37

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

CHAIN OF CUSTODY RECORD

1407082O

Project Number:	Site and Location:
E0039196	Kop-Flex Hanover, MD
Contact Name: E. Johnson	Contact Email: Eric.Johnson@wsfgroup.com
Sampler's Name: R. Wallace	Sampler's Signature:

Matrices: S = Soil; Aq = Water; A = Air: Bu = Bulk; W = Wipe; Bi = Biota; OW = Oily Waste; O = Other

Nº 03960

Requested Analyses

Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	VOCs (8260B)									Remarks
TB070714	—	7/7/14	0910	AQ	2	X									
MW-28D (161-163)	—	7/7/14	1210	AQ	3	X									
MW-28D (201-206)	—	7/7/14	1633	AQ	3	X									
MW-28D (211-216)	—	7/8/14	1423	AQ	3	X									

# of Coolers: 1
Custody Seal: ABS
Ice Present: Yes
Shipping Carrier: Client
Temp: 5°C

Relinquished by (Signature):	Date / Time	Received by (Signature):
	7/8/14 1611	
Relinquished by (Signature):	Date / Time	Received by (Signature):
Turn-Around Time: <24 hours		Tracking Number: —

Laboratory Name: Phase Separation Science
Laboratory Location: Baltimore MD
Custody Seal Numbers: —
Method of Shipment: WSP delivery

WSP
WSP Environment & Energy

☒ Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
☐ Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
☐ San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
☐ New Jersey Office: 334 Elizabeth Ave., Somerset, NJ 08873 / Tel: 732-564-0888
☐ Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
☐ Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
☐ Boxborough Office: 1740 Massachusetts Ave., Boxborough, MA 01719 / Tel: 978-635-9600
☐ Cazenovia Office: 5 Sullivan Sta, Cazenovia, NY 13035 / Tel: 315-655-3900

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14070820	**Received By**	Jacob Prucnal
Client Name	WSP Environment & Energy - Restor	**Date Received**	07/08/2014 04:17:00 PM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	E0039196	**Tracking No**	Not Applicable
Disposal Date	08/12/2014	**Logged In By**	Jacob Prucnal

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	6
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 4

Total No. of Containers Received 11

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Per client: Trip blanks from sample 14070820-001 to be used for sample 14070821 as well. Arrived in same cooler.

Samples Inspected/Checklist Completed By: Jacob Prucnal — Date: 07/08/2014

Jacob Prucnal

PM Review and Approval: — Date: 07/08/2014

Simon Crisp

MW-31 Location

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14073108

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : 39196-25

August 1, 2014

Phase Separation Science, Inc.

6630 Baltimore National Pike
Baltimore, MD 21228
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PHASE SEPARATION SCIENCE, INC.

August 1, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14073108**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 39196-25

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14073108**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on September 4, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Cathy Thompson
QA Officer

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14073108

Project ID: 39196-25

The following samples were received under chain of custody by Phase Separation Science (PSS) on 07/31/2014 at 02:00 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14073108-001	MW-31-211-216	GROUND WATER	07/30/14 12:10
14073108-002	MW-31-251-256	GROUND WATER	07/31/14 10:06
14073108-003	MW-31-261-266	GROUND WATER	07/31/14 12:46
14073108-004	TB 073114	WATER	07/31/14 14:00

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14073108

WSP Environment & Energy - Reston, Reston, VA

August 1, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-31-211-216 **Date/Time Sampled: 07/30/2014 12:10** **PSS Sample ID: 14073108-001**
Matrix: GROUND WATER **Date/Time Received: 07/31/2014 14:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Chloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Bromomethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Chloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Acetone	ND	ug/L	10		1	07/31/14	07/31/14 15:38	1011
Cyclohexane	ND	ug/L	10		1	07/31/14	07/31/14 15:38	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/31/14	07/31/14 15:38	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Methylene Chloride	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/31/14	07/31/14 15:38	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Bromochloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Chloroform	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Benzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Methyl Acetate	ND	ug/L	10		1	07/31/14	07/31/14 15:38	1011
Methylcyclohexane	ND	ug/L	10		1	07/31/14	07/31/14 15:38	1011
Trichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Carbon Disulfide	ND	ug/L	10		1	07/31/14	07/31/14 15:38	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/31/14	07/31/14 15:38	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14073108

WSP Environment & Energy - Reston, Reston, VA

August 1, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-31-211-216 **Date/Time Sampled: 07/30/2014 12:10** **PSS Sample ID: 14073108-001**
Matrix: GROUND WATER **Date/Time Received: 07/31/2014 14:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Toluene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
2-Hexanone	ND	ug/L	10		1	07/31/14	07/31/14 15:38	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Bromoform	ND	ug/L	5.0		1	07/31/14	07/31/14 15:38	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Chlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Ethylbenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/31/14	07/31/14 15:38	1011
Styrene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
o-Xylene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/31/14	07/31/14 15:38	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
Naphthalene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:38	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14073108

WSP Environment & Energy - Reston, Reston, VA

August 1, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-31-251-256 **Date/Time Sampled: 07/31/2014 10:06** **PSS Sample ID: 14073108-002**
Matrix: GROUND WATER **Date/Time Received: 07/31/2014 14:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Chloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Bromomethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Chloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Acetone	ND	ug/L	10		1	07/31/14	07/31/14 16:13	1011
Cyclohexane	ND	ug/L	10		1	07/31/14	07/31/14 16:13	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/31/14	07/31/14 16:13	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Methylene Chloride	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/31/14	07/31/14 16:13	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Bromochloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Chloroform	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Benzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Methyl Acetate	ND	ug/L	10		1	07/31/14	07/31/14 16:13	1011
Methylcyclohexane	ND	ug/L	10		1	07/31/14	07/31/14 16:13	1011
Trichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Carbon Disulfide	ND	ug/L	10		1	07/31/14	07/31/14 16:13	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/31/14	07/31/14 16:13	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14073108

WSP Environment & Energy - Reston, Reston, VA

August 1, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-31-251-256 **Date/Time Sampled: 07/31/2014 10:06** **PSS Sample ID: 14073108-002**
Matrix: GROUND WATER **Date/Time Received: 07/31/2014 14:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Toluene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
2-Hexanone	ND	ug/L	10		1	07/31/14	07/31/14 16:13	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Bromoform	ND	ug/L	5.0		1	07/31/14	07/31/14 16:13	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Chlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Ethylbenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/31/14	07/31/14 16:13	1011
Styrene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
o-Xylene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/31/14	07/31/14 16:13	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
Naphthalene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:13	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14073108

WSP Environment & Energy - Reston, Reston, VA

August 1, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-31-261-266 **Date/Time Sampled: 07/31/2014 12:46** **PSS Sample ID: 14073108-003**
Matrix: GROUND WATER **Date/Time Received: 07/31/2014 14:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Chloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Bromomethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Chloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Acetone	ND	ug/L	10		1	07/31/14	07/31/14 16:48	1011
Cyclohexane	ND	ug/L	10		1	07/31/14	07/31/14 16:48	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/31/14	07/31/14 16:48	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Methylene Chloride	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/31/14	07/31/14 16:48	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Bromochloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Chloroform	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Benzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Methyl Acetate	ND	ug/L	10		1	07/31/14	07/31/14 16:48	1011
Methylcyclohexane	ND	ug/L	10		1	07/31/14	07/31/14 16:48	1011
Trichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Carbon Disulfide	ND	ug/L	10		1	07/31/14	07/31/14 16:48	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/31/14	07/31/14 16:48	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14073108

WSP Environment & Energy - Reston, Reston, VA

August 1, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-31-261-266 **Date/Time Sampled: 07/31/2014 12:46** **PSS Sample ID: 14073108-003**
Matrix: GROUND WATER **Date/Time Received: 07/31/2014 14:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Toluene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
2-Hexanone	ND	ug/L	10		1	07/31/14	07/31/14 16:48	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Bromoform	ND	ug/L	5.0		1	07/31/14	07/31/14 16:48	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Chlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Ethylbenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/31/14	07/31/14 16:48	1011
Styrene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
o-Xylene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/31/14	07/31/14 16:48	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
Naphthalene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 16:48	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14073108

WSP Environment & Energy - Reston, Reston, VA

August 1, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: TB 073114 **Date/Time Sampled: 07/31/2014 14:00** **PSS Sample ID: 14073108-004**
Matrix: WATER **Date/Time Received: 07/31/2014 14:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Chloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Bromomethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Chloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Acetone	ND	ug/L	10		1	07/31/14	07/31/14 15:03	1011
Cyclohexane	ND	ug/L	10		1	07/31/14	07/31/14 15:03	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/31/14	07/31/14 15:03	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Methylene Chloride	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/31/14	07/31/14 15:03	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Bromochloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Chloroform	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Benzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Methyl Acetate	ND	ug/L	10		1	07/31/14	07/31/14 15:03	1011
Methylcyclohexane	ND	ug/L	10		1	07/31/14	07/31/14 15:03	1011
Trichloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Carbon Disulfide	ND	ug/L	10		1	07/31/14	07/31/14 15:03	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/31/14	07/31/14 15:03	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14073108

WSP Environment & Energy - Reston, Reston, VA

August 1, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: TB 073114 **Date/Time Sampled: 07/31/2014 14:00** **PSS Sample ID: 14073108-004**
Matrix: WATER **Date/Time Received: 07/31/2014 14:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Toluene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
2-Hexanone	ND	ug/L	10		1	07/31/14	07/31/14 15:03	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Bromoform	ND	ug/L	5.0		1	07/31/14	07/31/14 15:03	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Chlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Ethylbenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/31/14	07/31/14 15:03	1011
Styrene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
o-Xylene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/31/14	07/31/14 15:03	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
Naphthalene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/31/14	07/31/14 15:03	1011

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14073108
Project ID: 39196-25

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

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

Sample Receipt:

All sample receipt conditions were acceptable.

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

Analytical Data Package Information Summary

Work Order(s): 14073108
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	MW-31-211-216	Initial	14073108-001	1011	W	51483	115665	07/30/2014	07/31/2014 09:11	07/31/2014 15:38
	MW-31-251-256	Initial	14073108-002	1011	W	51483	115665	07/31/2014	07/31/2014 09:11	07/31/2014 16:13
	MW-31-261-266	Initial	14073108-003	1011	W	51483	115665	07/31/2014	07/31/2014 09:11	07/31/2014 16:48
	TB 073114	Initial	14073108-004	1011	W	51483	115665	07/31/2014	07/31/2014 09:11	07/31/2014 15:03
	51483-1-BKS	BKS	51483-1-BKS	1011	W	51483	115665	--------	07/31/2014 09:11	07/31/2014 10:58
	51483-1-BLK	BLK	51483-1-BLK	1011	W	51483	115665	--------	07/31/2014 09:11	07/31/2014 12:07
	MW-31-211-216 S	MS	14073108-001 S	1011	W	51483	115665	07/30/2014	07/31/2014 09:11	07/31/2014 19:08
	MW-31-211-216 SD	MSD	14073108-001 SD	1011	W	51483	115665	07/30/2014	07/31/2014 09:11	07/31/2014 19:43

PHASE SEPARATION SCIENCE, INC.

QC Summary 14073108

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115665 Matrix: Ground Water Date Prep: 07/31/2014
PSS Sample ID: 14073108-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	103		84-110	%	07/31/14 15:38
Toluene-D8	101		94-109	%	07/31/14 15:38
4-Bromofluorobenzene	111		81-133	%	07/31/14 15:38

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115665 Matrix: Ground Water Date Prep: 07/31/2014
PSS Sample ID: 14073108-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	105		84-110	%	07/31/14 16:13
Toluene-D8	100		94-109	%	07/31/14 16:13
4-Bromofluorobenzene	109		81-133	%	07/31/14 16:13

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115665 Matrix: Ground Water Date Prep: 07/31/2014
PSS Sample ID: 14073108-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	105		84-110	%	07/31/14 16:48
Toluene-D8	101		94-109	%	07/31/14 16:48
4-Bromofluorobenzene	110		81-133	%	07/31/14 16:48

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115665 Matrix: Water Date Prep: 07/31/2014
PSS Sample ID: 14073108-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	104		84-110	%	07/31/14 15:03
Toluene-D8	101		94-109	%	07/31/14 15:03
4-Bromofluorobenzene	112		81-133	%	07/31/14 15:03

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14073108

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115665 Matrix: Water Date Prep: 07/31/14

MB Sample Id: 51483-1-BLK LCS Sample Id: 51483-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	48.20	96	54-139	ug/L	07/31/14 10:58	
Chloromethane	<1.000	50.00	39.24	78	62-131	ug/L	07/31/14 10:58	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	38.45	77	56-126	ug/L	07/31/14 10:58	
Vinyl Chloride	<1.000	50.00	42.48	85	64-132	ug/L	07/31/14 10:58	
Bromomethane	<1.000	50.00	38.05	76	40-147	ug/L	07/31/14 10:58	
Chloroethane	<1.000	50.00	41.29	83	59-132	ug/L	07/31/14 10:58	
Acetone	<10.00	50.00	46.59	93	53-146	ug/L	07/31/14 10:58	
Cyclohexane	<10.00	50.00	52.66	105	46-150	ug/L	07/31/14 10:58	
Trichlorofluoromethane	<5.000	50.00	44.75	90	45-130	ug/L	07/31/14 10:58	
1,1-Dichloroethene	<1.000	50.00	42.56	85	59-123	ug/L	07/31/14 10:58	
Methylene Chloride	<1.000	50.00	45.73	91	61-126	ug/L	07/31/14 10:58	
trans-1,2-Dichloroethene	<1.000	50.00	50.12	100	58-134	ug/L	07/31/14 10:58	
Methyl-t-butyl ether	<1.000	50.00	50.37	101	30-168	ug/L	07/31/14 10:58	
1,1-Dichloroethane	<1.000	50.00	46.05	92	51-136	ug/L	07/31/14 10:58	
2-Butanone (MEK)	<10.00	50.00	50.19	100	56-133	ug/L	07/31/14 10:58	
cis-1,2-Dichloroethene	<1.000	50.00	51.02	102	77-119	ug/L	07/31/14 10:58	
Bromochloromethane	<1.000	50.00	47.93	96	71-122	ug/L	07/31/14 10:58	
Chloroform	<1.000	50.00	46.41	93	71-118	ug/L	07/31/14 10:58	
1,1,1-Trichloroethane	<1.000	50.00	46.79	94	66-133	ug/L	07/31/14 10:58	
1,2-Dichloroethane	<1.000	50.00	45.00	90	64-130	ug/L	07/31/14 10:58	
Carbon Tetrachloride	<1.000	50.00	48.45	97	74-127	ug/L	07/31/14 10:58	
Benzene	<1.000	50.00	49.29	99	77-122	ug/L	07/31/14 10:58	
1,2-Dichloropropane	<1.000	50.00	46.45	93	75-125	ug/L	07/31/14 10:58	
Methyl Acetate	<10.00	50.00	34.74	69	47-145	ug/L	07/31/14 10:58	
Methylcyclohexane	<10.00	50.00	57.95	116	61-155	ug/L	07/31/14 10:58	
Trichloroethene	<1.000	50.00	49.16	98	72-127	ug/L	07/31/14 10:58	
Carbon Disulfide	<10.00	50.00	31.68	63	62-134	ug/L	07/31/14 10:58	
Bromodichloromethane	<1.000	50.00	49.76	100	76-122	ug/L	07/31/14 10:58	
cis-1,3-Dichloropropene	<1.000	50.00	48.91	98	74-123	ug/L	07/31/14 10:58	
4-Methyl-2-Pentanone	<5.000	50.00	48.52	97	45-145	ug/L	07/31/14 10:58	
trans-1,3-Dichloropropene	<1.000	50.00	47.42	95	73-116	ug/L	07/31/14 10:58	
1,1,2-Trichloroethane	<1.000	50.00	44.27	89	72-128	ug/L	07/31/14 10:58	
Toluene	<1.000	50.00	49.58	99	77-123	ug/L	07/31/14 10:58	
2-Hexanone	<10.00	50.00	45.47	91	56-134	ug/L	07/31/14 10:58	
1,2-Dibromoethane (EDB)	<1.000	50.00	47.04	94	78-121	ug/L	07/31/14 10:58	
Dibromochloromethane	<1.000	50.00	47.44	95	75-114	ug/L	07/31/14 10:58	
Bromoform	<5.000	50.00	47.11	94	69-115	ug/L	07/31/14 10:58	
Tetrachloroethene	<1.000	50.00	48.06	96	78-113	ug/L	07/31/14 10:58	
Chlorobenzene	<1.000	50.00	46.35	93	76-116	ug/L	07/31/14 10:58	
Ethylbenzene	<1.000	50.00	48.96	98	79-122	ug/L	07/31/14 10:58	
m,p-Xylenes	<2.000	100	100.8	101	78-119	ug/L	07/31/14 10:58	
Styrene	<1.000	50.00	45.80	92	73-118	ug/L	07/31/14 10:58	
1,1,2,2-Tetrachloroethane	<1.000	50.00	44.53	89	71-126	ug/L	07/31/14 10:58	
o-Xylene	<1.000	50.00	46.28	93	79-123	ug/L	07/31/14 10:58	
Isopropylbenzene	<1.000	50.00	49.45	99	80-128	ug/L	07/31/14 10:58	
1,3-Dichlorobenzene	<1.000	50.00	50.15	100	80-122	ug/L	07/31/14 10:58	
1,4-Dichlorobenzene	<1.000	50.00	46.62	93	77-118	ug/L	07/31/14 10:58	
1,2-Dichlorobenzene	<1.000	50.00	50.55	101	80-122	ug/L	07/31/14 10:58	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	47.31	95	59-135	ug/L	07/31/14 10:58	
1,2,4-Trichlorobenzene	<1.000	50.00	44.77	90	72-143	ug/L	07/31/14 10:58	
Naphthalene	<1.000	50.00	42.90	86	46-154	ug/L	07/31/14 10:58	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14073108

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115665 Matrix: Water Date Prep: 07/31/14

MB Sample Id: 51483-1-BLK LCS Sample Id: 51483-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	43.98	88	66-140	ug/L	07/31/14 10:58	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	101		100		84-110	%	07/31/14 10:58
Toluene-D8	99		99		94-109	%	07/31/14 10:58
4-Bromofluorobenzene	110		100		81-133	%	07/31/14 10:58

PHASE SEPARATION SCIENCE, INC.

QC Summary 14073108

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115665 Matrix: Ground Water Date Prep: 07/31/14

Parent Sample Id: 14073108-001 MS Sample Id: 14073108-001 S MSD Sample Id: 14073108-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	49.48	99	49.66	99	47-159	0	25	ug/L	07/31/14 19:08	
Chloromethane	<1.000	50.00	46.00	92	40.50	81	59-144	13	25	ug/L	07/31/14 19:08	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	49.84	100	46.70	93	47-139	7	25	ug/L	07/31/14 19:08	
Vinyl Chloride	<1.000	50.00	56.51	113	48.62	97	60-146	15	25	ug/L	07/31/14 19:08	
Bromomethane	<1.000	50.00	47.68	95	41.63	83	29-154	14	25	ug/L	07/31/14 19:08	
Chloroethane	<1.000	50.00	53.66	107	45.89	92	40-150	16	25	ug/L	07/31/14 19:08	
Acetone	<10.00	50.00	51.87	104	47.62	95	41-161	9	25	ug/L	07/31/14 19:08	
Cyclohexane	<10.00	50.00	58.66	117	59.27	119	34-161	1	25	ug/L	07/31/14 19:08	
Trichlorofluoromethane	<5.000	50.00	53.24	106	48.54	97	37-147	9	25	ug/L	07/31/14 19:08	
1,1-Dichloroethene	<1.000	50.00	51.65	103	46.42	93	50-136	11	25	ug/L	07/31/14 19:08	
Methylene Chloride	<1.000	50.00	53.04	106	48.07	96	56-137	10	25	ug/L	07/31/14 19:08	
trans-1,2-Dichloroethene	<1.000	50.00	55.72	111	52.50	105	54-144	6	25	ug/L	07/31/14 19:08	
Methyl-t-butyl ether	<1.000	50.00	54.82	110	52.32	105	22-182	5	25	ug/L	07/31/14 19:08	
1,1-Dichloroethane	<1.000	50.00	52.98	106	49.11	98	44-152	8	25	ug/L	07/31/14 19:08	
2-Butanone (MEK)	<10.00	50.00	47.97	96	48.20	96	47-140	0	25	ug/L	07/31/14 19:08	
cis-1,2-Dichloroethene	<1.000	50.00	57.88	116	52.67	105	76-127	9	25	ug/L	07/31/14 19:08	
Bromochloromethane	<1.000	50.00	51.29	103	49.87	100	67-130	3	25	ug/L	07/31/14 19:08	
Chloroform	<1.000	50.00	52.06	104	48.54	97	67-130	7	25	ug/L	07/31/14 19:08	
1,1,1-Trichloroethane	<1.000	50.00	53.35	107	50.65	101	70-138	5	25	ug/L	07/31/14 19:08	
1,2-Dichloroethane	<1.000	50.00	50.35	101	47.31	95	60-142	6	25	ug/L	07/31/14 19:08	
Carbon Tetrachloride	<1.000	50.00	53.95	108	51.33	103	74-136	5	25	ug/L	07/31/14 19:08	
Benzene	<1.000	50.00	54.18	108	51.63	103	75-132	5	25	ug/L	07/31/14 19:08	
1,2-Dichloropropane	<1.000	50.00	53.36	107	48.93	98	70-139	9	25	ug/L	07/31/14 19:08	
Methyl Acetate	<10.00	50.00	40.14	80	35.96	72	37-143	11	25	ug/L	07/31/14 19:08	
Methylcyclohexane	<10.00	50.00	62.08	124	63.80	128	55-148	3	25	ug/L	07/31/14 19:08	
Trichloroethene	<1.000	50.00	55.96	112	51.07	102	67-139	9	25	ug/L	07/31/14 19:08	
Carbon Disulfide	<10.00	50.00	55.87	112	50.63	101	59-146	10	25	ug/L	07/31/14 19:08	
Bromodichloromethane	<1.000	50.00	56.44	113	52.11	104	69-134	8	25	ug/L	07/31/14 19:08	
cis-1,3-Dichloropropene	<1.000	50.00	53.00	106	48.43	97	64-127	9	25	ug/L	07/31/14 19:08	
4-Methyl-2-Pentanone	<5.000	50.00	44.46	89	42.00	84	44-133	6	25	ug/L	07/31/14 19:08	
trans-1,3-Dichloropropene	<1.000	50.00	51.45	103	47.28	95	62-123	8	25	ug/L	07/31/14 19:08	
1,1,2-Trichloroethane	<1.000	50.00	51.94	104	47.49	95	65-143	9	25	ug/L	07/31/14 19:08	
Toluene	<1.000	50.00	56.52	113	51.98	104	74-132	8	25	ug/L	07/31/14 19:08	
2-Hexanone	<10.00	50.00	46.42	93	43.83	88	50-130	6	25	ug/L	07/31/14 19:08	
1,2-Dibromoethane (EDB)	<1.000	50.00	51.47	103	48.61	97	72-126	6	25	ug/L	07/31/14 19:08	
Dibromochloromethane	<1.000	50.00	50.83	102	48.39	97	73-114	5	25	ug/L	07/31/14 19:08	
Bromoform	<5.000	50.00	51.01	102	46.65	93	65-115	9	25	ug/L	07/31/14 19:08	
Tetrachloroethene	<1.000	50.00	57.22	114	52.25	105	69-126	9	25	ug/L	07/31/14 19:08	
Chlorobenzene	<1.000	50.00	51.04	102	47.02	94	78-115	8	25	ug/L	07/31/14 19:08	
Ethylbenzene	<1.000	50.00	53.74	107	49.94	100	74-129	7	25	ug/L	07/31/14 19:08	
m,p-Xylenes	<2.000	100	110.8	111	102.4	102	78-119	8	25	ug/L	07/31/14 19:08	
Styrene	<1.000	50.00	50.06	100	45.98	92	67-121	8	25	ug/L	07/31/14 19:08	
1,1,2,2-Tetrachloroethane	<1.000	50.00	47.62	95	46.16	92	68-127	3	25	ug/L	07/31/14 19:08	
o-Xylene	<1.000	50.00	51.32	103	47.01	94	80-123	9	25	ug/L	07/31/14 19:08	
Isopropylbenzene	<1.000	50.00	50.12	100	48.94	98	72-130	2	25	ug/L	07/31/14 19:08	
1,3-Dichlorobenzene	<1.000	50.00	53.12	106	50.04	100	73-117	6	25	ug/L	07/31/14 19:08	
1,4-Dichlorobenzene	<1.000	50.00	48.19	96	46.11	92	72-111	4	25	ug/L	07/31/14 19:08	
1,2-Dichlorobenzene	<1.000	50.00	53.34	107	50.96	102	73-117	5	25	ug/L	07/31/14 19:08	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	50.47	101	50.78	102	45-125	1	25	ug/L	07/31/14 19:08	
1,2,4-Trichlorobenzene	<1.000	50.00	45.63	91	43.71	87	31-135	4	25	ug/L	07/31/14 19:08	
Naphthalene	<1.000	50.00	45.25	91	44.92	90	7-137	1	25	ug/L	07/31/14 19:08	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14073108

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115665 Matrix: Ground Water Date Prep: 07/31/14

Parent Sample Id: 14073108-001 MS Sample Id: 14073108-001 S MSD Sample Id: 14073108-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	46.50	93	44.65	89	9-139	4	25	ug/L	07/31/14 19:08	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		103		84-110	%	07/31/14 19:08
Toluene-D8	106		102		94-109	%	07/31/14 19:08
4-Bromofluorobenzene	96		99		81-133	%	07/31/14 19:08

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

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

(1)

*CLIENT: WSP *OFFICE LOC. Reston, VA

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

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

*PROJECT NAME: Kop-Flex PROJECT NO.: 39196-25

SITE LOCATION: Hanover, MD P.O. NO.: 39196-25

SAMPLER(S): G Beaulieu DW CERT NO.:

PSS Work Order #: 14073108 PAGE 1 OF

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

(2)

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Preservatives Used	Analysis/ Method Required (3) * 8260 (VOCs)	REMARKS
1	MW-31-211-216	7/30/14	12:10	GW	3	G		X	
2	MW-31-251-256	7/31/14	10:06	GW	3	G		X	
3	MW-31-261-266	7/31/14	12:46	GW	3	G		X	
4	TB073114	—	—	W	2	—		X	
	end								

(5)

Relinquished By:	Date	Time	Received By:
(1) G Beaulieu	7/31/14	13:10	Dan Carter, #2035
(2) Dan Carter, #2035	01/31/14	14:00	
(3)			
(4)			

(4)

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

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

# of Coolers:
Custody Seal: AGS
Ice Present: Yes Temp: 5°C
Shipping Carrier: TYE

Special Instructions:

DW COMPLIANCE? YES ☐
EDD FORMAT TYPE: Std
STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER ____

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Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14073108	**Received By**	Jacob Prucnal
Client Name	WSP Environment & Energy - Restor	**Date Received**	07/31/2014 02:00:00 PM
Project Name	Kop-Flex	**Delivered By**	Trans Time Express
Project Number	39196-25	**Tracking No**	Not Applicable
Disposal Date	09/04/2014	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	5
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 4

Total No. of Containers Received 11

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Samples Inspected/Checklist Completed By:  Date: 07/31/2014

Rachel Davis

PM Review and Approval:  Date: 07/31/2014

Simon Crisp

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14080108

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : 39196-25

August 4, 2014

Phase Separation Science, Inc.

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PHASE SEPARATION SCIENCE, INC.

August 4, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14080108**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 39196-25

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14080108**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on September 5, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14080108

Project ID: 39196-25

The following samples were received under chain of custody by Phase Separation Science (PSS) on 08/01/2014 at 02:07 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14080108-001	MW-31-271-276	GROUND WATER	07/31/14 18:30
14080108-002	MW-31-281-286	GROUND WATER	08/01/14 11:50
14080108-003	TB080114	WATER	08/01/14 14:07

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080108

WSP Environment & Energy - Reston, Reston, VA

August 4, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-31-271-276 **Date/Time Sampled: 07/31/2014 18:30** **PSS Sample ID: 14080108-001**
Matrix: GROUND WATER **Date/Time Received: 08/01/2014 14:07**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Chloromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Vinyl Chloride	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Bromomethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Chloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Acetone	ND	ug/L	10		1	08/01/14	08/01/14 17:10	1011
Cyclohexane	ND	ug/L	10		1	08/01/14	08/01/14 17:10	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	08/01/14	08/01/14 17:10	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Methylene Chloride	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
2-Butanone (MEK)	ND	ug/L	10		1	08/01/14	08/01/14 17:10	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Bromochloromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Chloroform	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Benzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Methyl Acetate	ND	ug/L	10		1	08/01/14	08/01/14 17:10	1011
Methylcyclohexane	ND	ug/L	10		1	08/01/14	08/01/14 17:10	1011
Trichloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Carbon Disulfide	ND	ug/L	10		1	08/01/14	08/01/14 17:10	1011
Bromodichloromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	08/01/14	08/01/14 17:10	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080108

WSP Environment & Energy - Reston, Reston, VA

August 4, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-31-271-276 **Date/Time Sampled: 07/31/2014 18:30** **PSS Sample ID: 14080108-001**
Matrix: GROUND WATER **Date/Time Received: 08/01/2014 14:07**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Toluene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
2-Hexanone	ND	ug/L	10		1	08/01/14	08/01/14 17:10	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Dibromochloromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Bromoform	ND	ug/L	5.0		1	08/01/14	08/01/14 17:10	1011
Tetrachloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Chlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Ethylbenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
m,p-Xylenes	ND	ug/L	2.0		1	08/01/14	08/01/14 17:10	1011
Styrene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
o-Xylene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Isopropylbenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	08/01/14	08/01/14 17:10	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
Naphthalene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:10	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080108

WSP Environment & Energy - Reston, Reston, VA

August 4, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-31-281-286 **Date/Time Sampled: 08/01/2014 11:50** **PSS Sample ID: 14080108-002**
Matrix: GROUND WATER **Date/Time Received: 08/01/2014 14:07**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Chloromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Vinyl Chloride	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Bromomethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Chloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Acetone	ND	ug/L	10		1	08/01/14	08/01/14 17:45	1011
Cyclohexane	ND	ug/L	10		1	08/01/14	08/01/14 17:45	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	08/01/14	08/01/14 17:45	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Methylene Chloride	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
2-Butanone (MEK)	ND	ug/L	10		1	08/01/14	08/01/14 17:45	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Bromochloromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Chloroform	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Benzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Methyl Acetate	ND	ug/L	10		1	08/01/14	08/01/14 17:45	1011
Methylcyclohexane	ND	ug/L	10		1	08/01/14	08/01/14 17:45	1011
Trichloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Carbon Disulfide	ND	ug/L	10		1	08/01/14	08/01/14 17:45	1011
Bromodichloromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	08/01/14	08/01/14 17:45	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080108

WSP Environment & Energy - Reston, Reston, VA

August 4, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-31-281-286 **Date/Time Sampled: 08/01/2014 11:50** **PSS Sample ID: 14080108-002**
Matrix: GROUND WATER **Date/Time Received: 08/01/2014 14:07**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Toluene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
2-Hexanone	ND	ug/L	10		1	08/01/14	08/01/14 17:45	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Dibromochloromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Bromoform	ND	ug/L	5.0		1	08/01/14	08/01/14 17:45	1011
Tetrachloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Chlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Ethylbenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
m,p-Xylenes	ND	ug/L	2.0		1	08/01/14	08/01/14 17:45	1011
Styrene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
o-Xylene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Isopropylbenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	08/01/14	08/01/14 17:45	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
Naphthalene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 17:45	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080108

WSP Environment & Energy - Reston, Reston, VA

August 4, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: TB080114 **Date/Time Sampled: 08/01/2014 14:07** **PSS Sample ID: 14080108-003**
Matrix: WATER **Date/Time Received: 08/01/2014 14:07**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Chloromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Vinyl Chloride	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Bromomethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Chloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Acetone	ND	ug/L	10		1	08/01/14	08/01/14 16:36	1011
Cyclohexane	ND	ug/L	10		1	08/01/14	08/01/14 16:36	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	08/01/14	08/01/14 16:36	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Methylene Chloride	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
2-Butanone (MEK)	ND	ug/L	10		1	08/01/14	08/01/14 16:36	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Bromochloromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Chloroform	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Benzene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Methyl Acetate	ND	ug/L	10		1	08/01/14	08/01/14 16:36	1011
Methylcyclohexane	ND	ug/L	10		1	08/01/14	08/01/14 16:36	1011
Trichloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Carbon Disulfide	ND	ug/L	10		1	08/01/14	08/01/14 16:36	1011
Bromodichloromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	08/01/14	08/01/14 16:36	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080108

WSP Environment & Energy - Reston, Reston, VA

August 4, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: TB080114 **Date/Time Sampled: 08/01/2014 14:07** **PSS Sample ID: 14080108-003**
Matrix: WATER **Date/Time Received: 08/01/2014 14:07**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Toluene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
2-Hexanone	ND	ug/L	10		1	08/01/14	08/01/14 16:36	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Dibromochloromethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Bromoform	ND	ug/L	5.0		1	08/01/14	08/01/14 16:36	1011
Tetrachloroethene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Chlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Ethylbenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
m,p-Xylenes	ND	ug/L	2.0		1	08/01/14	08/01/14 16:36	1011
Styrene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
o-Xylene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Isopropylbenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	08/01/14	08/01/14 16:36	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
Naphthalene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/01/14 16:36	1011

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14080108
Project ID: 39196-25

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

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

Sample Receipt:

All sample receipt conditions were acceptable.

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

Analytical Data Package Information Summary

Work Order(s): **14080108**
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	MW-31-271-276	Initial	14080108-001	1011	W	51506	115692	07/31/2014	08/01/2014 09:10	08/01/2014 17:10
	MW-31-281-286	Initial	14080108-002	1011	W	51506	115692	08/01/2014	08/01/2014 09:10	08/01/2014 17:45
	TB080114	Initial	14080108-003	1011	W	51506	115692	08/01/2014	08/01/2014 09:10	08/01/2014 16:36
	51506-1-BKS	BKS	51506-1-BKS	1011	W	51506	115692	--------	08/01/2014 09:10	08/01/2014 10:36
	51506-1-BLK	BLK	51506-1-BLK	1011	W	51506	115692	--------	08/01/2014 09:10	08/01/2014 11:47
	MW-31-271-276 S	MS	14080108-001 S	1011	W	51506	115692	07/31/2014	08/01/2014 09:10	08/01/2014 19:31
	MW-31-271-276 SD	MSD	14080108-001 SD	1011	W	51506	115692	07/31/2014	08/01/2014 09:10	08/01/2014 20:06

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080108

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115692 Matrix: Ground Water Date Prep: 08/01/2014
PSS Sample ID: 14080108-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	103		84-110	%	08/01/14 17:10
Toluene-D8	101		94-109	%	08/01/14 17:10
4-Bromofluorobenzene	109		81-133	%	08/01/14 17:10

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115692 Matrix: Ground Water Date Prep: 08/01/2014
PSS Sample ID: 14080108-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	104		84-110	%	08/01/14 17:45
Toluene-D8	100		94-109	%	08/01/14 17:45
4-Bromofluorobenzene	111		81-133	%	08/01/14 17:45

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115692 Matrix: Water Date Prep: 08/01/2014
PSS Sample ID: 14080108-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	105		84-110	%	08/01/14 16:36
Toluene-D8	101		94-109	%	08/01/14 16:36
4-Bromofluorobenzene	111		81-133	%	08/01/14 16:36

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080108

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115692 Matrix: Water Date Prep: 08/01/14

MB Sample Id: 51506-1-BLK LCS Sample Id: 51506-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	51.34	103	54-139	ug/L	08/01/14 10:36	
Chloromethane	<1.000	50.00	40.80	82	62-131	ug/L	08/01/14 10:36	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	45.26	91	56-126	ug/L	08/01/14 10:36	
Vinyl Chloride	<1.000	50.00	45.66	91	64-132	ug/L	08/01/14 10:36	
Bromomethane	<1.000	50.00	40.87	82	40-147	ug/L	08/01/14 10:36	
Chloroethane	<1.000	50.00	44.22	88	59-132	ug/L	08/01/14 10:36	
Acetone	<10.00	50.00	40.80	82	53-146	ug/L	08/01/14 10:36	
Cyclohexane	<10.00	50.00	59.36	119	46-150	ug/L	08/01/14 10:36	
Trichlorofluoromethane	<5.000	50.00	49.98	100	45-130	ug/L	08/01/14 10:36	
1,1-Dichloroethene	<1.000	50.00	47.86	96	59-123	ug/L	08/01/14 10:36	
Methylene Chloride	<1.000	50.00	51.61	103	61-126	ug/L	08/01/14 10:36	
trans-1,2-Dichloroethene	<1.000	50.00	57.66	115	58-134	ug/L	08/01/14 10:36	
Methyl-t-butyl ether	<1.000	50.00	59.26	119	30-168	ug/L	08/01/14 10:36	
1,1-Dichloroethane	<1.000	50.00	51.80	104	51-136	ug/L	08/01/14 10:36	
2-Butanone (MEK)	<10.00	50.00	50.43	101	56-133	ug/L	08/01/14 10:36	
cis-1,2-Dichloroethene	<1.000	50.00	58.25	117	77-119	ug/L	08/01/14 10:36	
Bromochloromethane	<1.000	50.00	53.51	107	71-122	ug/L	08/01/14 10:36	
Chloroform	<1.000	50.00	51.70	103	71-118	ug/L	08/01/14 10:36	
1,1,1-Trichloroethane	<1.000	50.00	53.03	106	66-133	ug/L	08/01/14 10:36	
1,2-Dichloroethane	<1.000	50.00	49.73	99	64-130	ug/L	08/01/14 10:36	
Carbon Tetrachloride	<1.000	50.00	54.82	110	74-127	ug/L	08/01/14 10:36	
Benzene	<1.000	50.00	55.73	111	77-122	ug/L	08/01/14 10:36	
1,2-Dichloropropane	<1.000	50.00	52.01	104	75-125	ug/L	08/01/14 10:36	
Methyl Acetate	<10.00	50.00	36.53	73	47-145	ug/L	08/01/14 10:36	
Methylcyclohexane	<10.00	50.00	63.07	126	61-155	ug/L	08/01/14 10:36	
Trichloroethene	<1.000	50.00	55.71	111	72-127	ug/L	08/01/14 10:36	
Carbon Disulfide	<10.00	50.00	54.55	109	62-134	ug/L	08/01/14 10:36	
Bromodichloromethane	<1.000	50.00	51.85	104	76-122	ug/L	08/01/14 10:36	
cis-1,3-Dichloropropene	<1.000	50.00	55.32	111	74-123	ug/L	08/01/14 10:36	
4-Methyl-2-Pentanone	<5.000	50.00	51.05	102	45-145	ug/L	08/01/14 10:36	
trans-1,3-Dichloropropene	<1.000	50.00	53.68	107	73-116	ug/L	08/01/14 10:36	
1,1,2-Trichloroethane	<1.000	50.00	50.04	100	72-128	ug/L	08/01/14 10:36	
Toluene	<1.000	50.00	55.79	112	77-123	ug/L	08/01/14 10:36	
2-Hexanone	<10.00	50.00	45.72	91	56-134	ug/L	08/01/14 10:36	
1,2-Dibromoethane (EDB)	<1.000	50.00	53.42	107	78-121	ug/L	08/01/14 10:36	
Dibromochloromethane	<1.000	50.00	53.43	107	75-114	ug/L	08/01/14 10:36	
Bromoform	<5.000	50.00	52.96	106	69-115	ug/L	08/01/14 10:36	
Tetrachloroethene	<1.000	50.00	56.08	112	78-113	ug/L	08/01/14 10:36	
Chlorobenzene	<1.000	50.00	51.86	104	76-116	ug/L	08/01/14 10:36	
Ethylbenzene	<1.000	50.00	54.25	109	79-122	ug/L	08/01/14 10:36	
m,p-Xylenes	<2.000	100	112.1	112	78-119	ug/L	08/01/14 10:36	
Styrene	<1.000	50.00	51.46	103	73-118	ug/L	08/01/14 10:36	
1,1,2,2-Tetrachloroethane	<1.000	50.00	50.22	100	71-126	ug/L	08/01/14 10:36	
o-Xylene	<1.000	50.00	51.82	104	79-123	ug/L	08/01/14 10:36	
Isopropylbenzene	<1.000	50.00	55.53	111	80-128	ug/L	08/01/14 10:36	
1,3-Dichlorobenzene	<1.000	50.00	55.81	112	80-122	ug/L	08/01/14 10:36	
1,4-Dichlorobenzene	<1.000	50.00	51.09	102	77-118	ug/L	08/01/14 10:36	
1,2-Dichlorobenzene	<1.000	50.00	55.82	112	80-122	ug/L	08/01/14 10:36	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	56.07	112	59-135	ug/L	08/01/14 10:36	
1,2,4-Trichlorobenzene	<1.000	50.00	50.17	100	72-143	ug/L	08/01/14 10:36	
Naphthalene	<1.000	50.00	49.55	99	46-154	ug/L	08/01/14 10:36	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080108

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115692 Matrix: Water Date Prep: 08/01/14

MB Sample Id: 51506-1-BLK LCS Sample Id: 51506-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	49.70	99	66-140	ug/L	08/01/14 10:36	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	101		101		84-110	%	08/01/14 10:36
Toluene-D8	101		101		94-109	%	08/01/14 10:36
4-Bromofluorobenzene	110		102		81-133	%	08/01/14 10:36

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080108

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115692 Matrix: Ground Water Date Prep: 08/01/14

Parent Sample Id: 14080108-001 MS Sample Id: 14080108-001 S MSD Sample Id: 14080108-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	50.71	101	48.88	98	47-159	4	25	ug/L	08/01/14 19:31	
Chloromethane	<1.000	50.00	44.08	88	41.53	83	59-144	6	25	ug/L	08/01/14 19:31	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	47.61	95	45.72	91	47-139	4	25	ug/L	08/01/14 19:31	
Vinyl Chloride	<1.000	50.00	54.57	109	50.16	100	60-146	8	25	ug/L	08/01/14 19:31	
Bromomethane	<1.000	50.00	45.23	90	41.45	83	29-154	9	25	ug/L	08/01/14 19:31	
Chloroethane	<1.000	50.00	49.80	100	44.63	89	40-150	11	25	ug/L	08/01/14 19:31	
Acetone	<10.00	50.00	41.00	82	47.20	94	41-161	14	25	ug/L	08/01/14 19:31	
Cyclohexane	<10.00	50.00	61.03	122	58.76	118	34-161	4	25	ug/L	08/01/14 19:31	
Trichlorofluoromethane	<5.000	50.00	50.91	102	47.68	95	37-147	7	25	ug/L	08/01/14 19:31	
1,1-Dichloroethene	<1.000	50.00	50.80	102	47.10	94	50-136	8	25	ug/L	08/01/14 19:31	
Methylene Chloride	<1.000	50.00	54.14	108	51.22	102	56-137	6	25	ug/L	08/01/14 19:31	
trans-1,2-Dichloroethene	<1.000	50.00	59.12	118	54.89	110	54-144	7	25	ug/L	08/01/14 19:31	
Methyl-t-butyl ether	<1.000	50.00	56.32	113	55.23	110	22-182	2	25	ug/L	08/01/14 19:31	
1,1-Dichloroethane	<1.000	50.00	53.96	108	49.24	98	44-152	9	25	ug/L	08/01/14 19:31	
2-Butanone (MEK)	<10.00	50.00	43.26	87	46.41	93	47-140	7	25	ug/L	08/01/14 19:31	
cis-1,2-Dichloroethene	<1.000	50.00	58.76	118	54.34	109	76-127	8	25	ug/L	08/01/14 19:31	
Bromochloromethane	<1.000	50.00	55.60	111	52.54	105	67-130	6	25	ug/L	08/01/14 19:31	
Chloroform	<1.000	50.00	53.61	107	49.24	98	67-130	8	25	ug/L	08/01/14 19:31	
1,1,1-Trichloroethane	<1.000	50.00	55.16	110	50.94	102	70-138	8	25	ug/L	08/01/14 19:31	
1,2-Dichloroethane	<1.000	50.00	51.23	102	47.92	96	60-142	7	25	ug/L	08/01/14 19:31	
Carbon Tetrachloride	<1.000	50.00	58.51	117	53.51	107	74-136	9	25	ug/L	08/01/14 19:31	
Benzene	<1.000	50.00	57.29	115	52.25	105	75-132	9	25	ug/L	08/01/14 19:31	
1,2-Dichloropropane	<1.000	50.00	53.95	108	49.32	99	70-139	9	25	ug/L	08/01/14 19:31	
Methyl Acetate	<10.00	50.00	36.53	73	37.63	75	37-143	3	25	ug/L	08/01/14 19:31	
Methylcyclohexane	<10.00	50.00	63.29	127	61.37	123	55-148	3	25	ug/L	08/01/14 19:31	
Trichloroethene	<1.000	50.00	56.93	114	52.13	104	67-139	9	25	ug/L	08/01/14 19:31	
Carbon Disulfide	<10.00	50.00	57.43	115	53.81	108	59-146	7	25	ug/L	08/01/14 19:31	
Bromodichloromethane	<1.000	50.00	57.80	116	54.15	108	69-134	7	25	ug/L	08/01/14 19:31	
cis-1,3-Dichloropropene	<1.000	50.00	54.03	108	50.24	100	64-127	7	25	ug/L	08/01/14 19:31	
4-Methyl-2-Pentanone	<5.000	50.00	44.00	88	42.56	85	44-133	3	25	ug/L	08/01/14 19:31	
trans-1,3-Dichloropropene	<1.000	50.00	52.18	104	48.56	97	62-123	7	25	ug/L	08/01/14 19:31	
1,1,2-Trichloroethane	<1.000	50.00	51.85	104	50.20	100	65-143	3	25	ug/L	08/01/14 19:31	
Toluene	<1.000	50.00	58.32	117	53.43	107	74-132	9	25	ug/L	08/01/14 19:31	
2-Hexanone	<10.00	50.00	42.09	84	43.17	86	50-130	3	25	ug/L	08/01/14 19:31	
1,2-Dibromoethane (EDB)	<1.000	50.00	53.26	107	50.58	101	72-126	5	25	ug/L	08/01/14 19:31	
Dibromochloromethane	<1.000	50.00	53.04	106	49.60	99	73-114	7	25	ug/L	08/01/14 19:31	
Bromoform	<5.000	50.00	51.64	103	50.36	101	65-115	3	25	ug/L	08/01/14 19:31	
Tetrachloroethene	<1.000	50.00	57.71	115	53.14	106	69-126	8	25	ug/L	08/01/14 19:31	
Chlorobenzene	<1.000	50.00	52.69	105	48.51	97	78-115	8	25	ug/L	08/01/14 19:31	
Ethylbenzene	<1.000	50.00	55.91	112	50.72	101	74-129	10	25	ug/L	08/01/14 19:31	
m,p-Xylenes	<2.000	100	115.6	116	105	105	78-119	10	25	ug/L	08/01/14 19:31	
Styrene	<1.000	50.00	52.24	104	47.73	95	67-121	9	25	ug/L	08/01/14 19:31	
1,1,2,2-Tetrachloroethane	<1.000	50.00	50.03	100	48.90	98	68-127	2	25	ug/L	08/01/14 19:31	
o-Xylene	<1.000	50.00	52.47	105	47.98	96	80-123	9	25	ug/L	08/01/14 19:31	
Isopropylbenzene	<1.000	50.00	55.09	110	50.48	101	72-130	9	25	ug/L	08/01/14 19:31	
1,3-Dichlorobenzene	<1.000	50.00	56.48	113	52.15	104	73-117	8	25	ug/L	08/01/14 19:31	
1,4-Dichlorobenzene	<1.000	50.00	51.40	103	47.29	95	72-111	8	25	ug/L	08/01/14 19:31	
1,2-Dichlorobenzene	<1.000	50.00	55.65	111	51.48	103	73-117	8	25	ug/L	08/01/14 19:31	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	51.48	103	50.86	102	45-125	1	25	ug/L	08/01/14 19:31	
1,2,4-Trichlorobenzene	<1.000	50.00	50.41	101	45.91	92	31-135	9	25	ug/L	08/01/14 19:31	
Naphthalene	<1.000	50.00	48.79	98	46.60	93	7-137	5	25	ug/L	08/01/14 19:31	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080108

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115692 Matrix: Ground Water Date Prep: 08/01/14

Parent Sample Id: 14080108-001 MS Sample Id: 14080108-001 S MSD Sample Id: 14080108-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	50.44	101	45.89	92	9-139	9	25	ug/L	08/01/14 19:31	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		102		84-110	%	08/01/14 19:31
Toluene-D8	102		102		94-109	%	08/01/14 19:31
4-Bromofluorobenzene	99		101		81-133	%	08/01/14 19:31

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

CHAIN OF CUSTODY RECORD

14080108

Page 1 of 1

Project Number:	Site and Location:
39196-25	Kop-Flex / Hanover, PA

Contact Name:	Contact Email:
Eric.Johnson@wspgroup.com	

Sampler's Name:	Sampler's Signature:
G Beaulieu	G Beaulieu

Matrices:
S = Soil:
Aq = Water
A = Air: Bu = Bulk
~~Wi = Wipe~~
Bi = Biota:
OW = Oily Waste:
O = Other

Requested Analyses

Nº 02275

Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	VOCs (8260)	Remarks
MW-31-271-276		7/31/14	18:30	GW	3	X	EMERGENCY Turnaround
MW-31-281-286		8/1/14	11:50	GW	3	X	
TB080114		—	—	W	2	X	
end							

# of Coolers: 1
Custody Seal: INTACT - Cooler
Ice Present: Present Temp: 9°C
Shipping Carrier: TTE

Relinquished by (Signature):	Date | Time	Received by (Signature):
G Beaulieu	8/1/14 13:35	D. Boone
D. Boone	8/1 1407	
Turn-Around Time:		Tracking Number:

Laboratory Name: Phase Separation Science
Laboratory Location: Baltimore, MD
Custody Seal Numbers: 02913
Method of Shipment: courier

WSP
~~WSP Environment & Energy~~

- [x] Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
- [ ] Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
- [ ] San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
- [ ] New Jersey Office: 334 Elizabeth Ave., Somerset, NJ 08873 / Tel: 732-564-0888
- [ ] Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
- [ ] Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
- [ ] Boxborough Office: 1740 Massachusetts Ave., Boxborough, MA 01719 / Tel: 978-635-9600
- [ ] Cazenovia Office: 5 Sullivan St., Cazenovia, NY 13035 / Tel: 315-655-3900

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14080108	**Received By**	Evan Richardson
Client Name	WSP Environment & Energy - Restor	**Date Received**	08/01/2014 02:07:00 PM
Project Name	Kop-Flex	**Delivered By**	Trans Time Express
Project Number	39196-25	**Tracking No**	Not Applicable
Disposal Date	09/05/2014	**Logged In By**	Jacob Prucnal

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	Yes	Temp (deg C)	9
Seal(s) Signed / Dated?	Yes	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 3 Total No. of Containers Received 8

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Samples Inspected/Checklist Completed By: Jacob Prucnal Date: 08/01/2014

Jacob Prucnal

PM Review and Approval: Date: 08/01/2014

Simon Crisp

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14080124

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : 39196-25

August 4, 2014

Phase Separation Science, Inc.

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

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PHASE SEPARATION SCIENCE, INC.

August 4, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14080124**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 39196-25

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14080124**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on September 5, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Cathy Thompson
QA Officer

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14080124

Project ID: 39196-25

The following samples were received under chain of custody by Phase Separation Science (PSS) on 08/01/2014 at 04:45 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14080124-001	MW-31-291-26-296'	GROUND WATER	08/01/14 16:03

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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

PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080124

WSP Environment & Energy - Reston, Reston, VA

August 4, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-31-291-26-296' **Date/Time Sampled: 08/01/2014 16:03** **PSS Sample ID: 14080124-001**
Matrix: GROUND WATER **Date/Time Received: 08/01/2014 16:45**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Chloromethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Vinyl Chloride	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Bromomethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Chloroethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Acetone	ND	ug/L	10		1	08/01/14	08/02/14 08:58	1011
Cyclohexane	ND	ug/L	10		1	08/01/14	08/02/14 08:58	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	08/01/14	08/02/14 08:58	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Methylene Chloride	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
2-Butanone (MEK)	ND	ug/L	10		1	08/01/14	08/02/14 08:58	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Bromochloromethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Chloroform	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Benzene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Methyl Acetate	ND	ug/L	10		1	08/01/14	08/02/14 08:58	1011
Methylcyclohexane	ND	ug/L	10		1	08/01/14	08/02/14 08:58	1011
Trichloroethene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Carbon Disulfide	ND	ug/L	10		1	08/01/14	08/02/14 08:58	1011
Bromodichloromethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	08/01/14	08/02/14 08:58	1011

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

PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080124

WSP Environment & Energy - Reston, Reston, VA

August 4, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-31-291-26-296' **Date/Time Sampled: 08/01/2014 16:03** **PSS Sample ID: 14080124-001**
Matrix: GROUND WATER **Date/Time Received: 08/01/2014 16:45**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Toluene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
2-Hexanone	ND	ug/L	10		1	08/01/14	08/02/14 08:58	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Dibromochloromethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Bromoform	ND	ug/L	5.0		1	08/01/14	08/02/14 08:58	1011
Tetrachloroethene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Chlorobenzene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Ethylbenzene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
m,p-Xylenes	ND	ug/L	2.0		1	08/01/14	08/02/14 08:58	1011
Styrene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
o-Xylene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Isopropylbenzene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	08/01/14	08/02/14 08:58	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
Naphthalene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	08/01/14	08/02/14 08:58	1011

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14080124
Project ID: 39196-25

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

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

Sample Receipt:

All sample receipt conditions were acceptable.

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

Analytical Data Package Information Summary

Work Order(s): 14080124
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	MW-31-291-26-296'	Initial	14080124-001	1011	W	51509	115696	08/01/2014	08/01/2014 21:51	08/02/2014 08:58
	51509-1-BKS	BKS	51509-1-BKS	1011	W	51509	115696	--------	08/01/2014 21:51	08/01/2014 23:36
	51509-1-BLK	BLK	51509-1-BLK	1011	W	51509	115696	--------	08/01/2014 21:51	08/02/2014 00:47
	MW-2 S	MS	14073122-002 S	1011	W	51509	115696	07/30/2014	08/01/2014 21:51	08/02/2014 07:48
	MW-2 SD	MSD	14073122-002 SD	1011	W	51509	115696	07/30/2014	08/01/2014 21:51	08/02/2014 08:23

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080124

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115696 Matrix: Ground Water Date Prep: 08/01/2014
PSS Sample ID: 14080124-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		84-110	%	08/02/14 08:58
Toluene-D8	102		94-109	%	08/02/14 08:58
4-Bromofluorobenzene	111		81-133	%	08/02/14 08:58

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080124

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115696 Matrix: Water Date Prep: 08/01/14

MB Sample Id: 51509-1-BLK LCS Sample Id: 51509-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	41.91	84	54-139	ug/L	08/01/14 23:36	
Chloromethane	<1.000	50.00	38.11	76	62-131	ug/L	08/01/14 23:36	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	40.38	81	56-126	ug/L	08/01/14 23:36	
Vinyl Chloride	<1.000	50.00	45.42	91	64-132	ug/L	08/01/14 23:36	
Bromomethane	<1.000	50.00	39.12	78	40-147	ug/L	08/01/14 23:36	
Chloroethane	<1.000	50.00	43.20	86	59-132	ug/L	08/01/14 23:36	
Acetone	<10.00	50.00	48.25	97	53-146	ug/L	08/01/14 23:36	
Cyclohexane	<10.00	50.00	52.64	105	46-150	ug/L	08/01/14 23:36	
Trichlorofluoromethane	<5.000	50.00	45.08	90	45-130	ug/L	08/01/14 23:36	
1,1-Dichloroethene	<1.000	50.00	43.76	88	59-123	ug/L	08/01/14 23:36	
Methylene Chloride	<1.000	50.00	48.48	97	61-126	ug/L	08/01/14 23:36	
trans-1,2-Dichloroethene	<1.000	50.00	52.97	106	58-134	ug/L	08/01/14 23:36	
Methyl-t-butyl ether	<1.000	50.00	53.71	107	30-168	ug/L	08/01/14 23:36	
1,1-Dichloroethane	<1.000	50.00	48.90	98	51-136	ug/L	08/01/14 23:36	
2-Butanone (MEK)	<10.00	50.00	56.61	113	56-133	ug/L	08/01/14 23:36	
cis-1,2-Dichloroethene	<1.000	50.00	53.49	107	77-119	ug/L	08/01/14 23:36	
Bromochloromethane	<1.000	50.00	50.35	101	71-122	ug/L	08/01/14 23:36	
Chloroform	<1.000	50.00	48.31	97	71-118	ug/L	08/01/14 23:36	
1,1,1-Trichloroethane	<1.000	50.00	49.47	99	66-133	ug/L	08/01/14 23:36	
1,2-Dichloroethane	<1.000	50.00	46.83	94	64-130	ug/L	08/01/14 23:36	
Carbon Tetrachloride	<1.000	50.00	51.61	103	74-127	ug/L	08/01/14 23:36	
Benzene	<1.000	50.00	51.34	103	77-122	ug/L	08/01/14 23:36	
1,2-Dichloropropane	<1.000	50.00	48.81	98	75-125	ug/L	08/01/14 23:36	
Methyl Acetate	<10.00	50.00	36.43	73	47-145	ug/L	08/01/14 23:36	
Methylcyclohexane	<10.00	50.00	55.33	111	61-155	ug/L	08/01/14 23:36	
Trichloroethene	<1.000	50.00	51.58	103	72-127	ug/L	08/01/14 23:36	
Carbon Disulfide	<10.00	50.00	49.93	100	62-134	ug/L	08/01/14 23:36	
Bromodichloromethane	<1.000	50.00	52.81	106	76-122	ug/L	08/01/14 23:36	
cis-1,3-Dichloropropene	<1.000	50.00	49.03	98	74-123	ug/L	08/01/14 23:36	
4-Methyl-2-Pentanone	<5.000	50.00	59.12	118	45-145	ug/L	08/01/14 23:36	
trans-1,3-Dichloropropene	<1.000	50.00	46.69	93	73-116	ug/L	08/01/14 23:36	
1,1,2-Trichloroethane	<1.000	50.00	48.28	97	72-128	ug/L	08/01/14 23:36	
Toluene	<1.000	50.00	52.84	106	77-123	ug/L	08/01/14 23:36	
2-Hexanone	<10.00	50.00	51.17	102	56-134	ug/L	08/01/14 23:36	
1,2-Dibromoethane (EDB)	<1.000	50.00	49.28	99	78-121	ug/L	08/01/14 23:36	
Dibromochloromethane	<1.000	50.00	48.46	97	75-114	ug/L	08/01/14 23:36	
Bromoform	<5.000	50.00	47.53	95	69-115	ug/L	08/01/14 23:36	
Tetrachloroethene	<1.000	50.00	50.81	102	78-113	ug/L	08/01/14 23:36	
Chlorobenzene	<1.000	50.00	47.81	96	76-116	ug/L	08/01/14 23:36	
Ethylbenzene	<1.000	50.00	50.15	100	79-122	ug/L	08/01/14 23:36	
m,p-Xylenes	<2.000	100	102.7	103	78-119	ug/L	08/01/14 23:36	
Styrene	<1.000	50.00	47.05	94	73-118	ug/L	08/01/14 23:36	
1,1,2,2-Tetrachloroethane	<1.000	50.00	46.89	94	71-126	ug/L	08/01/14 23:36	
o-Xylene	<1.000	50.00	46.87	94	79-123	ug/L	08/01/14 23:36	
Isopropylbenzene	<1.000	50.00	50.61	101	80-128	ug/L	08/01/14 23:36	
1,3-Dichlorobenzene	<1.000	50.00	51.28	103	80-122	ug/L	08/01/14 23:36	
1,4-Dichlorobenzene	<1.000	50.00	46.90	94	77-118	ug/L	08/01/14 23:36	
1,2-Dichlorobenzene	<1.000	50.00	50.80	102	80-122	ug/L	08/01/14 23:36	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	49.43	99	59-135	ug/L	08/01/14 23:36	
1,2,4-Trichlorobenzene	<1.000	50.00	46.29	93	72-143	ug/L	08/01/14 23:36	
Naphthalene	<1.000	50.00	45.76	92	46-154	ug/L	08/01/14 23:36	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080124

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115696 Matrix: Water Date Prep: 08/01/14

MB Sample Id: 51509-1-BLK LCS Sample Id: 51509-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	46.45	93	66-140	ug/L	08/01/14 23:36	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	104		103		84-110	%	08/01/14 23:36
Toluene-D8	101		102		94-109	%	08/01/14 23:36
4-Bromofluorobenzene	107		101		81-133	%	08/01/14 23:36

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

CHAIN OF CUSTODY RECORD

1408012A

Page 1 of 1

Project Number:	Site and Location:
39196-25	Kop-Flex/Hanover, MD

Contact Name:	Contact Email:
Eric.Johnson@	wspgroup.com

Sampler's Name:	Sampler's Signature:
GBeaulieu	GBeaulieu

Matrices:
S = Soil:
Aq = Water
A = Air: Bu = Bulk
W = Wipe
Bi = Biota:
OW = Oily Waste:
O = Other

Requested Analyses

Nº 02277

Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	VOCs (8260)	Remarks
MW-31-291-296'		8/1/14	16:03	GW	3	X	Emergency TAT
—end—							

# of Coolers: 1
Custody Seal: ABS
Ice Present: Yes Temp: 5°C
Shipping Carrier: Client

Relinquished by (Signature):	Date | Time	Received by (Signature):
GBeaulieu	8/1/14 16:45	
Relinquished by (Signature):	Date | Time	Received by (Signature):
Turn-Around Time:		Tracking Number:
Emergency		—

Laboratory Name: PSS
Laboratory Location: Baltimore, MD
Custody Seal Numbers: —
Method of Shipment: self

WSP
~~WSP Environment & Energy~~

☒ Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
☐ Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
☐ San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
☐ New Jersey Office: 334 Elizabeth Ave., Somerset, NJ 08873 / Tel: 732-564-0888
☐ Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
☐ Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
☐ Boxborough Office: 1740 Massachusetts Ave., Boxborough, MA 01719 / Tel: 978-635-9600
☐ Cazenovia Office: 5 Sullivan St., Cazenovia, NY 13035 / Tel: 315-655-3900

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14080124	**Received By**	Jacob Prucnal
Client Name	WSP Environment & Energy - Restor	**Date Received**	08/01/2014 04:45:00 PM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	39196-25	**Tracking No**	Not Applicable
Disposal Date	09/05/2014	**Logged In By**	Jacob Prucnal

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	6
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 1

Total No. of Containers Received 3

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Samples Inspected/Checklist Completed By: Jacob Prucnal — Date: 08/01/2014

Jacob Prucnal

PM Review and Approval: — Date: 08/02/2014

Simon Crisp

MW-33 Location

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14071514

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : 39136-25

July 16, 2014

Phase Separation Science, Inc.

6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
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PHASE SEPARATION SCIENCE, INC.

July 16, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14071514**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 39136-25

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14071514**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on August 19, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14071514

Project ID: 39136-25

The following samples were received under chain of custody by Phase Separation Science (PSS) on 07/15/2014 at 02:40 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14071514-001	MW-33(211-216)	WATER	07/14/14 14:21
14071514-002	MW-33(221-226)	WATER	07/14/14 17:41
14071514-003	MW-33(231-236)	WATER	07/14/14 11:20
14071514-004	TB071514	WATER	07/15/14 12:30

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071514

WSP Environment & Energy - Reston, Reston, VA

July 16, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39136-25

Sample ID: MW-33(211-216) **Date/Time Sampled: 07/14/2014 14:21** **PSS Sample ID: 14071514-001**
Matrix: WATER **Date/Time Received: 07/15/2014 14:40**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Chloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Bromomethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Chloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Acetone	ND	ug/L	10		1	07/15/14	07/15/14 16:12	1011
Cyclohexane	ND	ug/L	10		1	07/15/14	07/15/14 16:12	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/15/14	07/15/14 16:12	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Methylene Chloride	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/15/14	07/15/14 16:12	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Bromochloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Chloroform	**1.9**	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Benzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Methyl Acetate	ND	ug/L	10		1	07/15/14	07/15/14 16:12	1011
Methylcyclohexane	ND	ug/L	10		1	07/15/14	07/15/14 16:12	1011
Trichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Carbon Disulfide	ND	ug/L	10		1	07/15/14	07/15/14 16:12	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/15/14	07/15/14 16:12	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071514

WSP Environment & Energy - Reston, Reston, VA

July 16, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39136-25

Sample ID: MW-33(211-216) **Date/Time Sampled: 07/14/2014 14:21** **PSS Sample ID: 14071514-001**
Matrix: WATER **Date/Time Received: 07/15/2014 14:40**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Toluene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
2-Hexanone	ND	ug/L	10		1	07/15/14	07/15/14 16:12	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Bromoform	ND	ug/L	5.0		1	07/15/14	07/15/14 16:12	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Chlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Ethylbenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/15/14	07/15/14 16:12	1011
Styrene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
o-Xylene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/15/14	07/15/14 16:12	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
Naphthalene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:12	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071514

WSP Environment & Energy - Reston, Reston, VA

July 16, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39136-25

Sample ID: MW-33(221-226) **Date/Time Sampled: 07/14/2014 17:41** **PSS Sample ID: 14071514-002**
Matrix: WATER **Date/Time Received: 07/15/2014 14:40**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Chloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Bromomethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Chloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Acetone	ND	ug/L	10		1	07/15/14	07/15/14 16:47	1011
Cyclohexane	ND	ug/L	10		1	07/15/14	07/15/14 16:47	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/15/14	07/15/14 16:47	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Methylene Chloride	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/15/14	07/15/14 16:47	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Bromochloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Chloroform	**2.0**	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Benzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Methyl Acetate	ND	ug/L	10		1	07/15/14	07/15/14 16:47	1011
Methylcyclohexane	ND	ug/L	10		1	07/15/14	07/15/14 16:47	1011
Trichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Carbon Disulfide	ND	ug/L	10		1	07/15/14	07/15/14 16:47	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/15/14	07/15/14 16:47	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071514

WSP Environment & Energy - Reston, Reston, VA

July 16, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39136-25

Sample ID: MW-33(221-226) **Date/Time Sampled: 07/14/2014 17:41** **PSS Sample ID: 14071514-002**
Matrix: WATER **Date/Time Received: 07/15/2014 14:40**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Toluene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
2-Hexanone	ND	ug/L	10		1	07/15/14	07/15/14 16:47	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Bromoform	ND	ug/L	5.0		1	07/15/14	07/15/14 16:47	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Chlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Ethylbenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/15/14	07/15/14 16:47	1011
Styrene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
o-Xylene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/15/14	07/15/14 16:47	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
Naphthalene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 16:47	1011

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CERTIFICATE OF ANALYSIS

No: 14071514

WSP Environment & Energy - Reston, Reston, VA

July 16, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39136-25

Sample ID: MW-33(231-236) **Date/Time Sampled: 07/14/2014 11:20** **PSS Sample ID: 14071514-003**
Matrix: WATER **Date/Time Received: 07/15/2014 14:40**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Chloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Bromomethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Chloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Acetone	ND	ug/L	10		1	07/15/14	07/15/14 17:23	1011
Cyclohexane	ND	ug/L	10		1	07/15/14	07/15/14 17:23	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/15/14	07/15/14 17:23	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Methylene Chloride	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/15/14	07/15/14 17:23	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Bromochloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Chloroform	**1.7**	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Benzene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Methyl Acetate	ND	ug/L	10		1	07/15/14	07/15/14 17:23	1011
Methylcyclohexane	ND	ug/L	10		1	07/15/14	07/15/14 17:23	1011
Trichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Carbon Disulfide	ND	ug/L	10		1	07/15/14	07/15/14 17:23	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/15/14	07/15/14 17:23	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071514

WSP Environment & Energy - Reston, Reston, VA

July 16, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39136-25

Sample ID: MW-33(231-236) **Date/Time Sampled: 07/14/2014 11:20** **PSS Sample ID: 14071514-003**
Matrix: WATER **Date/Time Received: 07/15/2014 14:40**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Toluene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
2-Hexanone	ND	ug/L	10		1	07/15/14	07/15/14 17:23	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Bromoform	ND	ug/L	5.0		1	07/15/14	07/15/14 17:23	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Chlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Ethylbenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/15/14	07/15/14 17:23	1011
Styrene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
o-Xylene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/15/14	07/15/14 17:23	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
Naphthalene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 17:23	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071514

WSP Environment & Energy - Reston, Reston, VA

July 16, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39136-25

Sample ID: TB071514 **Date/Time Sampled: 07/15/2014 12:30** **PSS Sample ID: 14071514-004**
Matrix: WATER **Date/Time Received: 07/15/2014 14:40**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Chloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Bromomethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Chloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Acetone	ND	ug/L	10		1	07/15/14	07/15/14 15:37	1011
Cyclohexane	ND	ug/L	10		1	07/15/14	07/15/14 15:37	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/15/14	07/15/14 15:37	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Methylene Chloride	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/15/14	07/15/14 15:37	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Bromochloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Chloroform	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Benzene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Methyl Acetate	ND	ug/L	10		1	07/15/14	07/15/14 15:37	1011
Methylcyclohexane	ND	ug/L	10		1	07/15/14	07/15/14 15:37	1011
Trichloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Carbon Disulfide	ND	ug/L	10		1	07/15/14	07/15/14 15:37	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/15/14	07/15/14 15:37	1011

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

PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071514

WSP Environment & Energy - Reston, Reston, VA

July 16, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39136-25

Sample ID: TB071514 **Date/Time Sampled: 07/15/2014 12:30** **PSS Sample ID: 14071514-004**
Matrix: WATER **Date/Time Received: 07/15/2014 14:40**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Toluene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
2-Hexanone	ND	ug/L	10		1	07/15/14	07/15/14 15:37	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Bromoform	ND	ug/L	5.0		1	07/15/14	07/15/14 15:37	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Chlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Ethylbenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/15/14	07/15/14 15:37	1011
Styrene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
o-Xylene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/15/14	07/15/14 15:37	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
Naphthalene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/15/14	07/15/14 15:37	1011

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14071514
Project ID: 39136-25

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

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

Sample Receipt:

COC Client Sample ID MW-33(221-226) does not match Container Client Sample ID MW-33(121-126), for which they were labeled.

Analytical:

TCL Volatile Organic Compounds

Batch: 115269

Laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) exceedances identified; see LCS summary form.

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

Analytical Data Package Information Summary

Work Order(s): **14071514**
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	MW-33(211-216)	Initial	14071514-001	1011	W	51236	115269	07/14/2014	07/15/2014 13:00	07/15/2014 16:12
	MW-33(221-226)	Initial	14071514-002	1011	W	51236	115269	07/14/2014	07/15/2014 13:00	07/15/2014 16:47
	MW-33(231-236)	Initial	14071514-003	1011	W	51236	115269	07/14/2014	07/15/2014 13:00	07/15/2014 17:23
	TB071514	Initial	14071514-004	1011	W	51236	115269	07/15/2014	07/15/2014 13:00	07/15/2014 15:37
	51236-1-BKS	BKS	51236-1-BKS	1011	W	51236	115269	--------	07/15/2014 13:00	07/15/2014 13:17
	51236-1-BLK	BLK	51236-1-BLK	1011	W	51236	115269	--------	07/15/2014 13:00	07/15/2014 15:02
	51236-1-BSD	BSD	51236-1-BSD	1011	W	51236	115269	--------	07/15/2014 13:00	07/15/2014 13:52

PHASE SEPARATION SCIENCE, INC.

QC Summary 14071514

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115269 Matrix: Water Date Prep: 07/15/2014
PSS Sample ID: 14071514-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	117	*	84-110	%	07/15/14 16:12
Toluene-D8	104		94-109	%	07/15/14 16:12
4-Bromofluorobenzene	100		81-133	%	07/15/14 16:12

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115269 Matrix: Water Date Prep: 07/15/2014
PSS Sample ID: 14071514-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	110		84-110	%	07/15/14 16:47
Toluene-D8	102		94-109	%	07/15/14 16:47
4-Bromofluorobenzene	100		81-133	%	07/15/14 16:47

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115269 Matrix: Water Date Prep: 07/15/2014
PSS Sample ID: 14071514-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	107		84-110	%	07/15/14 17:23
Toluene-D8	103		94-109	%	07/15/14 17:23
4-Bromofluorobenzene	101		81-133	%	07/15/14 17:23

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115269 Matrix: Water Date Prep: 07/15/2014
PSS Sample ID: 14071514-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	107		84-110	%	07/15/14 15:37
Toluene-D8	106		94-109	%	07/15/14 15:37
4-Bromofluorobenzene	100		81-133	%	07/15/14 15:37

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14071514

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115269 Matrix: Water Date Prep: 07/15/14

MB Sample Id: 51236-1-BLK LCS Sample Id: 51236-1-BKS LCSD Sample Id: 51236-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	13.15	26	4.570	9	54-139	97	20	ug/L	07/15/14 13:17	LF
Chloromethane	<1.000	50.00	29.27	59	14.75	30	62-131	66	20	ug/L	07/15/14 13:17	LF
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	48.46	97	37.81	76	56-126	25	20	ug/L	07/15/14 13:17	F
Vinyl Chloride	<1.000	50.00	32.30	65	18.67	37	64-132	53	20	ug/L	07/15/14 13:17	LF
Bromomethane	<1.000	50.00	40.29	81	27.21	54	40-147	39	20	ug/L	07/15/14 13:17	F
Chloroethane	<1.000	50.00	42.44	85	30.04	60	59-132	34	20	ug/L	07/15/14 13:17	F
Acetone	<10.00	50.00	49.78	100	58.24	116	53-146	16	20	ug/L	07/15/14 13:17	
Cyclohexane	<10.00	50.00	41.54	83	35.50	71	46-150	16	20	ug/L	07/15/14 13:17	
Trichlorofluoromethane	<5.000	50.00	49.46	99	34.55	69	45-130	35	20	ug/L	07/15/14 13:17	F
1,1-Dichloroethene	<1.000	50.00	48.02	96	39.91	80	59-123	18	20	ug/L	07/15/14 13:17	
Methylene Chloride	<1.000	50.00	49.38	99	47.31	95	61-126	4	20	ug/L	07/15/14 13:17	
trans-1,2-Dichloroethene	<1.000	50.00	48.50	97	45.64	91	58-134	6	20	ug/L	07/15/14 13:17	
Methyl-t-butyl ether	<1.000	50.00	50.04	100	52.70	105	30-168	5	20	ug/L	07/15/14 13:17	
1,1-Dichloroethane	<1.000	50.00	48.11	96	47.20	94	51-136	2	20	ug/L	07/15/14 13:17	
2-Butanone (MEK)	<10.00	50.00	49.52	99	48.29	97	56-133	3	20	ug/L	07/15/14 13:17	
cis-1,2-Dichloroethene	<1.000	50.00	51.84	104	51.49	103	77-119	1	20	ug/L	07/15/14 13:17	
Bromochloromethane	<1.000	50.00	48.02	96	50.28	101	71-122	5	20	ug/L	07/15/14 13:17	
Chloroform	<1.000	50.00	50.73	101	51.02	102	71-118	1	20	ug/L	07/15/14 13:17	
1,1,1-Trichloroethane	<1.000	50.00	50.75	102	50.10	100	66-133	1	20	ug/L	07/15/14 13:17	
1,2-Dichloroethane	<1.000	50.00	49.38	99	52.20	104	64-130	6	20	ug/L	07/15/14 13:17	
Carbon Tetrachloride	<1.000	50.00	52.40	105	52.07	104	74-127	1	20	ug/L	07/15/14 13:17	
Benzene	<1.000	50.00	48.95	98	49.08	98	77-122	0	20	ug/L	07/15/14 13:17	
1,2-Dichloropropane	<1.000	50.00	49.13	98	51.01	102	75-125	4	20	ug/L	07/15/14 13:17	
Methyl Acetate	<10.00	50.00	45.45	91	49.63	99	47-145	9	20	ug/L	07/15/14 13:17	
Methylcyclohexane	<10.00	50.00	42.85	86	39.14	78	61-155	9	20	ug/L	07/15/14 13:17	
Trichloroethene	<1.000	50.00	50.76	102	51.18	102	72-127	1	20	ug/L	07/15/14 13:17	
Carbon Disulfide	<10.00	50.00	41.58	83	31.54	63	62-134	27	20	ug/L	07/15/14 13:17	F
Bromodichloromethane	<1.000	50.00	52.15	104	54.59	109	76-122	5	20	ug/L	07/15/14 13:17	
cis-1,3-Dichloropropene	<1.000	50.00	49.82	100	51.99	104	74-123	4	20	ug/L	07/15/14 13:17	
4-Methyl-2-Pentanone	<5.000	50.00	47.30	95	48.36	97	45-145	2	20	ug/L	07/15/14 13:17	
trans-1,3-Dichloropropene	<1.000	50.00	47.75	96	50.17	100	73-116	5	20	ug/L	07/15/14 13:17	
1,1,2-Trichloroethane	<1.000	50.00	48.19	96	51.73	103	72-128	7	20	ug/L	07/15/14 13:17	
Toluene	<1.000	50.00	49.64	99	50.88	102	77-123	2	20	ug/L	07/15/14 13:17	
2-Hexanone	<10.00	50.00	41.33	83	46.52	93	56-134	12	20	ug/L	07/15/14 13:17	
1,2-Dibromoethane (EDB)	<1.000	50.00	47.53	95	51.08	102	78-121	7	20	ug/L	07/15/14 13:17	
Dibromochloromethane	<1.000	50.00	45.82	92	48.10	96	75-114	5	20	ug/L	07/15/14 13:17	
Bromoform	<5.000	50.00	39.81	80	43.52	87	69-115	9	20	ug/L	07/15/14 13:17	
Tetrachloroethene	<1.000	50.00	50.38	101	51.82	104	78-113	3	20	ug/L	07/15/14 13:17	
Chlorobenzene	<1.000	50.00	47.60	95	49.38	99	76-116	4	20	ug/L	07/15/14 13:17	
Ethylbenzene	<1.000	50.00	48.13	96	49.95	100	79-122	4	20	ug/L	07/15/14 13:17	
m,p-Xylenes	<2.000	100	86.68	87	89.48	89	78-119	3	20	ug/L	07/15/14 13:17	
Styrene	<1.000	50.00	41.86	84	43.83	88	73-118	5	20	ug/L	07/15/14 13:17	
1,1,2,2-Tetrachloroethane	<1.000	50.00	41.74	83	43.18	86	71-126	3	20	ug/L	07/15/14 13:17	
o-Xylene	<1.000	50.00	42.74	85	44.13	88	79-123	3	20	ug/L	07/15/14 13:17	
Isopropylbenzene	<1.000	50.00	41.49	83	41.64	83	80-128	0	20	ug/L	07/15/14 13:17	
1,3-Dichlorobenzene	<1.000	50.00	45.71	91	47.86	96	80-122	5	20	ug/L	07/15/14 13:17	
1,4-Dichlorobenzene	<1.000	50.00	45.30	91	46.06	92	77-118	2	20	ug/L	07/15/14 13:17	
1,2-Dichlorobenzene	<1.000	50.00	45.78	92	48.20	96	80-122	5	20	ug/L	07/15/14 13:17	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	36.54	73	42.16	84	59-135	14	20	ug/L	07/15/14 13:17	
1,2,4-Trichlorobenzene	<1.000	50.00	42.23	84	44.54	89	72-143	5	20	ug/L	07/15/14 13:17	
Naphthalene	<1.000	50.00	33.30	67	36.55	73	46-154	9	20	ug/L	07/15/14 13:17	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14071514

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115269 Matrix: Water Date Prep: 07/15/14

MB Sample Id: 51236-1-BLK LCS Sample Id: 51236-1-BKS LCSD Sample Id: 51236-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	37.91	76	41.50	83	66-140	9	20	ug/L	07/15/14 13:17	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	106		107		107		84-110	%	07/15/14 13:17
Toluene-D8	104		100		101		94-109	%	07/15/14 13:17
4-Bromofluorobenzene	100		87		89		81-133	%	07/15/14 13:17

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

CHAIN OF CUSTODY RECORD

~~39136-25~~ A 14071514

Project Number:	Site and Location:
39136-25	Kop-Flex, Hanover, MD
Contact Name:	**Contact Email:**
Eric.Johnson@WSPGroup.com	
Sampler's Name:	**Sampler's Signature:**
Rob Wallace	

Matrices: S = Soil; Aq = Water; A = Air: Bu = Bulk; W = Wipe; Bi = Biota; OW = Oily Waste; O = Other

Requested Analyses

Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	VOCs (8260)									Nº Remarks
MW-33 (211-216)	211-216	7/14/14	1421	Aq	3	X									
MW-33 (221-226)	221-226	7/14/14	1741	Aq	3	X									
MW-33 (231-236)	231-236	7/15/14	1120	Aq	3	X									
TB071514	—	7/15/14	1230	Aq	2	X									

# of Coolers: 1
Custody Seal: Absent
Ice Present: Yes
Temp: 4°C
Shipping Carrier: Client

Relinquished by *(Signature)*: RSJ 7/15/14	Date | Time: 7/15/14 1440	Received by *(Signature)*:	Laboratory Name: PSS
Relinquished by *(Signature)*:	Date | Time:	Received by *(Signature)*:	Laboratory Location: Baltimore
Turn-Around Time: 24-hours		Tracking Number: —	Custody Seal Numbers: —
			Method of Shipment: Delivery

WSP Environment & Energy

- ☒ Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
- ☐ Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
- ☐ San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
- ☐ New Jersey Office: 200 Cottontail Ln., Somerset, NJ 08873 / Tel: 732-564-0888
- ☐ Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
- ☐ Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
- ☐ Woburn Office: 300 Trade Center, Suite 4690, Woburn, MA 01801
- ☐ Cazenovia Office: 5 Sullivan St., Cazenovia, NY 13035 / Tel: 315-655-3900

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14071514	**Received By**	Evan Richardson
Client Name	WSP Environment & Energy - Restor	**Date Received**	07/15/2014 02:40:00 PM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	39136-25	**Tracking No**	Not Applicable
Disposal Date	08/19/2014	**Logged In By**	Jacob Prucnal

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	4
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 4

Total No. of Containers Received 11

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

COC Client Sample ID MW-33(221-226) does not match Container Client Sample ID MW-33(121-126), for which they were labeled.

Samples Inspected/Checklist Completed By: Jacob Prucnal — Date: 07/15/2014

Jacob Prucnal

PM Review and Approval: — Date: 07/15/2014

Simon Crisp

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14071716

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : 39196-25

July 18, 2014

Phase Separation Science, Inc.

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PHASE SEPARATION SCIENCE, INC.

July 18, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14071716**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 39196-25

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14071716**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on August 21, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Cathy Thompson
QA Officer

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14071716

Project ID: 39196-25

The following samples were received under chain of custody by Phase Separation Science (PSS) on 07/17/2014 at 01:57 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14071716-001	MW-33 (271-276)	WATER	07/16/14 15:48
14071716-002	MW-33 (281-286)	WATER	07/17/14 10:46
14071716-003	Trip Blank	WATER	07/17/14 13:57

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071716

WSP Environment & Energy - Reston, Reston, VA

July 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-33 (271-276) **Date/Time Sampled: 07/16/2014 15:48** **PSS Sample ID: 14071716-001**
Matrix: WATER **Date/Time Received: 07/17/2014 13:57**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Chloromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Bromomethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Chloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Acetone	ND	ug/L	10		1	07/17/14	07/18/14 01:11	1011
Cyclohexane	ND	ug/L	10		1	07/17/14	07/18/14 01:11	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/17/14	07/18/14 01:11	1011
1,1-Dichloroethene	**2.4**	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Methylene Chloride	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/17/14	07/18/14 01:11	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Bromochloromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Chloroform	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Benzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Methyl Acetate	ND	ug/L	10		1	07/17/14	07/18/14 01:11	1011
Methylcyclohexane	ND	ug/L	10		1	07/17/14	07/18/14 01:11	1011
Trichloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Carbon Disulfide	ND	ug/L	10		1	07/17/14	07/18/14 01:11	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/17/14	07/18/14 01:11	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071716

WSP Environment & Energy - Reston, Reston, VA

July 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-33 (271-276) **Date/Time Sampled: 07/16/2014 15:48** **PSS Sample ID: 14071716-001**
Matrix: WATER **Date/Time Received: 07/17/2014 13:57**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Toluene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
2-Hexanone	ND	ug/L	10		1	07/17/14	07/18/14 01:11	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Bromoform	ND	ug/L	5.0		1	07/17/14	07/18/14 01:11	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Chlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Ethylbenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/17/14	07/18/14 01:11	1011
Styrene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
o-Xylene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/17/14	07/18/14 01:11	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
Naphthalene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:11	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071716

WSP Environment & Energy - Reston, Reston, VA

July 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-33 (281-286) **Date/Time Sampled: 07/17/2014 10:46** **PSS Sample ID: 14071716-002**
Matrix: WATER **Date/Time Received: 07/17/2014 13:57**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Chloromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Bromomethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Chloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Acetone	ND	ug/L	10		1	07/17/14	07/18/14 01:45	1011
Cyclohexane	ND	ug/L	10		1	07/17/14	07/18/14 01:45	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/17/14	07/18/14 01:45	1011
1,1-Dichloroethene	**2.0**	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Methylene Chloride	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/17/14	07/18/14 01:45	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Bromochloromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Chloroform	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Benzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Methyl Acetate	ND	ug/L	10		1	07/17/14	07/18/14 01:45	1011
Methylcyclohexane	ND	ug/L	10		1	07/17/14	07/18/14 01:45	1011
Trichloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Carbon Disulfide	ND	ug/L	10		1	07/17/14	07/18/14 01:45	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/17/14	07/18/14 01:45	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071716

WSP Environment & Energy - Reston, Reston, VA

July 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-33 (281-286) **Date/Time Sampled: 07/17/2014 10:46** **PSS Sample ID: 14071716-002**
Matrix: WATER **Date/Time Received: 07/17/2014 13:57**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Toluene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
2-Hexanone	ND	ug/L	10		1	07/17/14	07/18/14 01:45	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Bromoform	ND	ug/L	5.0		1	07/17/14	07/18/14 01:45	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Chlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Ethylbenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/17/14	07/18/14 01:45	1011
Styrene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
o-Xylene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/17/14	07/18/14 01:45	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
Naphthalene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 01:45	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071716

WSP Environment & Energy - Reston, Reston, VA

July 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: Trip Blank **Date/Time Sampled: 07/17/2014 13:57** **PSS Sample ID: 14071716-003**
Matrix: WATER **Date/Time Received: 07/17/2014 13:57**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Chloromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Bromomethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Chloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Acetone	ND	ug/L	10		1	07/17/14	07/18/14 00:35	1011
Cyclohexane	ND	ug/L	10		1	07/17/14	07/18/14 00:35	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/17/14	07/18/14 00:35	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Methylene Chloride	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/17/14	07/18/14 00:35	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Bromochloromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Chloroform	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Benzene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Methyl Acetate	ND	ug/L	10		1	07/17/14	07/18/14 00:35	1011
Methylcyclohexane	ND	ug/L	10		1	07/17/14	07/18/14 00:35	1011
Trichloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Carbon Disulfide	ND	ug/L	10		1	07/17/14	07/18/14 00:35	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/17/14	07/18/14 00:35	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071716

WSP Environment & Energy - Reston, Reston, VA

July 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: Trip Blank **Date/Time Sampled: 07/17/2014 13:57** **PSS Sample ID: 14071716-003**
Matrix: WATER **Date/Time Received: 07/17/2014 13:57**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Toluene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
2-Hexanone	ND	ug/L	10		1	07/17/14	07/18/14 00:35	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Bromoform	ND	ug/L	5.0		1	07/17/14	07/18/14 00:35	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Chlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Ethylbenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/17/14	07/18/14 00:35	1011
Styrene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
o-Xylene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/17/14	07/18/14 00:35	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
Naphthalene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/17/14	07/18/14 00:35	1011

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14071716
Project ID: 39196-25

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

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

Sample Receipt:

All sample receipt conditions were acceptable.

General Comments:
Emergency TAT per client.
NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Data Package Information Summary

Work Order(s): **14071716**
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	MW-33 (271-276)	Initial	14071716-001	1011	W	51287	115337	07/16/2014	07/17/2014 13:00	07/18/2014 01:11
	MW-33 (281-286)	Initial	14071716-002	1011	W	51287	115337	07/17/2014	07/17/2014 13:00	07/18/2014 01:45
	Trip Blank	Initial	14071716-003	1011	W	51287	115337	07/17/2014	07/17/2014 13:00	07/18/2014 00:35
	51287-1-BKS	BKS	51287-1-BKS	1011	W	51287	115337	--------	07/17/2014 13:00	07/17/2014 22:50
	51287-1-BLK	BLK	51287-1-BLK	1011	W	51287	115337	--------	07/17/2014 13:00	07/17/2014 00:01
	MW-33 (271-276) S	MS	14071716-001 S	1011	W	51287	115337	07/16/2014	07/17/2014 13:00	07/18/2014 03:31
	MW-33 (271-276) SD	MSD	14071716-001 SD	1011	W	51287	115337	07/16/2014	07/17/2014 13:00	07/18/2014 04:06

PHASE SEPARATION SCIENCE, INC.

QC Summary 14071716

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115337 Matrix: Water Date Prep: 07/17/2014
PSS Sample ID: 14071716-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	104		84-110	%	07/18/14 01:11
Toluene-D8	102		94-109	%	07/18/14 01:11
4-Bromofluorobenzene	103		81-133	%	07/18/14 01:11

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115337 Matrix: Water Date Prep: 07/17/2014
PSS Sample ID: 14071716-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		84-110	%	07/18/14 01:45
Toluene-D8	101		94-109	%	07/18/14 01:45
4-Bromofluorobenzene	101		81-133	%	07/18/14 01:45

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115337 Matrix: Water Date Prep: 07/17/2014
PSS Sample ID: 14071716-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		84-110	%	07/18/14 00:35
Toluene-D8	101		94-109	%	07/18/14 00:35
4-Bromofluorobenzene	103		81-133	%	07/18/14 00:35

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14071716

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115337 Matrix: Water Date Prep: 07/17/14

MB Sample Id: 51287-1-BLK LCS Sample Id: 51287-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	52.00	104	54-139	ug/L	07/17/14 22:50	
Chloromethane	<1.000	50.00	47.93	96	62-131	ug/L	07/17/14 22:50	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	46.18	92	56-126	ug/L	07/17/14 22:50	
Vinyl Chloride	<1.000	50.00	57.07	114	64-132	ug/L	07/17/14 22:50	
Bromomethane	<1.000	50.00	48.86	98	40-147	ug/L	07/17/14 22:50	
Chloroethane	<1.000	50.00	50.75	102	59-132	ug/L	07/17/14 22:50	
Acetone	<10.00	50.00	65.27	131	53-146	ug/L	07/17/14 22:50	
Cyclohexane	<10.00	50.00	50.07	100	46-150	ug/L	07/17/14 22:50	
Trichlorofluoromethane	<5.000	50.00	48.58	97	45-130	ug/L	07/17/14 22:50	
1,1-Dichloroethene	<1.000	50.00	49.80	100	59-123	ug/L	07/17/14 22:50	
Methylene Chloride	<1.000	50.00	48.91	98	61-126	ug/L	07/17/14 22:50	
trans-1,2-Dichloroethene	<1.000	50.00	47.99	96	58-134	ug/L	07/17/14 22:50	
Methyl-t-butyl ether	<1.000	50.00	46.57	93	30-168	ug/L	07/17/14 22:50	
1,1-Dichloroethane	<1.000	50.00	49.58	99	51-136	ug/L	07/17/14 22:50	
2-Butanone (MEK)	<10.00	50.00	61.15	122	56-133	ug/L	07/17/14 22:50	
cis-1,2-Dichloroethene	<1.000	50.00	49.22	98	77-119	ug/L	07/17/14 22:50	
Bromochloromethane	<1.000	50.00	48.66	97	71-122	ug/L	07/17/14 22:50	
Chloroform	<1.000	50.00	48.11	96	71-118	ug/L	07/17/14 22:50	
1,1,1-Trichloroethane	<1.000	50.00	48.04	96	66-133	ug/L	07/17/14 22:50	
1,2-Dichloroethane	<1.000	50.00	48.40	97	64-130	ug/L	07/17/14 22:50	
Carbon Tetrachloride	<1.000	50.00	47.16	94	74-127	ug/L	07/17/14 22:50	
Benzene	<1.000	50.00	51.54	103	77-122	ug/L	07/17/14 22:50	
1,2-Dichloropropane	<1.000	50.00	50.13	100	75-125	ug/L	07/17/14 22:50	
Methyl Acetate	<10.00	50.00	42.27	85	47-145	ug/L	07/17/14 22:50	
Methylcyclohexane	<10.00	50.00	50.55	101	61-155	ug/L	07/17/14 22:50	
Trichloroethene	<1.000	50.00	47.97	96	72-127	ug/L	07/17/14 22:50	
Carbon Disulfide	<10.00	50.00	47.26	95	62-134	ug/L	07/17/14 22:50	
Bromodichloromethane	<1.000	50.00	50.18	100	76-122	ug/L	07/17/14 22:50	
cis-1,3-Dichloropropene	<1.000	50.00	48.01	96	74-123	ug/L	07/17/14 22:50	
4-Methyl-2-Pentanone	<5.000	50.00	54.49	109	45-145	ug/L	07/17/14 22:50	
trans-1,3-Dichloropropene	<1.000	50.00	47.28	95	73-116	ug/L	07/17/14 22:50	
1,1,2-Trichloroethane	<1.000	50.00	50.12	100	72-128	ug/L	07/17/14 22:50	
Toluene	<1.000	50.00	51.48	103	77-123	ug/L	07/17/14 22:50	
2-Hexanone	<10.00	50.00	57.39	115	56-134	ug/L	07/17/14 22:50	
1,2-Dibromoethane (EDB)	<1.000	50.00	48.78	98	78-121	ug/L	07/17/14 22:50	
Dibromochloromethane	<1.000	50.00	50.73	101	75-114	ug/L	07/17/14 22:50	
Bromoform	<5.000	50.00	45.69	91	69-115	ug/L	07/17/14 22:50	
Tetrachloroethene	<1.000	50.00	49.31	99	78-113	ug/L	07/17/14 22:50	
Chlorobenzene	<1.000	50.00	49.35	99	76-116	ug/L	07/17/14 22:50	
Ethylbenzene	<1.000	50.00	50.81	102	79-122	ug/L	07/17/14 22:50	
m,p-Xylenes	<2.000	100	104	104	78-119	ug/L	07/17/14 22:50	
Styrene	<1.000	50.00	45.49	91	73-118	ug/L	07/17/14 22:50	
1,1,2,2-Tetrachloroethane	<1.000	50.00	43.71	87	71-126	ug/L	07/17/14 22:50	
o-Xylene	<1.000	50.00	53.03	106	79-123	ug/L	07/17/14 22:50	
Isopropylbenzene	<1.000	50.00	45.62	91	80-128	ug/L	07/17/14 22:50	
1,3-Dichlorobenzene	<1.000	50.00	48.66	97	80-122	ug/L	07/17/14 22:50	
1,4-Dichlorobenzene	<1.000	50.00	49.07	98	77-118	ug/L	07/17/14 22:50	
1,2-Dichlorobenzene	<1.000	50.00	52.59	105	80-122	ug/L	07/17/14 22:50	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	45.86	92	59-135	ug/L	07/17/14 22:50	
1,2,4-Trichlorobenzene	<1.000	50.00	53.69	107	72-143	ug/L	07/17/14 22:50	
Naphthalene	<1.000	50.00	49.19	98	46-154	ug/L	07/17/14 22:50	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14071716

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115337 Matrix: Water Date Prep: 07/17/14

MB Sample Id: 51287-1-BLK LCS Sample Id: 51287-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	54.37	109	66-140	ug/L	07/17/14 22:50	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		100		84-110	%	07/17/14 22:50
Toluene-D8	101		102		94-109	%	07/17/14 22:50
4-Bromofluorobenzene	104		88		81-133	%	07/17/14 22:50

PHASE SEPARATION SCIENCE, INC.

QC Summary 14071716

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115337 Matrix: Water Date Prep: 07/17/14

Parent Sample Id: 14071716-001 MS Sample Id: 14071716-001 S MSD Sample Id: 14071716-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	49.67	99	52.43	105	47-159	5	25	ug/L	07/18/14 03:31	
Chloromethane	<1.000	50.00	45.81	92	43.57	87	59-144	5	25	ug/L	07/18/14 03:31	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	44.74	89	45.32	91	47-139	1	25	ug/L	07/18/14 03:31	
Vinyl Chloride	<1.000	50.00	57.27	115	52.43	105	60-146	9	25	ug/L	07/18/14 03:31	
Bromomethane	<1.000	50.00	43.96	88	43.30	87	29-154	2	25	ug/L	07/18/14 03:31	
Chloroethane	<1.000	50.00	48.02	96	46.72	93	40-150	3	25	ug/L	07/18/14 03:31	
Acetone	<10.00	50.00	70.36	141	69.15	138	41-161	2	25	ug/L	07/18/14 03:31	
Cyclohexane	<10.00	50.00	48.99	98	51.11	102	34-161	4	25	ug/L	07/18/14 03:31	
Trichlorofluoromethane	<5.000	50.00	48.12	96	46.25	93	37-147	4	25	ug/L	07/18/14 03:31	
1,1-Dichloroethene	2.420	50.00	49.02	93	48.69	93	50-136	1	25	ug/L	07/18/14 03:31	
Methylene Chloride	<1.000	50.00	43.82	88	43.04	86	56-137	2	25	ug/L	07/18/14 03:31	
trans-1,2-Dichloroethene	<1.000	50.00	44.20	88	42.35	85	54-144	4	25	ug/L	07/18/14 03:31	
Methyl-t-butyl ether	<1.000	50.00	40.76	82	40.74	81	22-182	0	25	ug/L	07/18/14 03:31	
1,1-Dichloroethane	<1.000	50.00	46.95	94	44.37	89	44-152	6	25	ug/L	07/18/14 03:31	
2-Butanone (MEK)	<10.00	50.00	49.51	99	54.96	110	47-140	10	25	ug/L	07/18/14 03:31	
cis-1,2-Dichloroethene	<1.000	50.00	45.43	91	43.71	87	76-127	4	25	ug/L	07/18/14 03:31	
Bromochloromethane	<1.000	50.00	45.15	90	44.08	88	67-130	2	25	ug/L	07/18/14 03:31	
Chloroform	<1.000	50.00	46.25	93	44.05	88	67-130	5	25	ug/L	07/18/14 03:31	
1,1,1-Trichloroethane	<1.000	50.00	46.26	93	44.08	88	70-138	5	25	ug/L	07/18/14 03:31	
1,2-Dichloroethane	<1.000	50.00	45.83	92	44.31	89	60-142	3	25	ug/L	07/18/14 03:31	
Carbon Tetrachloride	<1.000	50.00	41.45	83	39.29	79	74-136	5	25	ug/L	07/18/14 03:31	
Benzene	<1.000	50.00	49.16	98	46.11	92	75-132	6	25	ug/L	07/18/14 03:31	
1,2-Dichloropropane	<1.000	50.00	46.91	94	44.73	89	70-139	5	25	ug/L	07/18/14 03:31	
Methyl Acetate	<10.00	50.00	35.38	71	35.09	70	37-143	1	25	ug/L	07/18/14 03:31	
Methylcyclohexane	<10.00	50.00	49.28	99	48.70	97	55-148	1	25	ug/L	07/18/14 03:31	
Trichloroethene	<1.000	50.00	45.39	91	43.06	86	67-139	5	25	ug/L	07/18/14 03:31	
Carbon Disulfide	<10.00	50.00	44.40	89	42.87	86	59-146	4	25	ug/L	07/18/14 03:31	
Bromodichloromethane	<1.000	50.00	48.35	97	44.68	89	69-134	8	25	ug/L	07/18/14 03:31	
cis-1,3-Dichloropropene	<1.000	50.00	42.05	84	40.00	80	64-127	5	25	ug/L	07/18/14 03:31	
4-Methyl-2-Pentanone	<5.000	50.00	47.90	96	48.09	96	44-133	0	25	ug/L	07/18/14 03:31	
trans-1,3-Dichloropropene	<1.000	50.00	41.43	83	39.60	79	62-123	5	25	ug/L	07/18/14 03:31	
1,1,2-Trichloroethane	<1.000	50.00	46.92	94	45.13	90	65-143	4	25	ug/L	07/18/14 03:31	
Toluene	<1.000	50.00	48.60	97	45.22	90	74-132	7	25	ug/L	07/18/14 03:31	
2-Hexanone	<10.00	50.00	54.33	109	54.30	109	50-130	0	25	ug/L	07/18/14 03:31	
1,2-Dibromoethane (EDB)	<1.000	50.00	44.25	89	43.98	88	72-126	1	25	ug/L	07/18/14 03:31	
Dibromochloromethane	<1.000	50.00	47.37	95	44.42	89	73-114	6	25	ug/L	07/18/14 03:31	
Bromoform	<5.000	50.00	41.71	83	39.86	80	65-115	5	25	ug/L	07/18/14 03:31	
Tetrachloroethene	<1.000	50.00	47.57	95	43.49	87	69-126	9	25	ug/L	07/18/14 03:31	
Chlorobenzene	<1.000	50.00	46.92	94	43.70	87	78-115	7	25	ug/L	07/18/14 03:31	
Ethylbenzene	<1.000	50.00	48.85	98	45.35	91	74-129	7	25	ug/L	07/18/14 03:31	
m,p-Xylenes	<2.000	100	98.67	99	91.67	92	78-119	7	25	ug/L	07/18/14 03:31	
Styrene	<1.000	50.00	43.97	88	41.37	83	67-121	6	25	ug/L	07/18/14 03:31	
1,1,2,2-Tetrachloroethane	<1.000	50.00	40.45	81	40.76	82	68-127	1	25	ug/L	07/18/14 03:31	
o-Xylene	<1.000	50.00	50.37	101	47.15	94	80-123	7	25	ug/L	07/18/14 03:31	
Isopropylbenzene	<1.000	50.00	43.53	87	41.22	82	72-130	5	25	ug/L	07/18/14 03:31	
1,3-Dichlorobenzene	<1.000	50.00	44.25	89	42.46	85	73-117	4	25	ug/L	07/18/14 03:31	
1,4-Dichlorobenzene	<1.000	50.00	44.56	89	42.42	85	72-111	5	25	ug/L	07/18/14 03:31	
1,2-Dichlorobenzene	<1.000	50.00	47.18	94	46.72	93	73-117	1	25	ug/L	07/18/14 03:31	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	41.59	83	44.33	89	45-125	6	25	ug/L	07/18/14 03:31	
1,2,4-Trichlorobenzene	<1.000	50.00	47.23	94	46.43	93	31-135	2	25	ug/L	07/18/14 03:31	
Naphthalene	<1.000	50.00	42.32	85	44.02	88	7-137	4	25	ug/L	07/18/14 03:31	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14071716

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115337 Matrix: Water Date Prep: 07/17/14

Parent Sample Id: 14071716-001 MS Sample Id: 14071716-001 S MSD Sample Id: 14071716-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	48.52	97	46.89	94	9-139	3	25	ug/L	07/18/14 03:31	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	101		100		84-110	%	07/18/14 03:31
Toluene-D8	102		102		94-109	%	07/18/14 03:31
4-Bromofluorobenzene	89		90		81-133	%	07/18/14 03:31

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

CHAIN OF CUSTODY RECORD

14071716

Page 1 of 1

Project Number:	Site and Location:
39196-25	Kop-Flex, Hanover, MD
Contact Name:	**Contact Email:**
Eric.Jonnson@WSPgroup.com	
Sampler's Name:	**Sampler's Signature:**
Rob Wallace	

Matrices:
S = Soil:
Aq = Water
A = Air: Bu = Bulk
W = Wipe
Bi = Biota:
OW = Oily Waste:
O = Other

Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	Requested Analyses: VOCs (8260)									Remarks
															N°
MW-33(271-276)	271-276	7/16/14	1548	Aq	3	X									
MW-33(281-286)	281-286	7/17/14	1046	Aq	3	X									
Trip Blank	—	—	—	Aq	2	X									

# of Coolers: 1
Custody Seal: ABS
Ice Present: Yes Temp 5°
Shipping Carrier: Client

Relinquished by *(Signature)*:	Date | Time	Received by *(Signature)*:	Laboratory Name:
	7/17/14 13:57		PSS
Relinquished by *(Signature)*:	**Date | Time**	**Received by *(Signature)*:**	**Laboratory Location:**
		J. Prucnal	Baltimore
Turn-Around Time:		**Tracking Number:**	**Custody Seal Numbers:**
24 hours			
			Method of Shipment: Delivery

WSP
WSP Environment & Energy

☒ Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
☐ Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
☐ San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
☐ New Jersey Office: 200 Cottontail Ln., Somerset, NJ 08873 / Tel: 732-564-0888
☐ Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
☐ Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
☐ Woburn Office: 300 Trade Center, Suite 4690, Woburn, MA 01801
☐ Cazenovia Office: 5 Sullivan St., Cazenovia, NY 13035 / Tel: 315-655-3900

Final 12000

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14071716	**Received By**	Jacob Prucnal
Client Name	WSP Environment & Energy - Restor	**Date Received**	07/17/2014 01:57:00 PM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	39196-25	**Tracking No**	Not Applicable
Disposal Date	08/21/2014	**Logged In By**	Jacob Prucnal

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	5
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 3

Total No. of Containers Received 8

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Samples Inspected/Checklist Completed By: Jacob Prucnal — Date: 07/17/2014

Jacob Prucnal

PM Review and Approval: — Date: 07/17/2014

Simon Crisp

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14071815

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : 39196-25

July 21, 2014

Phase Separation Science, Inc.

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PHASE SEPARATION SCIENCE, INC.

July 21, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14071815**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 39196-25

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14071815**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on August 22, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14071815

Project ID: 39196-25

The following samples were received under chain of custody by Phase Separation Science (PSS) on 07/18/2014 at 02:55 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14071815-001	MW-33 (301-306)	WATER	07/18/14 11:05
14071815-002	TB-071814	WATER	07/18/14 14:25

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071815

WSP Environment & Energy - Reston, Reston, VA

July 21, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-33 (301-306) **Date/Time Sampled: 07/18/2014 11:05** **PSS Sample ID: 14071815-001**
Matrix: WATER **Date/Time Received: 07/18/2014 14:55**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Chloromethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Bromomethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Chloroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Acetone	ND	ug/L	10		1	07/18/14	07/18/14 16:54	1011
Cyclohexane	ND	ug/L	10		1	07/18/14	07/18/14 16:54	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/18/14	07/18/14 16:54	1011
1,1-Dichloroethene	**1.0**	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Methylene Chloride	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/18/14	07/18/14 16:54	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Bromochloromethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Chloroform	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Benzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Methyl Acetate	ND	ug/L	10		1	07/18/14	07/18/14 16:54	1011
Methylcyclohexane	ND	ug/L	10		1	07/18/14	07/18/14 16:54	1011
Trichloroethene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Carbon Disulfide	ND	ug/L	10		1	07/18/14	07/18/14 16:54	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/18/14	07/18/14 16:54	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071815

WSP Environment & Energy - Reston, Reston, VA

July 21, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-33 (301-306) **Date/Time Sampled: 07/18/2014 11:05** **PSS Sample ID: 14071815-001**
Matrix: WATER **Date/Time Received: 07/18/2014 14:55**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Toluene	**1.6**	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
2-Hexanone	ND	ug/L	10		1	07/18/14	07/18/14 16:54	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Bromoform	ND	ug/L	5.0		1	07/18/14	07/18/14 16:54	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Chlorobenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Ethylbenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/18/14	07/18/14 16:54	1011
Styrene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
o-Xylene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/18/14	07/18/14 16:54	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
Naphthalene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:54	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071815

WSP Environment & Energy - Reston, Reston, VA

July 21, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: TB-071814 **Date/Time Sampled: 07/18/2014 14:25** **PSS Sample ID: 14071815-002**
Matrix: WATER **Date/Time Received: 07/18/2014 14:55**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Chloromethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Vinyl Chloride	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Bromomethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Chloroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Acetone	ND	ug/L	10		1	07/18/14	07/18/14 16:19	1011
Cyclohexane	ND	ug/L	10		1	07/18/14	07/18/14 16:19	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	07/18/14	07/18/14 16:19	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Methylene Chloride	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
2-Butanone (MEK)	ND	ug/L	10		1	07/18/14	07/18/14 16:19	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Bromochloromethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Chloroform	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Benzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Methyl Acetate	ND	ug/L	10		1	07/18/14	07/18/14 16:19	1011
Methylcyclohexane	ND	ug/L	10		1	07/18/14	07/18/14 16:19	1011
Trichloroethene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Carbon Disulfide	ND	ug/L	10		1	07/18/14	07/18/14 16:19	1011
Bromodichloromethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	07/18/14	07/18/14 16:19	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14071815

WSP Environment & Energy - Reston, Reston, VA

July 21, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: TB-071814 **Date/Time Sampled: 07/18/2014 14:25** **PSS Sample ID: 14071815-002**
Matrix: WATER **Date/Time Received: 07/18/2014 14:55**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Toluene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
2-Hexanone	ND	ug/L	10		1	07/18/14	07/18/14 16:19	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Dibromochloromethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Bromoform	ND	ug/L	5.0		1	07/18/14	07/18/14 16:19	1011
Tetrachloroethene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Chlorobenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Ethylbenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
m,p-Xylenes	ND	ug/L	2.0		1	07/18/14	07/18/14 16:19	1011
Styrene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
o-Xylene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Isopropylbenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	07/18/14	07/18/14 16:19	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
Naphthalene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	07/18/14	07/18/14 16:19	1011

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14071815
Project ID: 39196-25

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

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

Sample Receipt:

All sample receipt conditions were acceptable.

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

Analytical Data Package Information Summary

Work Order(s): 14071815
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	MW-33 (301-306)	Initial	14071815-001	1011	W	51302	115379	07/18/2014	07/18/2014 12:00	07/18/2014 16:54
	TB-071814	Initial	14071815-002	1011	W	51302	115379	07/18/2014	07/18/2014 12:00	07/18/2014 16:19
	51302-1-BKS	BKS	51302-1-BKS	1011	W	51302	115379	--------	07/18/2014 12:00	07/18/2014 10:44
	51302-1-BLK	BLK	51302-1-BLK	1011	W	51302	115379	--------	07/18/2014 12:00	07/18/2014 11:53
	B-1 S	MS	14071723-001 S	1011	W	51302	115379	07/16/2014	07/18/2014 12:00	07/18/2014 18:39
	B-1 SD	MSD	14071723-001 SD	1011	W	51302	115379	07/16/2014	07/18/2014 12:00	07/18/2014 19:13

PHASE SEPARATION SCIENCE, INC.

QC Summary 14071815

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115379 Matrix: Water Date Prep: 07/18/2014
PSS Sample ID: 14071815-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	103		84-110	%	07/18/14 16:54
Toluene-D8	101		94-109	%	07/18/14 16:54
4-Bromofluorobenzene	102		81-133	%	07/18/14 16:54

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115379 Matrix: Water Date Prep: 07/18/2014
PSS Sample ID: 14071815-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		84-110	%	07/18/14 16:19
Toluene-D8	102		94-109	%	07/18/14 16:19
4-Bromofluorobenzene	102		81-133	%	07/18/14 16:19

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14071815

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115379 Matrix: Water Date Prep: 07/18/14

MB Sample Id: 51302-1-BLK LCS Sample Id: 51302-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	61.37	123	54-139	ug/L	07/18/14 10:44	
Chloromethane	<1.000	50.00	54.66	109	62-131	ug/L	07/18/14 10:44	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	52.89	106	56-126	ug/L	07/18/14 10:44	
Vinyl Chloride	<1.000	50.00	59.63	119	64-132	ug/L	07/18/14 10:44	
Bromomethane	<1.000	50.00	52.61	105	40-147	ug/L	07/18/14 10:44	
Chloroethane	<1.000	50.00	53.96	108	59-132	ug/L	07/18/14 10:44	
Acetone	<10.00	50.00	49.77	100	53-146	ug/L	07/18/14 10:44	
Cyclohexane	<10.00	50.00	58.29	117	46-150	ug/L	07/18/14 10:44	
Trichlorofluoromethane	<5.000	50.00	57.31	115	45-130	ug/L	07/18/14 10:44	
1,1-Dichloroethene	<1.000	50.00	54.98	110	59-123	ug/L	07/18/14 10:44	
Methylene Chloride	<1.000	50.00	50.13	100	61-126	ug/L	07/18/14 10:44	
trans-1,2-Dichloroethene	<1.000	50.00	49.55	99	58-134	ug/L	07/18/14 10:44	
Methyl-t-butyl ether	<1.000	50.00	48.12	96	30-168	ug/L	07/18/14 10:44	
1,1-Dichloroethane	<1.000	50.00	51.32	103	51-136	ug/L	07/18/14 10:44	
2-Butanone (MEK)	<10.00	50.00	47.29	95	56-133	ug/L	07/18/14 10:44	
cis-1,2-Dichloroethene	<1.000	50.00	52.20	104	77-119	ug/L	07/18/14 10:44	
Bromochloromethane	<1.000	50.00	50.91	102	71-122	ug/L	07/18/14 10:44	
Chloroform	<1.000	50.00	50.72	101	71-118	ug/L	07/18/14 10:44	
1,1,1-Trichloroethane	<1.000	50.00	50.33	101	66-133	ug/L	07/18/14 10:44	
1,2-Dichloroethane	<1.000	50.00	50.94	102	64-130	ug/L	07/18/14 10:44	
Carbon Tetrachloride	<1.000	50.00	47.71	95	74-127	ug/L	07/18/14 10:44	
Benzene	<1.000	50.00	54.37	109	77-122	ug/L	07/18/14 10:44	
1,2-Dichloropropane	<1.000	50.00	52.99	106	75-125	ug/L	07/18/14 10:44	
Methyl Acetate	<10.00	50.00	42.85	86	47-145	ug/L	07/18/14 10:44	
Methylcyclohexane	<10.00	50.00	55.51	111	61-155	ug/L	07/18/14 10:44	
Trichloroethene	<1.000	50.00	51.70	103	72-127	ug/L	07/18/14 10:44	
Carbon Disulfide	<10.00	50.00	49.76	100	62-134	ug/L	07/18/14 10:44	
Bromodichloromethane	<1.000	50.00	53.31	107	76-122	ug/L	07/18/14 10:44	
cis-1,3-Dichloropropene	<1.000	50.00	52.60	105	74-123	ug/L	07/18/14 10:44	
4-Methyl-2-Pentanone	<5.000	50.00	49.26	99	45-145	ug/L	07/18/14 10:44	
trans-1,3-Dichloropropene	<1.000	50.00	52.05	104	73-116	ug/L	07/18/14 10:44	
1,1,2-Trichloroethane	<1.000	50.00	52.76	106	72-128	ug/L	07/18/14 10:44	
Toluene	<1.000	50.00	54.78	110	77-123	ug/L	07/18/14 10:44	
2-Hexanone	<10.00	50.00	47.66	95	56-134	ug/L	07/18/14 10:44	
1,2-Dibromoethane (EDB)	<1.000	50.00	51.67	103	78-121	ug/L	07/18/14 10:44	
Dibromochloromethane	<1.000	50.00	53.91	108	75-114	ug/L	07/18/14 10:44	
Bromoform	<5.000	50.00	49.22	98	69-115	ug/L	07/18/14 10:44	
Tetrachloroethene	<1.000	50.00	53.28	107	78-113	ug/L	07/18/14 10:44	
Chlorobenzene	<1.000	50.00	52.96	106	76-116	ug/L	07/18/14 10:44	
Ethylbenzene	<1.000	50.00	54.64	109	79-122	ug/L	07/18/14 10:44	
m,p-Xylenes	<2.000	100	111.3	111	78-119	ug/L	07/18/14 10:44	
Styrene	<1.000	50.00	51.96	104	73-118	ug/L	07/18/14 10:44	
1,1,2,2-Tetrachloroethane	<1.000	50.00	45.80	92	71-126	ug/L	07/18/14 10:44	
o-Xylene	<1.000	50.00	58.16	116	79-123	ug/L	07/18/14 10:44	
Isopropylbenzene	<1.000	50.00	49.72	99	80-128	ug/L	07/18/14 10:44	
1,3-Dichlorobenzene	<1.000	50.00	50.87	102	80-122	ug/L	07/18/14 10:44	
1,4-Dichlorobenzene	<1.000	50.00	51.43	103	77-118	ug/L	07/18/14 10:44	
1,2-Dichlorobenzene	<1.000	50.00	54.60	109	80-122	ug/L	07/18/14 10:44	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	47.47	95	59-135	ug/L	07/18/14 10:44	
1,2,4-Trichlorobenzene	<1.000	50.00	58.61	117	72-143	ug/L	07/18/14 10:44	
Naphthalene	<1.000	50.00	51.35	103	46-154	ug/L	07/18/14 10:44	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14071815

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115379 Matrix: Water Date Prep: 07/18/14

MB Sample Id: 51302-1-BLK LCS Sample Id: 51302-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	57.81	116	66-140	ug/L	07/18/14 10:44	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	101		99		84-110	%	07/18/14 10:44
Toluene-D8	100		101		94-109	%	07/18/14 10:44
4-Bromofluorobenzene	105		90		81-133	%	07/18/14 10:44

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

CHAIN OF CUSTODY RECORD

Project Number:	Site and Location:
39196-25	Kop-Flex, Hanover, MD
Contact Name:	**Contact Email:**
Eric.Johnson@WSPgroup.com	
Sampler's Name:	**Sampler's Signature:**
Rob Wallace	

Matrices:
S = Soil:
Aq = Water
A = Air: Bu = Bulk
W = Wipe
Bi = Biota:
OW = Oily Waste:
O = Other

Nº 03972

14071815

	Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	Requested Analyses: VOCs (8260)	Remarks
1	MW-33 (301-306)	301-306	7/18/14	1105	AQ	3	X	
2	TB-071814	—	7/18/14	1425	AQ	2	X	

# of Coolers: 1
Custody Seal: ABS
Ice Present: YES Temp: 5°C
Shipping Carrier: CLIENT

Relinquished by *(Signature)*:	7/18/14 1455 Date | Time	Received by *(Signature)*:	Laboratory Name: PSS
Relinquished by *(Signature)*:	Date | Time	Received by *(Signature)*:	Laboratory Location: Baltimore
Turn-Around Time: 24-hours		Tracking Number:	Custody Seal Numbers: — Method of Shipment: Delivery

WSP
WSP Environment & Energy

☒ Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
☐ Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
☐ San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
☐ New Jersey Office: 334 Elizabeth Ave., Somerset, NJ 08873 / Tel: 732-564-0888
☐ Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
☐ Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
☐ Boxborough Office: 1740 Massachusetts Ave., Boxborough, MA 01719 / Tel: 978-635-9600
☐ Cazenovia Office: 5 Sullivan St., Cazenovia, NY 13035 / Tel: 315-655-3900

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14071815	**Received By**	Rachel Davis
Client Name	WSP Environment & Energy - Restor	**Date Received**	07/18/2014 02:55:00 PM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	39196-25	**Tracking No**	Not Applicable
Disposal Date	08/22/2014	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	5
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 2

Total No. of Containers Received 5

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Samples Inspected/Checklist Completed By:  Date: 07/18/2014

Rachel Davis

PM Review and Approval:  Date: 07/18/2014

Simon Crisp

MW-35 Location

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14080807

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : 39196-25

August 12, 2014

Phase Separation Science, Inc.

6630 Baltimore National Pike
Baltimore, MD 21228
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PHASE SEPARATION SCIENCE, INC.

August 12, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14080807**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 39196-25

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14080807**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on September 12, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14080807

Project ID: 39196-25

The following samples were received under chain of custody by Phase Separation Science (PSS) on 08/08/2014 at 01:35 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14080807-001	MW-35 (241-246')	GROUND WATER	08/07/14 12:15
14080807-002	TB080814	WATER	08/08/14 13:35
14080807-003	MW-35 (271-276')	GROUND WATER	08/08/14 12:00

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080807

WSP Environment & Energy - Reston, Reston, VA

August 12, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-35 (241-246') **Date/Time Sampled: 08/07/2014 12:15** **PSS Sample ID: 14080807-001**
Matrix: GROUND WATER **Date/Time Received: 08/08/2014 13:35**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Chloromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Vinyl Chloride	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Bromomethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Chloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Acetone	ND	ug/L	10		1	08/11/14	08/11/14 14:40	1011
Cyclohexane	ND	ug/L	10		1	08/11/14	08/11/14 14:40	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	08/11/14	08/11/14 14:40	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Methylene Chloride	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
2-Butanone (MEK)	ND	ug/L	10		1	08/11/14	08/11/14 14:40	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Bromochloromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Chloroform	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Benzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Methyl Acetate	ND	ug/L	10		1	08/11/14	08/11/14 14:40	1011
Methylcyclohexane	ND	ug/L	10		1	08/11/14	08/11/14 14:40	1011
Trichloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Carbon Disulfide	ND	ug/L	10		1	08/11/14	08/11/14 14:40	1011
Bromodichloromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	08/11/14	08/11/14 14:40	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080807

WSP Environment & Energy - Reston, Reston, VA

August 12, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-35 (241-246') **Date/Time Sampled: 08/07/2014 12:15** **PSS Sample ID: 14080807-001**
Matrix: GROUND WATER **Date/Time Received: 08/08/2014 13:35**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Toluene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
2-Hexanone	ND	ug/L	10		1	08/11/14	08/11/14 14:40	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Dibromochloromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Bromoform	ND	ug/L	5.0		1	08/11/14	08/11/14 14:40	1011
Tetrachloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Chlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Ethylbenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
m,p-Xylenes	ND	ug/L	2.0		1	08/11/14	08/11/14 14:40	1011
Styrene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
o-Xylene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Isopropylbenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	08/11/14	08/11/14 14:40	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
Naphthalene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:40	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080807

WSP Environment & Energy - Reston, Reston, VA

August 12, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: TB080814 **Date/Time Sampled: 08/08/2014 13:35** **PSS Sample ID: 14080807-002**
Matrix: WATER **Date/Time Received: 08/08/2014 13:35**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Chloromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Vinyl Chloride	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Bromomethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Chloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Acetone	ND	ug/L	10		1	08/11/14	08/11/14 14:05	1011
Cyclohexane	ND	ug/L	10		1	08/11/14	08/11/14 14:05	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	08/11/14	08/11/14 14:05	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Methylene Chloride	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
2-Butanone (MEK)	ND	ug/L	10		1	08/11/14	08/11/14 14:05	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Bromochloromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Chloroform	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Benzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Methyl Acetate	ND	ug/L	10		1	08/11/14	08/11/14 14:05	1011
Methylcyclohexane	ND	ug/L	10		1	08/11/14	08/11/14 14:05	1011
Trichloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Carbon Disulfide	ND	ug/L	10		1	08/11/14	08/11/14 14:05	1011
Bromodichloromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	08/11/14	08/11/14 14:05	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080807

WSP Environment & Energy - Reston, Reston, VA

August 12, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: TB080814 **Date/Time Sampled: 08/08/2014 13:35** **PSS Sample ID: 14080807-002**
Matrix: WATER **Date/Time Received: 08/08/2014 13:35**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Toluene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
2-Hexanone	ND	ug/L	10		1	08/11/14	08/11/14 14:05	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Dibromochloromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Bromoform	ND	ug/L	5.0		1	08/11/14	08/11/14 14:05	1011
Tetrachloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Chlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Ethylbenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
m,p-Xylenes	ND	ug/L	2.0		1	08/11/14	08/11/14 14:05	1011
Styrene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
o-Xylene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Isopropylbenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	08/11/14	08/11/14 14:05	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
Naphthalene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 14:05	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080807

WSP Environment & Energy - Reston, Reston, VA

August 12, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-35 (271-276') **Date/Time Sampled: 08/08/2014 12:00** **PSS Sample ID: 14080807-003**
Matrix: GROUND WATER **Date/Time Received: 08/08/2014 13:35**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dichlorodifluoromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Chloromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Vinyl Chloride	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Bromomethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Chloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Acetone	ND	ug/L	10		1	08/11/14	08/11/14 15:14	1011
Cyclohexane	ND	ug/L	10		1	08/11/14	08/11/14 15:14	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	08/11/14	08/11/14 15:14	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Methylene Chloride	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
2-Butanone (MEK)	ND	ug/L	10		1	08/11/14	08/11/14 15:14	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Bromochloromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Chloroform	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Benzene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Methyl Acetate	ND	ug/L	10		1	08/11/14	08/11/14 15:14	1011
Methylcyclohexane	ND	ug/L	10		1	08/11/14	08/11/14 15:14	1011
Trichloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Carbon Disulfide	ND	ug/L	10		1	08/11/14	08/11/14 15:14	1011
Bromodichloromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	08/11/14	08/11/14 15:14	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14080807

WSP Environment & Energy - Reston, Reston, VA

August 12, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: 39196-25

Sample ID: MW-35 (271-276') **Date/Time Sampled: 08/08/2014 12:00** **PSS Sample ID: 14080807-003**
Matrix: GROUND WATER **Date/Time Received: 08/08/2014 13:35**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Toluene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
2-Hexanone	ND	ug/L	10		1	08/11/14	08/11/14 15:14	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Dibromochloromethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Bromoform	ND	ug/L	5.0		1	08/11/14	08/11/14 15:14	1011
Tetrachloroethene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Chlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Ethylbenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
m,p-Xylenes	ND	ug/L	2.0		1	08/11/14	08/11/14 15:14	1011
Styrene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
o-Xylene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Isopropylbenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	08/11/14	08/11/14 15:14	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
Naphthalene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	08/11/14	08/11/14 15:14	1011

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14080807
Project ID: 39196-25

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

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

Sample Receipt:

All sample receipt conditions were acceptable.

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

Analytical Data Package Information Summary

Work Order(s): **14080807**
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	MW-35 (241-246')	Initial	14080807-001	1011	W	51639	115906	08/07/2014	08/11/2014 09:27	08/11/2014 14:40
	TB080814	Initial	14080807-002	1011	W	51639	115906	08/08/2014	08/11/2014 09:27	08/11/2014 14:05
	MW-35 (271-276')	Initial	14080807-003	1011	W	51639	115906	08/08/2014	08/11/2014 09:27	08/11/2014 15:14
	51639-1-BKS	BKS	51639-1-BKS	1011	W	51639	115906	--------	08/11/2014 09:27	08/11/2014 11:45
	51639-1-BLK	BLK	51639-1-BLK	1011	W	51639	115906	--------	08/11/2014 09:27	08/11/2014 13:30
	MW-35 (241-246') S	MS	14080807-001 S	1011	W	51639	115906	08/07/2014	08/11/2014 09:27	08/11/2014 19:55
	MW-35 (241-246') SD	MSD	14080807-001 SD	1011	W	51639	115906	08/07/2014	08/11/2014 09:27	08/11/2014 20:30

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080807

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115906 Matrix: Ground Water Date Prep: 08/11/2014
PSS Sample ID: 14080807-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		84-110	%	08/11/14 14:40
Toluene-D8	99		94-109	%	08/11/14 14:40
4-Bromofluorobenzene	106		81-133	%	08/11/14 14:40

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115906 Matrix: Water Date Prep: 08/11/2014
PSS Sample ID: 14080807-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	100		84-110	%	08/11/14 14:05
Toluene-D8	98		94-109	%	08/11/14 14:05
4-Bromofluorobenzene	108		81-133	%	08/11/14 14:05

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 115906 Matrix: Ground Water Date Prep: 08/11/2014
PSS Sample ID: 14080807-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Dibromofluoromethane	103		84-110	%	08/11/14 15:14
Toluene-D8	98		94-109	%	08/11/14 15:14
4-Bromofluorobenzene	107		81-133	%	08/11/14 15:14

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080807

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115906 Matrix: Water Date Prep: 08/11/14

MB Sample Id: 51639-1-BLK LCS Sample Id: 51639-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	49.53	99	54-139	ug/L	08/11/14 11:45	
Chloromethane	<1.000	50.00	36.57	73	62-131	ug/L	08/11/14 11:45	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	34.55	69	56-126	ug/L	08/11/14 11:45	
Vinyl Chloride	<1.000	50.00	37.02	74	64-132	ug/L	08/11/14 11:45	
Bromomethane	<1.000	50.00	37.69	75	40-147	ug/L	08/11/14 11:45	
Chloroethane	<1.000	50.00	39.33	79	59-132	ug/L	08/11/14 11:45	
Acetone	<10.00	50.00	44.24	88	53-146	ug/L	08/11/14 11:45	
Cyclohexane	<10.00	50.00	40.75	82	46-150	ug/L	08/11/14 11:45	
Trichlorofluoromethane	<5.000	50.00	42.90	86	45-130	ug/L	08/11/14 11:45	
1,1-Dichloroethene	<1.000	50.00	40.41	81	59-123	ug/L	08/11/14 11:45	
Methylene Chloride	<1.000	50.00	44.24	88	61-126	ug/L	08/11/14 11:45	
trans-1,2-Dichloroethene	<1.000	50.00	50.69	101	58-134	ug/L	08/11/14 11:45	
Methyl-t-butyl ether	<1.000	50.00	49.62	99	30-168	ug/L	08/11/14 11:45	
1,1-Dichloroethane	<1.000	50.00	42.77	86	51-136	ug/L	08/11/14 11:45	
2-Butanone (MEK)	<10.00	50.00	51.11	102	56-133	ug/L	08/11/14 11:45	
cis-1,2-Dichloroethene	<1.000	50.00	49.11	98	77-119	ug/L	08/11/14 11:45	
Bromochloromethane	<1.000	50.00	46.94	94	71-122	ug/L	08/11/14 11:45	
Chloroform	<1.000	50.00	42.59	85	71-118	ug/L	08/11/14 11:45	
1,1,1-Trichloroethane	<1.000	50.00	45.06	90	66-133	ug/L	08/11/14 11:45	
1,2-Dichloroethane	<1.000	50.00	40.43	81	64-130	ug/L	08/11/14 11:45	
Carbon Tetrachloride	<1.000	50.00	45.29	91	74-127	ug/L	08/11/14 11:45	
Benzene	<1.000	50.00	45.34	91	77-122	ug/L	08/11/14 11:45	
1,2-Dichloropropane	<1.000	50.00	42.40	85	75-125	ug/L	08/11/14 11:45	
Methyl Acetate	<10.00	50.00	33.38	67	47-145	ug/L	08/11/14 11:45	
Methylcyclohexane	<10.00	50.00	48.62	97	61-155	ug/L	08/11/14 11:45	
Trichloroethene	<1.000	50.00	46.06	92	72-127	ug/L	08/11/14 11:45	
Carbon Disulfide	<10.00	50.00	49.47	99	62-134	ug/L	08/11/14 11:45	
Bromodichloromethane	<1.000	50.00	46.11	92	76-122	ug/L	08/11/14 11:45	
cis-1,3-Dichloropropene	<1.000	50.00	46.05	92	74-123	ug/L	08/11/14 11:45	
4-Methyl-2-Pentanone	<5.000	50.00	51.26	103	45-145	ug/L	08/11/14 11:45	
trans-1,3-Dichloropropene	<1.000	50.00	45.10	90	73-116	ug/L	08/11/14 11:45	
1,1,2-Trichloroethane	<1.000	50.00	41.61	83	72-128	ug/L	08/11/14 11:45	
Toluene	<1.000	50.00	46.22	92	77-123	ug/L	08/11/14 11:45	
2-Hexanone	<10.00	50.00	43.76	88	56-134	ug/L	08/11/14 11:45	
1,2-Dibromoethane (EDB)	<1.000	50.00	46.11	92	78-121	ug/L	08/11/14 11:45	
Dibromochloromethane	<1.000	50.00	45.63	91	75-114	ug/L	08/11/14 11:45	
Bromoform	<5.000	50.00	45.15	90	69-115	ug/L	08/11/14 11:45	
Tetrachloroethene	<1.000	50.00	47.24	94	78-113	ug/L	08/11/14 11:45	
Chlorobenzene	<1.000	50.00	44.43	89	76-116	ug/L	08/11/14 11:45	
Ethylbenzene	<1.000	50.00	45.22	90	79-122	ug/L	08/11/14 11:45	
m,p-Xylenes	<2.000	100	95.84	96	78-119	ug/L	08/11/14 11:45	
Styrene	<1.000	50.00	43.46	87	73-118	ug/L	08/11/14 11:45	
1,1,2,2-Tetrachloroethane	<1.000	50.00	42.06	84	71-126	ug/L	08/11/14 11:45	
o-Xylene	<1.000	50.00	43.57	87	79-123	ug/L	08/11/14 11:45	
Isopropylbenzene	<1.000	50.00	45.59	91	80-128	ug/L	08/11/14 11:45	
1,3-Dichlorobenzene	<1.000	50.00	49.12	98	80-122	ug/L	08/11/14 11:45	
1,4-Dichlorobenzene	<1.000	50.00	45.10	90	77-118	ug/L	08/11/14 11:45	
1,2-Dichlorobenzene	<1.000	50.00	49.57	99	80-122	ug/L	08/11/14 11:45	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	47.96	96	59-135	ug/L	08/11/14 11:45	
1,2,4-Trichlorobenzene	<1.000	50.00	47.96	96	72-143	ug/L	08/11/14 11:45	
Naphthalene	<1.000	50.00	41.82	84	46-154	ug/L	08/11/14 11:45	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080807

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115906 Matrix: Water Date Prep: 08/11/14

MB Sample Id: 51639-1-BLK LCS Sample Id: 51639-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	46.12	92	66-140	ug/L	08/11/14 11:45	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	100		100		84-110	%	08/11/14 11:45
Toluene-D8	98		99		94-109	%	08/11/14 11:45
4-Bromofluorobenzene	108		97		81-133	%	08/11/14 11:45

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080807

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115906 Matrix: Ground Water Date Prep: 08/11/14

Parent Sample Id: 14080807-001 MS Sample Id: 14080807-001 S MSD Sample Id: 14080807-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dichlorodifluoromethane	<1.000	50.00	51.28	103	53.20	106	47-159	4	25	ug/L	08/11/14 19:55	
Chloromethane	<1.000	50.00	41.12	82	39.95	80	59-144	3	25	ug/L	08/11/14 19:55	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	40.36	81	43.13	86	47-139	7	25	ug/L	08/11/14 19:55	
Vinyl Chloride	<1.000	50.00	48.53	97	46.68	93	60-146	4	25	ug/L	08/11/14 19:55	
Bromomethane	<1.000	50.00	40.78	82	38.98	78	29-154	5	25	ug/L	08/11/14 19:55	
Chloroethane	<1.000	50.00	43.89	88	41.58	83	40-150	5	25	ug/L	08/11/14 19:55	
Acetone	<10.00	50.00	46.12	92	49.18	98	41-161	6	25	ug/L	08/11/14 19:55	
Cyclohexane	<10.00	50.00	46.30	93	49.07	98	34-161	6	25	ug/L	08/11/14 19:55	
Trichlorofluoromethane	<5.000	50.00	47.56	95	47.22	94	37-147	1	25	ug/L	08/11/14 19:55	
1,1-Dichloroethene	<1.000	50.00	43.88	88	43.11	86	50-136	2	25	ug/L	08/11/14 19:55	
Methylene Chloride	<1.000	50.00	47.72	95	46.38	93	56-137	3	25	ug/L	08/11/14 19:55	
trans-1,2-Dichloroethene	<1.000	50.00	52.34	105	49.57	99	54-144	5	25	ug/L	08/11/14 19:55	
Methyl-t-butyl ether	<1.000	50.00	46.88	94	46.03	92	22-182	2	25	ug/L	08/11/14 19:55	
1,1-Dichloroethane	<1.000	50.00	46.31	93	43.41	87	44-152	6	25	ug/L	08/11/14 19:55	
2-Butanone (MEK)	<10.00	50.00	53.24	106	55.78	112	47-140	5	25	ug/L	08/11/14 19:55	
cis-1,2-Dichloroethene	<1.000	50.00	50.92	102	47.05	94	76-127	8	25	ug/L	08/11/14 19:55	
Bromochloromethane	<1.000	50.00	49.56	99	46.92	94	67-130	5	25	ug/L	08/11/14 19:55	
Chloroform	<1.000	50.00	45.90	92	42.85	86	67-130	7	25	ug/L	08/11/14 19:55	
1,1,1-Trichloroethane	<1.000	50.00	48.31	97	46.18	92	70-138	5	25	ug/L	08/11/14 19:55	
1,2-Dichloroethane	<1.000	50.00	43.32	87	41.52	83	60-142	4	25	ug/L	08/11/14 19:55	
Carbon Tetrachloride	<1.000	50.00	50.83	102	47.52	95	74-136	7	25	ug/L	08/11/14 19:55	
Benzene	<1.000	50.00	48.98	98	45.69	91	75-132	7	25	ug/L	08/11/14 19:55	
1,2-Dichloropropane	<1.000	50.00	45.95	92	43.01	86	70-139	7	25	ug/L	08/11/14 19:55	
Methyl Acetate	<10.00	50.00	33.40	67	33.07	66	37-143	1	25	ug/L	08/11/14 19:55	
Methylcyclohexane	<10.00	50.00	54.37	109	52.85	106	55-148	3	25	ug/L	08/11/14 19:55	
Trichloroethene	<1.000	50.00	49.29	99	46.22	92	67-139	6	25	ug/L	08/11/14 19:55	
Carbon Disulfide	<10.00	50.00	51.31	103	50.32	101	59-146	2	25	ug/L	08/11/14 19:55	
Bromodichloromethane	<1.000	50.00	48.88	98	45.68	91	69-134	7	25	ug/L	08/11/14 19:55	
cis-1,3-Dichloropropene	<1.000	50.00	45.62	91	43.30	87	64-127	5	25	ug/L	08/11/14 19:55	
4-Methyl-2-Pentanone	<5.000	50.00	52.19	104	54.12	108	44-133	4	25	ug/L	08/11/14 19:55	
trans-1,3-Dichloropropene	<1.000	50.00	44.07	88	42.01	84	62-123	5	25	ug/L	08/11/14 19:55	
1,1,2-Trichloroethane	<1.000	50.00	44.98	90	43.29	87	65-143	4	25	ug/L	08/11/14 19:55	
Toluene	<1.000	50.00	49.22	98	46.60	93	74-132	5	25	ug/L	08/11/14 19:55	
2-Hexanone	<10.00	50.00	47.10	94	49.62	99	50-130	5	25	ug/L	08/11/14 19:55	
1,2-Dibromoethane (EDB)	<1.000	50.00	47.67	95	45.69	91	72-126	4	25	ug/L	08/11/14 19:55	
Dibromochloromethane	<1.000	50.00	46.38	93	43.68	87	73-114	6	25	ug/L	08/11/14 19:55	
Bromoform	<5.000	50.00	43.88	88	42.86	86	65-115	2	25	ug/L	08/11/14 19:55	
Tetrachloroethene	<1.000	50.00	50.66	101	48.67	97	69-126	4	25	ug/L	08/11/14 19:55	
Chlorobenzene	<1.000	50.00	47.30	95	43.61	87	78-115	8	25	ug/L	08/11/14 19:55	
Ethylbenzene	<1.000	50.00	49.09	98	45.38	91	74-129	8	25	ug/L	08/11/14 19:55	
m,p-Xylenes	<2.000	100	103.1	103	94.45	94	78-119	9	25	ug/L	08/11/14 19:55	
Styrene	<1.000	50.00	45.65	91	42.62	85	67-121	7	25	ug/L	08/11/14 19:55	
1,1,2,2-Tetrachloroethane	<1.000	50.00	43.16	86	43.15	86	68-127	0	25	ug/L	08/11/14 19:55	
o-Xylene	<1.000	50.00	46.46	93	43.35	87	80-123	7	25	ug/L	08/11/14 19:55	
Isopropylbenzene	<1.000	50.00	47.52	95	45.09	90	72-130	5	25	ug/L	08/11/14 19:55	
1,3-Dichlorobenzene	<1.000	50.00	49.88	100	47.28	95	73-117	5	25	ug/L	08/11/14 19:55	
1,4-Dichlorobenzene	<1.000	50.00	46.14	92	43.66	87	72-111	6	25	ug/L	08/11/14 19:55	
1,2-Dichlorobenzene	<1.000	50.00	49.46	99	47.16	94	73-117	5	25	ug/L	08/11/14 19:55	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	43.38	87	44.12	88	45-125	2	25	ug/L	08/11/14 19:55	
1,2,4-Trichlorobenzene	<1.000	50.00	43.68	87	39.66	79	31-135	10	25	ug/L	08/11/14 19:55	
Naphthalene	<1.000	50.00	42.23	84	40.85	82	7-137	3	25	ug/L	08/11/14 19:55	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14080807

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 115906 Matrix: Ground Water Date Prep: 08/11/14

Parent Sample Id: 14080807-001 MS Sample Id: 14080807-001 S MSD Sample Id: 14080807-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,2,3-Trichlorobenzene	<1.000	50.00	44.79	90	41.88	84	9-139	7	25	ug/L	08/11/14 19:55	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	101		102		84-110	%	08/11/14 19:55
Toluene-D8	99		101		94-109	%	08/11/14 19:55
4-Bromofluorobenzene	95		98		81-133	%	08/11/14 19:55

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

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

(1) *CLIENT: WSP *OFFICE LOC. Reston, VA

*PROJECT MGR: eric.johnson *PHONE NO.: (703) 709-6500

EMAIL: @wspgroup.com FAX NO.: ( )

*PROJECT NAME: Kop-Flex PROJECT NO.: 39196-25

SITE LOCATION: Hanover, MD P.O. NO.: 39196-25

SAMPLER(S): G Beaulieu DW CERT NO.:

PSS Work Order #: 14080807 PAGE 1 OF 1

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

(2)

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Preservatives Used: HCl; Analysis/ Method Required (3) *: VOCs (8260)	REMARKS
1	MW-35 (241-246')	8/7/14	12:15	GW	3	G	X	
2	TB080814	-	-	W	2	-	X	
3	MW-35 (271-276')	8/8/14	12:00	GW	3	G	X	
	END							

(5)

Relinquished By:	Date	Time	Received By:
(1) G Beaulieu	8/8/14	13:05	D. Boerne
(2) D. Boerne	8/8/14	1335	
(3)			
(4)			

(4)

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

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

# of Coolers: 1

Custody Seal: 02910 + 02911

Ice Present: Pres Temp: 5 °C

Shipping Carrier: FTE

Special Instructions:

DW COMPLIANCE? YES ☐

EDD FORMAT TYPE: See TO

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

Intact - cwle

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

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14080807	**Received By**	Jacob Prucnal
Client Name	WSP Environment & Energy - Restor	**Date Received**	08/08/2014 01:35:00 PM
Project Name	Kop-Flex	**Delivered By**	Trans Time Express
Project Number	39196-25	**Tracking No**	Not Applicable
Disposal Date	09/12/2014	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	Yes	Temp (deg C)	5
Seal(s) Signed / Dated?	Yes	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 3

Total No. of Containers Received 8

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Samples Inspected/Checklist Completed By: Rachel Davis — Date: 08/08/2014

Rachel Davis

PM Review and Approval: — Date: 08/08/2014

Simon Crisp

Analytical Report for

WSP Environment & Energy - Reston

Certificate of Analysis No.: 14081502

Project Manager: Eric Johnson

Project Name : Kop-Flex

Project Location: Hanover, MD

Project ID : E0039196

August 18, 2014

Phase Separation Science, Inc.

6630 Baltimore National Pike
Baltimore, MD 21228
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Fax: (410) 788-8723

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PHASE SEPARATION SCIENCE, INC.

August 18, 2014

Eric Johnson
WSP Environment & Energy - Reston
11190 Sunrise Valley Dr., Ste. 300
Reston, VA 20191

Reference: PSS Work Order(s) No: **14081502**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: E0039196

Dear Eric Johnson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **14081502**.

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

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on September 19, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

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

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

Sincerely,

Cathy Thompson
QA Officer

Sample Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14081502

Project ID: E0039196

The following samples were received under chain of custody by Phase Separation Science (PSS) on 08/15/2014 at 09:00 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
14081502-001	TB-081314	WATER	08/13/14 09:00
14081502-002	MW-35 (291-296)	WATER	08/13/14 12:25
14081502-003	MW-35 (301-306)	WATER	08/14/14 10:25
14081502-004	MW-35 (311-314)	WATER	08/14/14 13:00

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

Notes:

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

Standard Flags/Abbreviations:

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

Certifications:

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

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BALTIMORE, MD 21228
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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14081502

WSP Environment & Energy - Reston, Reston, VA

August 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: TB-081314 **Date/Time Sampled: 08/13/2014 09:00** **PSS Sample ID: 14081502-001**
Matrix: WATER **Date/Time Received: 08/15/2014 09:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	08/16/14	08/16/14 11:59	1011
Benzene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Bromochloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Bromodichloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Bromoform	ND	ug/L	5.0		1	08/16/14	08/16/14 11:59	1011
Bromomethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
2-Butanone (MEK)	ND	ug/L	10		1	08/16/14	08/16/14 11:59	1011
Carbon Disulfide	ND	ug/L	10		1	08/16/14	08/16/14 11:59	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Chlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Chloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Chloroform	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Chloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Cyclohexane	ND	ug/L	10		1	08/16/14	08/16/14 11:59	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	08/16/14	08/16/14 11:59	1011
Dibromochloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Ethylbenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14081502

WSP Environment & Energy - Reston, Reston, VA

August 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: TB-081314 **Date/Time Sampled: 08/13/2014 09:00** **PSS Sample ID: 14081502-001**
Matrix: WATER **Date/Time Received: 08/15/2014 09:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	08/16/14	08/16/14 11:59	1011
Isopropylbenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Methyl Acetate	ND	ug/L	10		1	08/16/14	08/16/14 11:59	1011
Methylcyclohexane	ND	ug/L	10		1	08/16/14	08/16/14 11:59	1011
Methylene Chloride	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	08/16/14	08/16/14 11:59	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Naphthalene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Styrene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Tetrachloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Toluene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Trichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	08/16/14	08/16/14 11:59	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
Vinyl Chloride	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011
m,p-Xylenes	ND	ug/L	2.0		1	08/16/14	08/16/14 11:59	1011
o-Xylene	ND	ug/L	1.0		1	08/16/14	08/16/14 11:59	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14081502

WSP Environment & Energy - Reston, Reston, VA

August 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: MW-35 (291-296) **Date/Time Sampled: 08/13/2014 12:25** **PSS Sample ID: 14081502-002**
Matrix: WATER **Date/Time Received: 08/15/2014 09:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	08/16/14	08/16/14 12:34	1011
Benzene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Bromochloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Bromodichloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Bromoform	ND	ug/L	5.0		1	08/16/14	08/16/14 12:34	1011
Bromomethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
2-Butanone (MEK)	ND	ug/L	10		1	08/16/14	08/16/14 12:34	1011
Carbon Disulfide	ND	ug/L	10		1	08/16/14	08/16/14 12:34	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Chlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Chloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Chloroform	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Chloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Cyclohexane	ND	ug/L	10		1	08/16/14	08/16/14 12:34	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	08/16/14	08/16/14 12:34	1011
Dibromochloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Ethylbenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14081502

WSP Environment & Energy - Reston, Reston, VA

August 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: MW-35 (291-296) **Date/Time Sampled: 08/13/2014 12:25** **PSS Sample ID: 14081502-002**
Matrix: WATER **Date/Time Received: 08/15/2014 09:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	08/16/14	08/16/14 12:34	1011
Isopropylbenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Methyl Acetate	ND	ug/L	10		1	08/16/14	08/16/14 12:34	1011
Methylcyclohexane	ND	ug/L	10		1	08/16/14	08/16/14 12:34	1011
Methylene Chloride	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	08/16/14	08/16/14 12:34	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Naphthalene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Styrene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Tetrachloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Toluene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Trichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	08/16/14	08/16/14 12:34	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
Vinyl Chloride	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011
m,p-Xylenes	ND	ug/L	2.0		1	08/16/14	08/16/14 12:34	1011
o-Xylene	ND	ug/L	1.0		1	08/16/14	08/16/14 12:34	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14081502

WSP Environment & Energy - Reston, Reston, VA

August 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: MW-35 (301-306) **Date/Time Sampled: 08/14/2014 10:25** **PSS Sample ID: 14081502-003**
Matrix: WATER **Date/Time Received: 08/15/2014 09:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	08/16/14	08/16/14 13:09	1011
Benzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Bromochloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Bromodichloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Bromoform	ND	ug/L	5.0		1	08/16/14	08/16/14 13:09	1011
Bromomethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
2-Butanone (MEK)	ND	ug/L	10		1	08/16/14	08/16/14 13:09	1011
Carbon Disulfide	ND	ug/L	10		1	08/16/14	08/16/14 13:09	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Chlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Chloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Chloroform	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Chloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Cyclohexane	ND	ug/L	10		1	08/16/14	08/16/14 13:09	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	08/16/14	08/16/14 13:09	1011
Dibromochloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Ethylbenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14081502

WSP Environment & Energy - Reston, Reston, VA

August 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: MW-35 (301-306) **Date/Time Sampled: 08/14/2014 10:25** **PSS Sample ID: 14081502-003**
Matrix: WATER **Date/Time Received: 08/15/2014 09:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	08/16/14	08/16/14 13:09	1011
Isopropylbenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Methyl Acetate	ND	ug/L	10		1	08/16/14	08/16/14 13:09	1011
Methylcyclohexane	ND	ug/L	10		1	08/16/14	08/16/14 13:09	1011
Methylene Chloride	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	08/16/14	08/16/14 13:09	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Naphthalene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Styrene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Tetrachloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Toluene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Trichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	08/16/14	08/16/14 13:09	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
Vinyl Chloride	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011
m,p-Xylenes	ND	ug/L	2.0		1	08/16/14	08/16/14 13:09	1011
o-Xylene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:09	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14081502

WSP Environment & Energy - Reston, Reston, VA

August 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: MW-35 (311-314) **Date/Time Sampled: 08/14/2014 13:00** **PSS Sample ID: 14081502-004**
Matrix: WATER **Date/Time Received: 08/15/2014 09:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	08/16/14	08/16/14 13:44	1011
Benzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Bromochloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Bromodichloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Bromoform	ND	ug/L	5.0		1	08/16/14	08/16/14 13:44	1011
Bromomethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
2-Butanone (MEK)	ND	ug/L	10		1	08/16/14	08/16/14 13:44	1011
Carbon Disulfide	ND	ug/L	10		1	08/16/14	08/16/14 13:44	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Chlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Chloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Chloroform	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Chloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Cyclohexane	ND	ug/L	10		1	08/16/14	08/16/14 13:44	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	08/16/14	08/16/14 13:44	1011
Dibromochloromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Ethylbenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 14081502

WSP Environment & Energy - Reston, Reston, VA

August 18, 2014

Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID: E0039196

Sample ID: MW-35 (311-314) **Date/Time Sampled: 08/14/2014 13:00** **PSS Sample ID: 14081502-004**
Matrix: WATER **Date/Time Received: 08/15/2014 09:00**

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

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	08/16/14	08/16/14 13:44	1011
Isopropylbenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Methyl Acetate	ND	ug/L	10		1	08/16/14	08/16/14 13:44	1011
Methylcyclohexane	ND	ug/L	10		1	08/16/14	08/16/14 13:44	1011
Methylene Chloride	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	08/16/14	08/16/14 13:44	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Naphthalene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Styrene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Tetrachloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Toluene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Trichloroethene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	08/16/14	08/16/14 13:44	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
Vinyl Chloride	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011
m,p-Xylenes	ND	ug/L	2.0		1	08/16/14	08/16/14 13:44	1011
o-Xylene	ND	ug/L	1.0		1	08/16/14	08/16/14 13:44	1011

Case Narrative Summary

Client Name: WSP Environment & Energy - Reston

Project Name: Kop-Flex

Work Order Number(s): 14081502
Project ID: E0039196

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

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

Sample Receipt:

All sample receipt conditions were acceptable.

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

Analytical Data Package Information Summary

Work Order(s): **14081502**
Report Prepared For: WSP Environment & Energy - Reston, Reston
Project Name: Kop-Flex
Project Manager: Eric Johnson

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	TB-081314	Initial	14081502-001	1011	W	51718	116049	08/13/2014	08/16/2014 08:23	08/16/2014 11:59
	MW-35 (291-296)	Initial	14081502-002	1011	W	51718	116049	08/13/2014	08/16/2014 08:23	08/16/2014 12:34
	MW-35 (301-306)	Initial	14081502-003	1011	W	51718	116049	08/14/2014	08/16/2014 08:23	08/16/2014 13:09
	MW-35 (311-314)	Initial	14081502-004	1011	W	51718	116049	08/14/2014	08/16/2014 08:23	08/16/2014 13:44
	51718-1-BKS	BKS	51718-1-BKS	1011	W	51718	116049	--------	08/16/2014 08:23	08/16/2014 09:58
	51718-1-BLK	BLK	51718-1-BLK	1011	W	51718	116049	--------	08/16/2014 08:23	08/16/2014 11:08
	MW-35 (301-306) S	MS	14081502-003 S	1011	W	51718	116049	08/14/2014	08/16/2014 08:23	08/16/2014 14:19
	MW-35 (301-306) SD	MSD	14081502-003 SD	1011	W	51718	116049	08/14/2014	08/16/2014 08:23	08/16/2014 14:54

PHASE SEPARATION SCIENCE, INC.

QC Summary 14081502

WSP Environment & Energy - Reston
Kop-Flex

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 116049 Matrix: Water Date Prep: 08/16/2014
PSS Sample ID: 14081502-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		81-133	%	08/16/14 11:59
Dibromofluoromethane	105		84-110	%	08/16/14 11:59
Toluene-D8	102		94-109	%	08/16/14 11:59

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 116049 Matrix: Water Date Prep: 08/16/2014
PSS Sample ID: 14081502-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	109		81-133	%	08/16/14 12:34
Dibromofluoromethane	106		84-110	%	08/16/14 12:34
Toluene-D8	100		94-109	%	08/16/14 12:34

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 116049 Matrix: Water Date Prep: 08/16/2014
PSS Sample ID: 14081502-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		81-133	%	08/16/14 13:09
Dibromofluoromethane	106		84-110	%	08/16/14 13:09
Toluene-D8	102		94-109	%	08/16/14 13:09

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 116049 Matrix: Water Date Prep: 08/16/2014
PSS Sample ID: 14081502-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	106		81-133	%	08/16/14 13:44
Dibromofluoromethane	108		84-110	%	08/16/14 13:44
Toluene-D8	102		94-109	%	08/16/14 13:44

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

PHASE SEPARATION SCIENCE, INC.

QC Summary 14081502

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 116049 Matrix: Water Date Prep: 08/16/14

MB Sample Id: 51718-1-BLK LCS Sample Id: 51718-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<10.00	50.00	44.40	89	53-146	ug/L	08/16/14 09:58	
Benzene	<1.000	50.00	51.01	102	77-122	ug/L	08/16/14 09:58	
Bromochloromethane	<1.000	50.00	51.65	103	71-122	ug/L	08/16/14 09:58	
Bromodichloromethane	<1.000	50.00	53.43	107	76-122	ug/L	08/16/14 09:58	
Bromoform	<5.000	50.00	54.12	108	69-115	ug/L	08/16/14 09:58	
Bromomethane	<1.000	50.00	44.45	89	40-147	ug/L	08/16/14 09:58	
2-Butanone (MEK)	<10.00	50.00	49.68	99	56-133	ug/L	08/16/14 09:58	
Carbon Disulfide	<10.00	50.00	54.44	109	62-134	ug/L	08/16/14 09:58	
Carbon Tetrachloride	<1.000	50.00	52.05	104	74-127	ug/L	08/16/14 09:58	
Chlorobenzene	<1.000	50.00	49.43	99	76-116	ug/L	08/16/14 09:58	
Chloroethane	<1.000	50.00	46.20	92	59-132	ug/L	08/16/14 09:58	
Chloroform	<1.000	50.00	47.86	96	71-118	ug/L	08/16/14 09:58	
Chloromethane	<1.000	50.00	43.72	87	62-131	ug/L	08/16/14 09:58	
Cyclohexane	<10.00	50.00	47.57	95	46-150	ug/L	08/16/14 09:58	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	46.26	93	59-135	ug/L	08/16/14 09:58	
Dibromochloromethane	<1.000	50.00	51.38	103	75-114	ug/L	08/16/14 09:58	
1,2-Dibromoethane (EDB)	<1.000	50.00	48.64	97	78-121	ug/L	08/16/14 09:58	
1,2-Dichlorobenzene	<1.000	50.00	52.03	104	80-122	ug/L	08/16/14 09:58	
1,3-Dichlorobenzene	<1.000	50.00	52.08	104	80-122	ug/L	08/16/14 09:58	
1,4-Dichlorobenzene	<1.000	50.00	48.01	96	77-118	ug/L	08/16/14 09:58	
Dichlorodifluoromethane	<1.000	50.00	55.80	112	54-139	ug/L	08/16/14 09:58	
1,1-Dichloroethane	<1.000	50.00	47.48	95	51-136	ug/L	08/16/14 09:58	
1,2-Dichloroethane	<1.000	50.00	46.66	93	64-130	ug/L	08/16/14 09:58	
1,1-Dichloroethene	<1.000	50.00	43.77	88	59-123	ug/L	08/16/14 09:58	
cis-1,2-Dichloroethene	<1.000	50.00	52.41	105	77-119	ug/L	08/16/14 09:58	
1,2-Dichloropropane	<1.000	50.00	47.80	96	75-125	ug/L	08/16/14 09:58	
cis-1,3-Dichloropropene	<1.000	50.00	49.46	99	74-123	ug/L	08/16/14 09:58	
trans-1,3-Dichloropropene	<1.000	50.00	48.34	97	73-116	ug/L	08/16/14 09:58	
trans-1,2-Dichloroethene	<1.000	50.00	52.07	104	58-134	ug/L	08/16/14 09:58	
Ethylbenzene	<1.000	50.00	50.19	100	79-122	ug/L	08/16/14 09:58	
2-Hexanone	<10.00	50.00	42.82	86	56-134	ug/L	08/16/14 09:58	
Isopropylbenzene	<1.000	50.00	47.69	95	80-128	ug/L	08/16/14 09:58	
Methyl Acetate	<10.00	50.00	35.41	71	47-145	ug/L	08/16/14 09:58	
Methylcyclohexane	<10.00	50.00	56.45	113	61-155	ug/L	08/16/14 09:58	
Methylene Chloride	<1.000	50.00	50.97	102	61-126	ug/L	08/16/14 09:58	
4-Methyl-2-Pentanone	<5.000	50.00	51.01	102	45-145	ug/L	08/16/14 09:58	
Methyl-t-butyl ether	<1.000	50.00	45.35	91	30-168	ug/L	08/16/14 09:58	
Naphthalene	<1.000	50.00	39.20	78	46-154	ug/L	08/16/14 09:58	
Styrene	<1.000	50.00	47.74	95	73-118	ug/L	08/16/14 09:58	
1,1,2,2-Tetrachloroethane	<1.000	50.00	43.89	88	71-126	ug/L	08/16/14 09:58	
Tetrachloroethene	<1.000	50.00	53.01	106	78-113	ug/L	08/16/14 09:58	
Toluene	<1.000	50.00	51.85	104	77-123	ug/L	08/16/14 09:58	
1,2,3-Trichlorobenzene	<1.000	50.00	42.78	86	66-140	ug/L	08/16/14 09:58	
1,2,4-Trichlorobenzene	<1.000	50.00	43.24	86	72-143	ug/L	08/16/14 09:58	
1,1,1-Trichloroethane	<1.000	50.00	48.75	98	66-133	ug/L	08/16/14 09:58	
1,1,2-Trichloroethane	<1.000	50.00	47.47	95	72-128	ug/L	08/16/14 09:58	
Trichloroethene	<1.000	50.00	51.39	103	72-127	ug/L	08/16/14 09:58	
Trichlorofluoromethane	<5.000	50.00	48.30	97	45-130	ug/L	08/16/14 09:58	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	40.93	82	56-126	ug/L	08/16/14 09:58	
Vinyl Chloride	<1.000	50.00	47.76	96	64-132	ug/L	08/16/14 09:58	
m,p-Xylenes	<2.000	100	106.9	107	78-119	ug/L	08/16/14 09:58	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14081502

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 116049 Matrix: Water Date Prep: 08/16/14

MB Sample Id: 51718-1-BLK LCS Sample Id: 51718-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
o-Xylene	<1.000	50.00	47.83	96	79-123	ug/L	08/16/14 09:58	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		95		81-133	%	08/16/14 09:58
Dibromofluoromethane	108		104		84-110	%	08/16/14 09:58
Toluene-D8	101		100		94-109	%	08/16/14 09:58

PHASE SEPARATION SCIENCE, INC.

QC Summary 14081502

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 116049 Matrix: Water Date Prep: 08/16/14

Parent Sample Id: 14081502-003 MS Sample Id: 14081502-003 S MSD Sample Id: 14081502-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acetone	<10.00	50.00	39.93	80	41.93	84	41-161	5	25	ug/L	08/16/14 14:19	
Benzene	<1.000	50.00	50.23	100	49.02	98	75-132	2	25	ug/L	08/16/14 14:19	
Bromochloromethane	<1.000	50.00	50.89	102	49.51	99	67-130	3	25	ug/L	08/16/14 14:19	
Bromodichloromethane	<1.000	50.00	51.58	103	50.12	100	69-134	3	25	ug/L	08/16/14 14:19	
Bromoform	<5.000	50.00	51.04	102	49.21	98	65-115	4	25	ug/L	08/16/14 14:19	
Bromomethane	<1.000	50.00	43.52	87	42.66	85	29-154	2	25	ug/L	08/16/14 14:19	
2-Butanone (MEK)	<10.00	50.00	41.96	84	45.99	92	47-140	9	25	ug/L	08/16/14 14:19	
Carbon Disulfide	<10.00	50.00	52.95	106	51.71	103	59-146	2	25	ug/L	08/16/14 14:19	
Carbon Tetrachloride	<1.000	50.00	53.30	107	51.46	103	74-136	4	25	ug/L	08/16/14 14:19	
Chlorobenzene	<1.000	50.00	47.76	96	45.46	91	78-115	5	25	ug/L	08/16/14 14:19	
Chloroethane	<1.000	50.00	44.30	89	44.09	88	40-150	0	25	ug/L	08/16/14 14:19	
Chloroform	<1.000	50.00	47.24	94	46.23	92	67-130	2	25	ug/L	08/16/14 14:19	
Chloromethane	<1.000	50.00	42.32	85	40.38	81	59-144	5	25	ug/L	08/16/14 14:19	
Cyclohexane	<10.00	50.00	44.06	88	43.21	86	34-161	2	25	ug/L	08/16/14 14:19	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	42.45	85	43.51	87	45-125	2	25	ug/L	08/16/14 14:19	
Dibromochloromethane	<1.000	50.00	49.50	99	47.81	96	73-114	3	25	ug/L	08/16/14 14:19	
1,2-Dibromoethane (EDB)	<1.000	50.00	46.17	92	45.67	91	72-126	1	25	ug/L	08/16/14 14:19	
1,2-Dichlorobenzene	<1.000	50.00	48.94	98	48.10	96	73-117	2	25	ug/L	08/16/14 14:19	
1,3-Dichlorobenzene	<1.000	50.00	49.74	99	48.10	96	73-117	3	25	ug/L	08/16/14 14:19	
1,4-Dichlorobenzene	<1.000	50.00	46.12	92	44.72	89	72-111	3	25	ug/L	08/16/14 14:19	
Dichlorodifluoromethane	<1.000	50.00	50.63	101	49.26	99	47-159	3	25	ug/L	08/16/14 14:19	
1,1-Dichloroethane	<1.000	50.00	47.51	95	46.29	93	44-152	3	25	ug/L	08/16/14 14:19	
1,2-Dichloroethane	<1.000	50.00	44.61	89	44.06	88	60-142	1	25	ug/L	08/16/14 14:19	
1,1-Dichloroethene	<1.000	50.00	43.57	87	42.70	85	50-136	2	25	ug/L	08/16/14 14:19	
cis-1,2-Dichloroethene	<1.000	50.00	51.25	103	50.82	102	76-127	1	25	ug/L	08/16/14 14:19	
1,2-Dichloropropane	<1.000	50.00	46.82	94	45.60	91	70-139	3	25	ug/L	08/16/14 14:19	
cis-1,3-Dichloropropene	<1.000	50.00	46.59	93	46.16	92	64-127	1	25	ug/L	08/16/14 14:19	
trans-1,3-Dichloropropene	<1.000	50.00	46.25	93	44.73	89	62-123	3	25	ug/L	08/16/14 14:19	
trans-1,2-Dichloroethene	<1.000	50.00	51.52	103	52.09	104	54-144	1	25	ug/L	08/16/14 14:19	
Ethylbenzene	<1.000	50.00	49.37	99	46.78	94	74-129	5	25	ug/L	08/16/14 14:19	
2-Hexanone	<10.00	50.00	39.74	79	38.09	76	50-130	4	25	ug/L	08/16/14 14:19	
Isopropylbenzene	<1.000	50.00	46.11	92	45.25	91	72-130	2	25	ug/L	08/16/14 14:19	
Methyl Acetate	<10.00	50.00	35.19	70	33.22	66	37-143	6	25	ug/L	08/16/14 14:19	
Methylcyclohexane	<10.00	50.00	51.95	104	49.84	100	55-148	4	25	ug/L	08/16/14 14:19	
Methylene Chloride	<1.000	50.00	48.52	97	48.37	97	56-137	0	25	ug/L	08/16/14 14:19	
4-Methyl-2-Pentanone	<5.000	50.00	42.47	85	43.08	86	44-133	1	25	ug/L	08/16/14 14:19	
Methyl-t-butyl ether	<1.000	50.00	41.09	82	43.28	87	22-182	5	25	ug/L	08/16/14 14:19	
Naphthalene	<1.000	50.00	35.21	70	36.61	73	7-137	4	25	ug/L	08/16/14 14:19	
Styrene	<1.000	50.00	46.01	92	43.81	88	67-121	5	25	ug/L	08/16/14 14:19	
1,1,2,2-Tetrachloroethane	<1.000	50.00	43.07	86	42.24	84	68-127	2	25	ug/L	08/16/14 14:19	
Tetrachloroethene	<1.000	50.00	52.78	106	50.63	101	69-126	4	25	ug/L	08/16/14 14:19	
Toluene	<1.000	50.00	51.70	103	49.75	100	74-132	4	25	ug/L	08/16/14 14:19	
1,2,3-Trichlorobenzene	<1.000	50.00	39.61	79	39.07	78	9-139	1	25	ug/L	08/16/14 14:19	
1,2,4-Trichlorobenzene	<1.000	50.00	38.35	77	38.68	77	31-135	1	25	ug/L	08/16/14 14:19	
1,1,1-Trichloroethane	<1.000	50.00	49.35	99	48.23	96	70-138	2	25	ug/L	08/16/14 14:19	
1,1,2-Trichloroethane	<1.000	50.00	47.12	94	45.60	91	65-143	3	25	ug/L	08/16/14 14:19	
Trichloroethene	<1.000	50.00	50.61	101	49.01	98	67-139	3	25	ug/L	08/16/14 14:19	
Trichlorofluoromethane	<5.000	50.00	47.37	95	46.59	93	37-147	2	25	ug/L	08/16/14 14:19	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	45.89	92	42.17	84	47-139	8	25	ug/L	08/16/14 14:19	
Vinyl Chloride	<1.000	50.00	51.15	102	47.48	95	60-146	7	25	ug/L	08/16/14 14:19	
m,p-Xylenes	<2.000	100	103.2	103	98.83	99	78-119	4	25	ug/L	08/16/14 14:19	

PHASE SEPARATION SCIENCE, INC.

QC Summary 14081502

WSP Environment & Energy - Reston

Kop-Flex

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

Seq Number: 116049 Matrix: Water Date Prep: 08/16/14

Parent Sample Id: 14081502-003 MS Sample Id: 14081502-003 S MSD Sample Id: 14081502-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
o-Xylene	<1.000	50.00	46.26	93	43.98	88	80-123	5	25	ug/L	08/16/14 14:19	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	96		97		81-133	%	08/16/14 14:19
Dibromofluoromethane	104		104		84-110	%	08/16/14 14:19
Toluene-D8	102		102		94-109	%	08/16/14 14:19

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

CHAIN OF CUSTODY RECORD

14081502

Page 1 of 1

Project Number:	Site and Location:
E0039196	Kop-Flex Hanover, MD
Contact Name: Eric Johnson	Contact Email:
Sampler's Name: E. Johnson	Sampler's Signature: E Johnson

Matrices: S = Soil; Aq = Water; A = Air: Bu = Bulk; W = Wipe; Bi = Biota; OW = Oily Waste; O = Other

Nº 03965

Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	VOCs (EPA 8260)	Remarks
TB081314	—	8/13/14	0900	AQ	2	X	All samples cooled with ice
MW-35(291-296)	291-296	"	1225	"	3	X	
MW-35 (301-306)	301-306	8/14/14	1025	"	3	X	Emergency TAT (*)
MW-35 (311-314)	311-314	"	1300	"	3	X	

8/14/14

# of Coolers: 1
Custody Seal: ABS
Ice Present: PRES Temp: 6°C
Shipping Carrier: CLIENT

Relinquished by (Signature): E Johnson	8/15/14 0900 Date | Time	Received by (Signature):
Relinquished by (Signature):	Date | Time	Received by (Signature):
Turn-Around Time: Emergency (< 24 Hrs)		Tracking Number: —

Laboratory Name: Phase Separation Science
Laboratory Location: Baltimore MD
Custody Seal Numbers: —
Method of Shipment: Courier (WSP)

WSP Environment & Energy

- [X] Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
- [ ] Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
- [ ] San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
- [ ] New Jersey Office: 334 Elizabeth Ave., Somerset, NJ 08873 / Tel: 732-564-0888
- [ ] Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
- [ ] Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
- [ ] Boxborough Office: 1740 Massachusetts Ave., Boxborough, MA 01719 / Tel: 978-635-9600
- [ ] Cazenovia Office: 5 Sullivan St., Cazenovia, NY 13035 / Tel: 315-655-3900

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	14081502	**Received By**	Lynn Jackson
Client Name	WSP Environment & Energy - Restor	**Date Received**	08/15/2014 09:00:00 AM
Project Name	Kop-Flex	**Delivered By**	Client
Project Number	E0039196	**Tracking No**	Not Applicable
Disposal Date	09/19/2014	**Logged In By**	Lynn Jackson

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	6
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

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

Sample Container

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

Total No. of Samples Received 4 Total No. of Containers Received 11

Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A

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

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

Samples Inspected/Checklist Completed By: N L Jackson Date: 08/15/2014

Lynn Jackson

PM Review and Approval: Date: 08/15/2014

Simon Crisp

Enclosure B – Laboratory Report for September 2014 Offsite Monitoring Well Samples

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

October 01, 2014

Keith Green
WSP Environmental Strategies
11190 Sunrise Valley Dr
Suite 300
Reston, VA 20191

RE: Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Dear Keith Green:
Enclosed are the analytical results for sample(s) received by the laboratory on September 19, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

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

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

cc: Mr. James Edwards, WSP Environmental Strategies

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

CERTIFICATIONS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
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
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92218091001	**MW-25-40**	Water	09/15/14 13:30	09/19/14 09:20
92218091002	**MW-31**	Water	09/15/14 17:15	09/19/14 09:20
92218091003	**MW-25-130**	Water	09/16/14 12:25	09/19/14 09:20
92218091004	**MW-25-190**	Water	09/16/14 15:45	09/19/14 09:20
92218091005	**MW-200**	Water	09/16/14 10:30	09/19/14 09:20
92218091006	**MW-35**	Water	09/17/14 12:55	09/19/14 09:20
92218091007	**MW-28-45**	Water	09/17/14 17:40	09/19/14 09:20
92218091008	**MW-28-210**	Water	09/17/14 18:55	09/19/14 09:20
92218091009	**MW-33-295**	Water	09/18/14 12:08	09/19/14 09:20
92218091010	**MW-33-236**	Water	09/18/14 12:15	09/19/14 09:20
92218091011	**EB-091814**	Water	09/18/14 15:15	09/19/14 09:20
92218091012	**TRIP BLANK**	Water	09/18/14 00:00	09/19/14 09:20

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

SAMPLE ANALYTE COUNT

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92218091001	**MW-25-40**	EPA 8260	CAH	64	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92218091002	**MW-31**	EPA 8260	CAH	64	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92218091003	**MW-25-130**	EPA 8260	CAH	64	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92218091004	**MW-25-190**	EPA 8260	CAH	64	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92218091005	**MW-200**	EPA 8260	CAH	64	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92218091006	**MW-35**	EPA 8260	CAH	64	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92218091007	**MW-28-45**	EPA 8260	CAH	64	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92218091008	**MW-28-210**	EPA 8260	CAH	64	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92218091009	**MW-33-295**	EPA 8260	CAH	64	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92218091010	**MW-33-236**	EPA 8260	CAH	64	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92218091011	**EB-091814**	EPA 8260	CAH	64	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C
92218091012	**TRIP BLANK**	EPA 8260	CAH	64	PASI-C

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-25-40 **Lab ID: 92218091001** Collected: 09/15/14 13:30 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		09/25/14 14:59	67-64-1	
Benzene	ND	ug/L	1.0	1		09/25/14 14:59	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		09/25/14 14:59	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		09/25/14 14:59	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		09/25/14 14:59	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/25/14 14:59	75-25-2	
Bromomethane	ND	ug/L	2.0	1		09/25/14 14:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		09/25/14 14:59	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		09/25/14 14:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/25/14 14:59	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/25/14 14:59	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/25/14 14:59	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/25/14 14:59	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 14:59	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 14:59	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		09/25/14 14:59	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		09/25/14 14:59	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		09/25/14 14:59	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		09/25/14 14:59	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 14:59	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 14:59	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 14:59	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		09/25/14 14:59	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/25/14 14:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/25/14 14:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/25/14 14:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 14:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 14:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 14:59	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		09/25/14 14:59	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 14:59	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		09/25/14 14:59	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 14:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 14:59	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		09/25/14 14:59	108-20-3	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	1		09/25/14 14:59	123-91-1	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 14:59	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		09/25/14 14:59	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		09/25/14 14:59	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		09/25/14 14:59	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		09/25/14 14:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		09/25/14 14:59	108-10-1	
Methyl-tert-butyl ether	**1.1**	ug/L	1.0	1		09/25/14 14:59	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		09/25/14 14:59	91-20-3	
Styrene	ND	ug/L	1.0	1		09/25/14 14:59	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 14:59	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 14:59	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-25-40 **Lab ID: 92218091001** Collected: 09/15/14 13:30 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	ug/L	1.0	1		09/25/14 14:59	127-18-4	
Toluene	ND	ug/L	1.0	1		09/25/14 14:59	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 14:59	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 14:59	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/25/14 14:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/25/14 14:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/25/14 14:59	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/25/14 14:59	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/25/14 14:59	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		09/25/14 14:59	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		09/25/14 14:59	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		09/25/14 14:59	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		09/25/14 14:59	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/25/14 14:59	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		09/25/14 14:59	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		09/25/14 14:59	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		09/25/14 14:59	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		09/23/14 17:21	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	50-150	1		09/23/14 17:21	17060-07-0	
Toluene-d8 (S)	99	%	50-150	1		09/23/14 17:21	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-31 **Lab ID: 92218091002** Collected: 09/15/14 17:15 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		09/25/14 15:14	67-64-1	
Benzene	ND	ug/L	1.0	1		09/25/14 15:14	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		09/25/14 15:14	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		09/25/14 15:14	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		09/25/14 15:14	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/25/14 15:14	75-25-2	
Bromomethane	ND	ug/L	2.0	1		09/25/14 15:14	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		09/25/14 15:14	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		09/25/14 15:14	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/25/14 15:14	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/25/14 15:14	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/25/14 15:14	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/25/14 15:14	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 15:14	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 15:14	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		09/25/14 15:14	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		09/25/14 15:14	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		09/25/14 15:14	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		09/25/14 15:14	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 15:14	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 15:14	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 15:14	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		09/25/14 15:14	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/25/14 15:14	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/25/14 15:14	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/25/14 15:14	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 15:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 15:14	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 15:14	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		09/25/14 15:14	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 15:14	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		09/25/14 15:14	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 15:14	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 15:14	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		09/25/14 15:14	108-20-3	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	1		09/25/14 15:14	123-91-1	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 15:14	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		09/25/14 15:14	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		09/25/14 15:14	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		09/25/14 15:14	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		09/25/14 15:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		09/25/14 15:14	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		09/25/14 15:14	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		09/25/14 15:14	91-20-3	
Styrene	ND	ug/L	1.0	1		09/25/14 15:14	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 15:14	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 15:14	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-31 **Lab ID: 92218091002** Collected: 09/15/14 17:15 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	ug/L	1.0	1		09/25/14 15:14	127-18-4	
Toluene	ND	ug/L	1.0	1		09/25/14 15:14	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 15:14	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 15:14	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/25/14 15:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/25/14 15:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/25/14 15:14	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/25/14 15:14	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/25/14 15:14	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		09/25/14 15:14	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		09/25/14 15:14	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		09/25/14 15:14	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		09/25/14 15:14	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/25/14 15:14	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		09/25/14 15:14	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		09/25/14 15:14	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		09/25/14 15:14	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		09/23/14 17:41	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	50-150	1		09/23/14 17:41	17060-07-0	
Toluene-d8 (S)	99	%	50-150	1		09/23/14 17:41	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-25-130 **Lab ID: 92218091003** Collected: 09/16/14 12:25 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		09/25/14 15:30	67-64-1	
Benzene	ND	ug/L	1.0	1		09/25/14 15:30	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		09/25/14 15:30	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		09/25/14 15:30	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		09/25/14 15:30	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/25/14 15:30	75-25-2	
Bromomethane	ND	ug/L	2.0	1		09/25/14 15:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		09/25/14 15:30	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		09/25/14 15:30	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/25/14 15:30	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/25/14 15:30	75-00-3	
Chloroform	**1.5**	ug/L	1.0	1		09/25/14 15:30	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/25/14 15:30	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 15:30	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 15:30	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		09/25/14 15:30	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		09/25/14 15:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		09/25/14 15:30	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		09/25/14 15:30	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 15:30	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 15:30	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 15:30	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		09/25/14 15:30	75-71-8	
1,1-Dichloroethane	**47.0**	ug/L	1.0	1		09/25/14 15:30	75-34-3	
1,2-Dichloroethane	**12.3**	ug/L	1.0	1		09/25/14 15:30	107-06-2	
1,1-Dichloroethene	**1140**	ug/L	12.5	12.5		09/26/14 14:26	75-35-4	
cis-1,2-Dichloroethene	**6.1**	ug/L	1.0	1		09/25/14 15:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 15:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 15:30	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		09/25/14 15:30	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 15:30	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		09/25/14 15:30	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 15:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 15:30	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		09/25/14 15:30	108-20-3	
1,4-Dioxane (p-Dioxane)	**448**	ug/L	150	1		09/25/14 15:30	123-91-1	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 15:30	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		09/25/14 15:30	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		09/25/14 15:30	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		09/25/14 15:30	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		09/25/14 15:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		09/25/14 15:30	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		09/25/14 15:30	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		09/25/14 15:30	91-20-3	
Styrene	ND	ug/L	1.0	1		09/25/14 15:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 15:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 15:30	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-25-130 **Lab ID: 92218091003** Collected: 09/16/14 12:25 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	**1.1**	ug/L	1.0	1		09/25/14 15:30	127-18-4	
Toluene	ND	ug/L	1.0	1		09/25/14 15:30	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 15:30	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 15:30	120-82-1	
1,1,1-Trichloroethane	**64.2**	ug/L	1.0	1		09/25/14 15:30	71-55-6	
1,1,2-Trichloroethane	**2.0**	ug/L	1.0	1		09/25/14 15:30	79-00-5	
Trichloroethene	**11.2**	ug/L	1.0	1		09/25/14 15:30	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/25/14 15:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/25/14 15:30	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		09/25/14 15:30	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		09/25/14 15:30	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		09/25/14 15:30	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		09/25/14 15:30	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/25/14 15:30	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		09/25/14 15:30	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		09/25/14 15:30	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		09/25/14 15:30	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**492**	ug/L	20.0	10		09/24/14 13:37	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%	50-150	1		09/23/14 18:01	17060-07-0	
Toluene-d8 (S)	99	%	50-150	1		09/23/14 18:01	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-25-190 **Lab ID: 92218091004** Collected: 09/16/14 15:45 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		09/25/14 16:01	67-64-1	
Benzene	ND	ug/L	1.0	1		09/25/14 16:01	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		09/25/14 16:01	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		09/25/14 16:01	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		09/25/14 16:01	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/25/14 16:01	75-25-2	
Bromomethane	ND	ug/L	2.0	1		09/25/14 16:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		09/25/14 16:01	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		09/25/14 16:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/25/14 16:01	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/25/14 16:01	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/25/14 16:01	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/25/14 16:01	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 16:01	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 16:01	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		09/25/14 16:01	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		09/25/14 16:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		09/25/14 16:01	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		09/25/14 16:01	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:01	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:01	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:01	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		09/25/14 16:01	75-71-8	
1,1-Dichloroethane	**10.8**	ug/L	1.0	1		09/25/14 16:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/25/14 16:01	107-06-2	
1,1-Dichloroethene	**52.2**	ug/L	1.0	1		09/25/14 16:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 16:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 16:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 16:01	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		09/25/14 16:01	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 16:01	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		09/25/14 16:01	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 16:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 16:01	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		09/25/14 16:01	108-20-3	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	1		09/25/14 16:01	123-91-1	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 16:01	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		09/25/14 16:01	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		09/25/14 16:01	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		09/25/14 16:01	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		09/25/14 16:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		09/25/14 16:01	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		09/25/14 16:01	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		09/25/14 16:01	91-20-3	
Styrene	ND	ug/L	1.0	1		09/25/14 16:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 16:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 16:01	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-25-190 **Lab ID: 92218091004** Collected: 09/16/14 15:45 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	ug/L	1.0	1		09/25/14 16:01	127-18-4	
Toluene	ND	ug/L	1.0	1		09/25/14 16:01	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:01	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:01	120-82-1	
1,1,1-Trichloroethane	**14.0**	ug/L	1.0	1		09/25/14 16:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/25/14 16:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/25/14 16:01	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/25/14 16:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/25/14 16:01	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		09/25/14 16:01	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		09/25/14 16:01	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		09/25/14 16:01	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		09/25/14 16:01	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/25/14 16:01	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		09/25/14 16:01	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		09/25/14 16:01	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		09/25/14 16:01	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**65.1**	ug/L	2.0	1		09/23/14 18:22	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	50-150	1		09/23/14 18:22	17060-07-0	
Toluene-d8 (S)	98	%	50-150	1		09/23/14 18:22	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-200 **Lab ID: 92218091005** Collected: 09/16/14 10:30 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		09/25/14 16:16	67-64-1	
Benzene	ND	ug/L	1.0	1		09/25/14 16:16	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		09/25/14 16:16	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		09/25/14 16:16	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		09/25/14 16:16	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/25/14 16:16	75-25-2	
Bromomethane	ND	ug/L	2.0	1		09/25/14 16:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		09/25/14 16:16	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		09/25/14 16:16	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/25/14 16:16	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/25/14 16:16	75-00-3	
Chloroform	**1.5**	ug/L	1.0	1		09/25/14 16:16	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/25/14 16:16	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 16:16	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 16:16	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		09/25/14 16:16	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		09/25/14 16:16	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		09/25/14 16:16	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		09/25/14 16:16	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:16	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:16	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:16	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		09/25/14 16:16	75-71-8	
1,1-Dichloroethane	**47.0**	ug/L	1.0	1		09/25/14 16:16	75-34-3	
1,2-Dichloroethane	**12.2**	ug/L	1.0	1		09/25/14 16:16	107-06-2	
1,1-Dichloroethene	**1110**	ug/L	12.5	12.5		09/26/14 14:57	75-35-4	
cis-1,2-Dichloroethene	**6.1**	ug/L	1.0	1		09/25/14 16:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 16:16	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 16:16	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		09/25/14 16:16	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 16:16	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		09/25/14 16:16	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 16:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 16:16	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		09/25/14 16:16	108-20-3	
1,4-Dioxane (p-Dioxane)	**470**	ug/L	150	1		09/25/14 16:16	123-91-1	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 16:16	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		09/25/14 16:16	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		09/25/14 16:16	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		09/25/14 16:16	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		09/25/14 16:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		09/25/14 16:16	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		09/25/14 16:16	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		09/25/14 16:16	91-20-3	
Styrene	ND	ug/L	1.0	1		09/25/14 16:16	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 16:16	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 16:16	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-200 **Lab ID: 92218091005** Collected: 09/16/14 10:30 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	**1.1**	ug/L	1.0	1		09/25/14 16:16	127-18-4	
Toluene	ND	ug/L	1.0	1		09/25/14 16:16	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:16	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:16	120-82-1	
1,1,1-Trichloroethane	**65.1**	ug/L	1.0	1		09/25/14 16:16	71-55-6	
1,1,2-Trichloroethane	**2.1**	ug/L	1.0	1		09/25/14 16:16	79-00-5	
Trichloroethene	**11.4**	ug/L	1.0	1		09/25/14 16:16	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/25/14 16:16	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/25/14 16:16	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		09/25/14 16:16	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		09/25/14 16:16	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		09/25/14 16:16	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		09/25/14 16:16	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/25/14 16:16	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		09/25/14 16:16	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		09/25/14 16:16	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		09/25/14 16:16	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**513**	ug/L	20.0	10		09/24/14 13:58	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	50-150	1		09/23/14 18:42	17060-07-0	
Toluene-d8 (S)	99	%	50-150	1		09/23/14 18:42	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-35 **Lab ID: 92218091006** Collected: 09/17/14 12:55 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		09/25/14 16:32	67-64-1	
Benzene	ND	ug/L	1.0	1		09/25/14 16:32	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		09/25/14 16:32	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		09/25/14 16:32	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		09/25/14 16:32	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/25/14 16:32	75-25-2	
Bromomethane	ND	ug/L	2.0	1		09/25/14 16:32	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		09/25/14 16:32	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		09/25/14 16:32	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/25/14 16:32	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/25/14 16:32	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/25/14 16:32	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/25/14 16:32	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 16:32	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 16:32	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		09/25/14 16:32	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		09/25/14 16:32	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		09/25/14 16:32	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		09/25/14 16:32	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:32	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:32	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:32	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		09/25/14 16:32	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/25/14 16:32	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/25/14 16:32	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/25/14 16:32	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 16:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 16:32	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 16:32	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		09/25/14 16:32	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 16:32	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		09/25/14 16:32	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 16:32	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 16:32	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		09/25/14 16:32	108-20-3	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	1		09/25/14 16:32	123-91-1	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 16:32	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		09/25/14 16:32	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		09/25/14 16:32	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		09/25/14 16:32	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		09/25/14 16:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		09/25/14 16:32	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		09/25/14 16:32	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		09/25/14 16:32	91-20-3	
Styrene	ND	ug/L	1.0	1		09/25/14 16:32	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 16:32	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 16:32	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-35 **Lab ID: 92218091006** Collected: 09/17/14 12:55 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	ug/L	1.0	1		09/25/14 16:32	127-18-4	
Toluene	ND	ug/L	1.0	1		09/25/14 16:32	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:32	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:32	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/25/14 16:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/25/14 16:32	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/25/14 16:32	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/25/14 16:32	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/25/14 16:32	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		09/25/14 16:32	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		09/25/14 16:32	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		09/25/14 16:32	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		09/25/14 16:32	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/25/14 16:32	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		09/25/14 16:32	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		09/25/14 16:32	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		09/25/14 16:32	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**36.7**	ug/L	2.0	1		09/23/14 19:03	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%	50-150	1		09/23/14 19:03	17060-07-0	
Toluene-d8 (S)	99	%	50-150	1		09/23/14 19:03	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-28-45 **Lab ID: 92218091007** Collected: 09/17/14 17:40 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		09/25/14 16:48	67-64-1	
Benzene	ND	ug/L	1.0	1		09/25/14 16:48	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		09/25/14 16:48	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		09/25/14 16:48	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		09/25/14 16:48	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/25/14 16:48	75-25-2	
Bromomethane	ND	ug/L	2.0	1		09/25/14 16:48	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		09/25/14 16:48	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		09/25/14 16:48	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/25/14 16:48	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/25/14 16:48	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/25/14 16:48	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/25/14 16:48	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 16:48	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 16:48	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		09/25/14 16:48	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		09/25/14 16:48	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		09/25/14 16:48	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		09/25/14 16:48	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:48	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:48	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:48	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		09/25/14 16:48	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/25/14 16:48	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/25/14 16:48	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/25/14 16:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 16:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 16:48	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 16:48	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		09/25/14 16:48	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 16:48	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		09/25/14 16:48	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 16:48	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 16:48	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		09/25/14 16:48	108-20-3	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	1		09/25/14 16:48	123-91-1	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 16:48	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		09/25/14 16:48	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		09/25/14 16:48	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		09/25/14 16:48	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		09/25/14 16:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		09/25/14 16:48	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		09/25/14 16:48	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		09/25/14 16:48	91-20-3	
Styrene	ND	ug/L	1.0	1		09/25/14 16:48	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 16:48	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 16:48	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-28-45 **Lab ID: 92218091007** Collected: 09/17/14 17:40 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	ug/L	1.0	1		09/25/14 16:48	127-18-4	
Toluene	ND	ug/L	1.0	1		09/25/14 16:48	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:48	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 16:48	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/25/14 16:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/25/14 16:48	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/25/14 16:48	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/25/14 16:48	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/25/14 16:48	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		09/25/14 16:48	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		09/25/14 16:48	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		09/25/14 16:48	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		09/25/14 16:48	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/25/14 16:48	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		09/25/14 16:48	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		09/25/14 16:48	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		09/25/14 16:48	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**6.5**	ug/L	2.0	1		09/23/14 19:23	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%	50-150	1		09/23/14 19:23	17060-07-0	
Toluene-d8 (S)	99	%	50-150	1		09/23/14 19:23	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-28-210 **Lab ID: 92218091008** Collected: 09/17/14 18:55 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		09/25/14 17:03	67-64-1	
Benzene	ND	ug/L	1.0	1		09/25/14 17:03	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		09/25/14 17:03	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		09/25/14 17:03	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		09/25/14 17:03	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/25/14 17:03	75-25-2	
Bromomethane	ND	ug/L	2.0	1		09/25/14 17:03	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		09/25/14 17:03	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		09/25/14 17:03	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/25/14 17:03	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/25/14 17:03	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/25/14 17:03	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/25/14 17:03	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 17:03	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 17:03	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		09/25/14 17:03	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		09/25/14 17:03	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		09/25/14 17:03	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		09/25/14 17:03	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:03	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:03	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:03	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		09/25/14 17:03	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/25/14 17:03	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/25/14 17:03	107-06-2	
1,1-Dichloroethene	**6.8**	ug/L	1.0	1		09/25/14 17:03	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 17:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 17:03	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 17:03	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		09/25/14 17:03	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 17:03	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		09/25/14 17:03	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 17:03	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 17:03	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		09/25/14 17:03	108-20-3	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	1		09/25/14 17:03	123-91-1	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 17:03	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		09/25/14 17:03	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		09/25/14 17:03	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		09/25/14 17:03	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		09/25/14 17:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		09/25/14 17:03	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		09/25/14 17:03	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		09/25/14 17:03	91-20-3	
Styrene	ND	ug/L	1.0	1		09/25/14 17:03	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 17:03	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 17:03	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-28-210 **Lab ID: 92218091008** Collected: 09/17/14 18:55 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	ug/L	1.0	1		09/25/14 17:03	127-18-4	
Toluene	ND	ug/L	1.0	1		09/25/14 17:03	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:03	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:03	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/25/14 17:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/25/14 17:03	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/25/14 17:03	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/25/14 17:03	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/25/14 17:03	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		09/25/14 17:03	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		09/25/14 17:03	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		09/25/14 17:03	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		09/25/14 17:03	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/25/14 17:03	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		09/25/14 17:03	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		09/25/14 17:03	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		09/25/14 17:03	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**5.1**	ug/L	2.0	1		09/23/14 19:44	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%	50-150	1		09/23/14 19:44	17060-07-0	
Toluene-d8 (S)	98	%	50-150	1		09/23/14 19:44	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-33-295 **Lab ID: 92218091009** Collected: 09/18/14 12:08 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		09/25/14 17:19	67-64-1	
Benzene	ND	ug/L	1.0	1		09/25/14 17:19	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		09/25/14 17:19	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		09/25/14 17:19	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		09/25/14 17:19	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/25/14 17:19	75-25-2	
Bromomethane	ND	ug/L	2.0	1		09/25/14 17:19	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		09/25/14 17:19	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		09/25/14 17:19	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/25/14 17:19	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/25/14 17:19	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/25/14 17:19	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/25/14 17:19	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 17:19	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 17:19	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		09/25/14 17:19	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		09/25/14 17:19	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		09/25/14 17:19	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		09/25/14 17:19	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:19	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:19	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:19	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		09/25/14 17:19	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/25/14 17:19	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/25/14 17:19	107-06-2	
1,1-Dichloroethene	**3.3**	ug/L	1.0	1		09/25/14 17:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 17:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 17:19	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 17:19	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		09/25/14 17:19	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 17:19	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		09/25/14 17:19	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 17:19	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 17:19	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		09/25/14 17:19	108-20-3	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	1		09/25/14 17:19	123-91-1	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 17:19	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		09/25/14 17:19	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		09/25/14 17:19	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		09/25/14 17:19	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		09/25/14 17:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		09/25/14 17:19	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		09/25/14 17:19	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		09/25/14 17:19	91-20-3	
Styrene	ND	ug/L	1.0	1		09/25/14 17:19	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 17:19	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 17:19	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-33-295 **Lab ID: 92218091009** Collected: 09/18/14 12:08 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	ug/L	1.0	1		09/25/14 17:19	127-18-4	
Toluene	ND	ug/L	1.0	1		09/25/14 17:19	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:19	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:19	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/25/14 17:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/25/14 17:19	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/25/14 17:19	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/25/14 17:19	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/25/14 17:19	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		09/25/14 17:19	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		09/25/14 17:19	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		09/25/14 17:19	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		09/25/14 17:19	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/25/14 17:19	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		09/25/14 17:19	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		09/25/14 17:19	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		09/25/14 17:19	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	**7.2**	ug/L	2.0	1		09/23/14 20:04	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	50-150	1		09/23/14 20:04	17060-07-0	
Toluene-d8 (S)	98	%	50-150	1		09/23/14 20:04	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-33-236 **Lab ID: 92218091010** Collected: 09/18/14 12:15 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		09/25/14 17:35	67-64-1	
Benzene	ND	ug/L	1.0	1		09/25/14 17:35	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		09/25/14 17:35	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		09/25/14 17:35	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		09/25/14 17:35	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/25/14 17:35	75-25-2	
Bromomethane	ND	ug/L	2.0	1		09/25/14 17:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		09/25/14 17:35	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		09/25/14 17:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/25/14 17:35	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/25/14 17:35	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/25/14 17:35	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/25/14 17:35	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 17:35	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 17:35	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		09/25/14 17:35	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		09/25/14 17:35	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		09/25/14 17:35	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		09/25/14 17:35	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:35	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:35	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:35	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		09/25/14 17:35	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/25/14 17:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/25/14 17:35	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/25/14 17:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 17:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 17:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 17:35	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		09/25/14 17:35	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 17:35	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		09/25/14 17:35	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 17:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 17:35	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		09/25/14 17:35	108-20-3	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	1		09/25/14 17:35	123-91-1	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 17:35	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		09/25/14 17:35	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		09/25/14 17:35	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		09/25/14 17:35	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		09/25/14 17:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		09/25/14 17:35	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		09/25/14 17:35	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		09/25/14 17:35	91-20-3	
Styrene	ND	ug/L	1.0	1		09/25/14 17:35	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 17:35	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 17:35	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: MW-33-236 **Lab ID: 92218091010** Collected: 09/18/14 12:15 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	ug/L	1.0	1		09/25/14 17:35	127-18-4	
Toluene	ND	ug/L	1.0	1		09/25/14 17:35	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:35	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:35	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/25/14 17:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/25/14 17:35	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/25/14 17:35	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/25/14 17:35	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/25/14 17:35	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		09/25/14 17:35	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		09/25/14 17:35	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		09/25/14 17:35	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		09/25/14 17:35	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/25/14 17:35	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		09/25/14 17:35	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		09/25/14 17:35	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		09/25/14 17:35	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		09/23/14 20:24	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%	50-150	1		09/23/14 20:24	17060-07-0	
Toluene-d8 (S)	99	%	50-150	1		09/23/14 20:24	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: EB-091814 **Lab ID: 92218091011** Collected: 09/18/14 15:15 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		09/25/14 17:50	67-64-1	
Benzene	ND	ug/L	1.0	1		09/25/14 17:50	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		09/25/14 17:50	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		09/25/14 17:50	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		09/25/14 17:50	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/25/14 17:50	75-25-2	
Bromomethane	ND	ug/L	2.0	1		09/25/14 17:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		09/25/14 17:50	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		09/25/14 17:50	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/25/14 17:50	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/25/14 17:50	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/25/14 17:50	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/25/14 17:50	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 17:50	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 17:50	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		09/25/14 17:50	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		09/25/14 17:50	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		09/25/14 17:50	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		09/25/14 17:50	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:50	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:50	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:50	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		09/25/14 17:50	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/25/14 17:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/25/14 17:50	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/25/14 17:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 17:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 17:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 17:50	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		09/25/14 17:50	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 17:50	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		09/25/14 17:50	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 17:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 17:50	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		09/25/14 17:50	108-20-3	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	1		09/25/14 17:50	123-91-1	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 17:50	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		09/25/14 17:50	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		09/25/14 17:50	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		09/25/14 17:50	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		09/25/14 17:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		09/25/14 17:50	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		09/25/14 17:50	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		09/25/14 17:50	91-20-3	
Styrene	ND	ug/L	1.0	1		09/25/14 17:50	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 17:50	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 17:50	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: EB-091814 **Lab ID: 92218091011** Collected: 09/18/14 15:15 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	ug/L	1.0	1		09/25/14 17:50	127-18-4	
Toluene	ND	ug/L	1.0	1		09/25/14 17:50	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:50	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 17:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/25/14 17:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/25/14 17:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/25/14 17:50	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/25/14 17:50	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/25/14 17:50	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		09/25/14 17:50	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		09/25/14 17:50	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		09/25/14 17:50	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		09/25/14 17:50	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/25/14 17:50	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		09/25/14 17:50	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		09/25/14 17:50	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		09/25/14 17:50	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		09/23/14 20:45	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%	50-150	1		09/23/14 20:45	17060-07-0	
Toluene-d8 (S)	98	%	50-150	1		09/23/14 20:45	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: TRIP BLANK **Lab ID: 92218091012** Collected: 09/18/14 00:00 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		09/25/14 18:06	67-64-1	
Benzene	ND	ug/L	1.0	1		09/25/14 18:06	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		09/25/14 18:06	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		09/25/14 18:06	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		09/25/14 18:06	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/25/14 18:06	75-25-2	
Bromomethane	ND	ug/L	2.0	1		09/25/14 18:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		09/25/14 18:06	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		09/25/14 18:06	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/25/14 18:06	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/25/14 18:06	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/25/14 18:06	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/25/14 18:06	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 18:06	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		09/25/14 18:06	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		09/25/14 18:06	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		09/25/14 18:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		09/25/14 18:06	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		09/25/14 18:06	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 18:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 18:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/25/14 18:06	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		09/25/14 18:06	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/25/14 18:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/25/14 18:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/25/14 18:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 18:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/25/14 18:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 18:06	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		09/25/14 18:06	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		09/25/14 18:06	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		09/25/14 18:06	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 18:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/25/14 18:06	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		09/25/14 18:06	108-20-3	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	1		09/25/14 18:06	123-91-1	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 18:06	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		09/25/14 18:06	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		09/25/14 18:06	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		09/25/14 18:06	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		09/25/14 18:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		09/25/14 18:06	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		09/25/14 18:06	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		09/25/14 18:06	91-20-3	
Styrene	ND	ug/L	1.0	1		09/25/14 18:06	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 18:06	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/25/14 18:06	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Sample: TRIP BLANK **Lab ID: 92218091012** Collected: 09/18/14 00:00 Received: 09/19/14 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	ug/L	1.0	1		09/25/14 18:06	127-18-4	
Toluene	ND	ug/L	1.0	1		09/25/14 18:06	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 18:06	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		09/25/14 18:06	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/25/14 18:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/25/14 18:06	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/25/14 18:06	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/25/14 18:06	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/25/14 18:06	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		09/25/14 18:06	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		09/25/14 18:06	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		09/25/14 18:06	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		09/25/14 18:06	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/25/14 18:06	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		09/25/14 18:06	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		09/25/14 18:06	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		09/25/14 18:06	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

QC Batch: MSV/28479 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92218091001, 92218091002, 92218091003, 92218091004, 92218091005, 92218091006, 92218091007, 92218091008, 92218091009, 92218091010, 92218091011, 92218091012

METHOD BLANK: 1293258 Matrix: Water
Associated Lab Samples: 92218091001, 92218091002, 92218091003, 92218091004, 92218091005, 92218091006, 92218091007, 92218091008, 92218091009, 92218091010, 92218091011, 92218091012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	09/25/14 14:27	
1,1,1-Trichloroethane	ug/L	ND	1.0	09/25/14 14:27	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/25/14 14:27	
1,1,2-Trichloroethane	ug/L	ND	1.0	09/25/14 14:27	
1,1-Dichloroethane	ug/L	ND	1.0	09/25/14 14:27	
1,1-Dichloroethene	ug/L	ND	1.0	09/25/14 14:27	
1,1-Dichloropropene	ug/L	ND	1.0	09/25/14 14:27	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	09/25/14 14:27	
1,2,3-Trichloropropane	ug/L	ND	1.0	09/25/14 14:27	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	09/25/14 14:27	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	09/25/14 14:27	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	09/25/14 14:27	
1,2-Dichlorobenzene	ug/L	ND	1.0	09/25/14 14:27	
1,2-Dichloroethane	ug/L	ND	1.0	09/25/14 14:27	
1,2-Dichloropropane	ug/L	ND	1.0	09/25/14 14:27	
1,3-Dichlorobenzene	ug/L	ND	1.0	09/25/14 14:27	
1,3-Dichloropropane	ug/L	ND	1.0	09/25/14 14:27	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/25/14 14:27	
1,4-Dioxane (p-Dioxane)	ug/L	ND	150	09/25/14 14:27	
2,2-Dichloropropane	ug/L	ND	1.0	09/25/14 14:27	
2-Butanone (MEK)	ug/L	ND	5.0	09/25/14 14:27	
2-Chlorotoluene	ug/L	ND	1.0	09/25/14 14:27	
2-Hexanone	ug/L	ND	5.0	09/25/14 14:27	
4-Chlorotoluene	ug/L	ND	1.0	09/25/14 14:27	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	09/25/14 14:27	
Acetone	ug/L	ND	25.0	09/25/14 14:27	
Benzene	ug/L	ND	1.0	09/25/14 14:27	
Bromobenzene	ug/L	ND	1.0	09/25/14 14:27	
Bromochloromethane	ug/L	ND	1.0	09/25/14 14:27	
Bromodichloromethane	ug/L	ND	1.0	09/25/14 14:27	
Bromoform	ug/L	ND	1.0	09/25/14 14:27	
Bromomethane	ug/L	ND	2.0	09/25/14 14:27	
Carbon tetrachloride	ug/L	ND	1.0	09/25/14 14:27	
Chlorobenzene	ug/L	ND	1.0	09/25/14 14:27	
Chloroethane	ug/L	ND	1.0	09/25/14 14:27	
Chloroform	ug/L	ND	1.0	09/25/14 14:27	
Chloromethane	ug/L	ND	1.0	09/25/14 14:27	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/25/14 14:27	
cis-1,3-Dichloropropene	ug/L	ND	1.0	09/25/14 14:27	
Dibromochloromethane	ug/L	ND	1.0	09/25/14 14:27	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

METHOD BLANK: 1293258 Matrix: Water

Associated Lab Samples: 92218091001, 92218091002, 92218091003, 92218091004, 92218091005, 92218091006, 92218091007, 92218091008, 92218091009, 92218091010, 92218091011, 92218091012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/L	ND	1.0	09/25/14 14:27	
Dichlorodifluoromethane	ug/L	ND	1.0	09/25/14 14:27	
Diisopropyl ether	ug/L	ND	1.0	09/25/14 14:27	
Ethylbenzene	ug/L	ND	1.0	09/25/14 14:27	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	09/25/14 14:27	
m&p-Xylene	ug/L	ND	2.0	09/25/14 14:27	
Methyl-tert-butyl ether	ug/L	ND	1.0	09/25/14 14:27	
Methylene Chloride	ug/L	ND	2.0	09/25/14 14:27	
Naphthalene	ug/L	ND	1.0	09/25/14 14:27	
o-Xylene	ug/L	ND	1.0	09/25/14 14:27	
p-Isopropyltoluene	ug/L	ND	1.0	09/25/14 14:27	
Styrene	ug/L	ND	1.0	09/25/14 14:27	
Tetrachloroethene	ug/L	ND	1.0	09/25/14 14:27	
Toluene	ug/L	ND	1.0	09/25/14 14:27	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/25/14 14:27	
trans-1,3-Dichloropropene	ug/L	ND	1.0	09/25/14 14:27	
Trichloroethene	ug/L	ND	1.0	09/25/14 14:27	
Trichlorofluoromethane	ug/L	ND	1.0	09/25/14 14:27	
Vinyl acetate	ug/L	ND	2.0	09/25/14 14:27	
Vinyl chloride	ug/L	ND	1.0	09/25/14 14:27	
Xylene (Total)	ug/L	ND	2.0	09/25/14 14:27	
1,2-Dichloroethane-d4 (S)	%	98	70-130	09/25/14 14:27	
4-Bromofluorobenzene (S)	%	99	70-130	09/25/14 14:27	
Toluene-d8 (S)	%	99	70-130	09/25/14 14:27	

LABORATORY CONTROL SAMPLE: 1293259

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	46.8	94	70-130	
1,1,1-Trichloroethane	ug/L	50	42.9	86	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	45.7	91	70-130	
1,1,2-Trichloroethane	ug/L	50	46.3	93	70-130	
1,1-Dichloroethane	ug/L	50	40.4	81	70-130	
1,1-Dichloroethene	ug/L	50	47.5	95	70-132	
1,1-Dichloropropene	ug/L	50	43.6	87	70-130	
1,2,3-Trichlorobenzene	ug/L	50	48.4	97	70-135	
1,2,3-Trichloropropane	ug/L	50	49.4	99	70-130	
1,2,4-Trichlorobenzene	ug/L	50	47.1	94	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	47.8	96	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	46.6	93	70-130	
1,2-Dichlorobenzene	ug/L	50	46.0	92	70-130	
1,2-Dichloroethane	ug/L	50	43.9	88	70-130	
1,2-Dichloropropane	ug/L	50	45.1	90	70-130	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

LABORATORY CONTROL SAMPLE: 1293259

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichlorobenzene	ug/L	50	45.9	92	70-130	
1,3-Dichloropropane	ug/L	50	45.9	92	70-130	
1,4-Dichlorobenzene	ug/L	50	46.6	93	70-130	
1,4-Dioxane (p-Dioxane)	ug/L	1000	970	97	71-125	
2,2-Dichloropropane	ug/L	50	44.5	89	58-145	
2-Butanone (MEK)	ug/L	100	85.9	86	70-145	
2-Chlorotoluene	ug/L	50	43.7	87	70-130	
2-Hexanone	ug/L	100	95.1	95	70-144	
4-Chlorotoluene	ug/L	50	44.8	90	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.9	96	70-140	
Acetone	ug/L	100	88.1	88	50-175	
Benzene	ug/L	50	45.1	90	70-130	
Bromobenzene	ug/L	50	45.2	90	70-130	
Bromochloromethane	ug/L	50	46.3	93	70-130	
Bromodichloromethane	ug/L	50	49.0	98	70-130	
Bromoform	ug/L	50	46.7	93	70-130	
Bromomethane	ug/L	50	41.3	83	54-130	
Carbon tetrachloride	ug/L	50	49.1	98	70-132	
Chlorobenzene	ug/L	50	47.0	94	70-130	
Chloroethane	ug/L	50	40.3	81	64-134	
Chloroform	ug/L	50	45.8	92	70-130	
Chloromethane	ug/L	50	34.6	69	64-130	
cis-1,2-Dichloroethene	ug/L	50	46.1	92	70-131	
cis-1,3-Dichloropropene	ug/L	50	47.8	96	70-130	
Dibromochloromethane	ug/L	50	51.1	102	70-130	
Dibromomethane	ug/L	50	49.7	99	70-131	
Dichlorodifluoromethane	ug/L	50	40.9	82	56-130	
Diisopropyl ether	ug/L	50	43.0	86	70-130	
Ethylbenzene	ug/L	50	45.1	90	70-130	
Hexachloro-1,3-butadiene	ug/L	50	46.9	94	70-130	
m&p-Xylene	ug/L	100	92.3	92	70-130	
Methyl-tert-butyl ether	ug/L	50	44.2	88	70-130	
Methylene Chloride	ug/L	50	43.6	87	63-130	
Naphthalene	ug/L	50	49.0	98	70-138	
o-Xylene	ug/L	50	46.0	92	70-130	
p-Isopropyltoluene	ug/L	50	45.4	91	70-130	
Styrene	ug/L	50	47.4	95	70-130	
Tetrachloroethene	ug/L	50	45.3	91	70-130	
Toluene	ug/L	50	46.0	92	70-130	
trans-1,2-Dichloroethene	ug/L	50	44.8	90	70-130	
trans-1,3-Dichloropropene	ug/L	50	50.5	101	70-132	
Trichloroethene	ug/L	50	45.5	91	70-130	
Trichlorofluoromethane	ug/L	50	44.8	90	62-133	
Vinyl acetate	ug/L	100	90.3	90	66-157	
Vinyl chloride	ug/L	50	40.3	81	50-150	
Xylene (Total)	ug/L	150	138	92	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(704)875-9092

QUALITY CONTROL DATA

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

LABORATORY CONTROL SAMPLE: 1293259

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1293260

Parameter	Units	92218091002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	19.3	96	70-130	
1,1,1-Trichloroethane	ug/L	ND	20	19.4	97	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.8	99	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	20.5	102	70-130	
1,1-Dichloroethane	ug/L	ND	20	18.4	92	70-130	
1,1-Dichloroethene	ug/L	ND	20	21.8	109	70-166	
1,1-Dichloropropene	ug/L	ND	20	20.5	103	70-130	
1,2,3-Trichlorobenzene	ug/L	ND	20	20.2	101	70-130	
1,2,3-Trichloropropane	ug/L	ND	20	21.2	106	70-130	
1,2,4-Trichlorobenzene	ug/L	ND	20	20.1	101	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	17.4	87	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	19.9	100	70-130	
1,2-Dichlorobenzene	ug/L	ND	20	20.5	102	70-130	
1,2-Dichloroethane	ug/L	ND	20	18.8	94	70-130	
1,2-Dichloropropane	ug/L	ND	20	20.5	102	70-130	
1,3-Dichlorobenzene	ug/L	ND	20	20.6	103	70-130	
1,3-Dichloropropane	ug/L	ND	20	20.5	102	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	20.8	104	70-130	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	394	99	70-130	
2,2-Dichloropropane	ug/L	ND	20	17.6	88	70-130	
2-Butanone (MEK)	ug/L	ND	40	36.4	91	70-130	
2-Chlorotoluene	ug/L	ND	20	20.0	100	70-130	
2-Hexanone	ug/L	ND	40	38.4	96	70-130	
4-Chlorotoluene	ug/L	ND	20	20.4	102	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	40.2	101	70-130	
Acetone	ug/L	ND	40	36.8	87	70-130	
Benzene	ug/L	ND	20	21.5	107	70-148	
Bromobenzene	ug/L	ND	20	20.0	100	70-130	
Bromochloromethane	ug/L	ND	20	20.2	101	70-130	
Bromodichloromethane	ug/L	ND	20	19.7	99	70-130	
Bromoform	ug/L	ND	20	16.7	83	70-130	
Bromomethane	ug/L	ND	20	11.1	55	70-130	M0
Carbon tetrachloride	ug/L	ND	20	20.2	101	70-130	
Chlorobenzene	ug/L	ND	20	21.5	108	70-146	
Chloroethane	ug/L	ND	20	20.6	101	70-130	
Chloroform	ug/L	ND	20	20.2	101	70-130	
Chloromethane	ug/L	ND	20	15.1	76	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	20.5	103	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	19.3	96	70-130	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

MATRIX SPIKE SAMPLE: 1293260

Parameter	Units	92218091002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	ND	20	19.2	96	70-130	
Dibromomethane	ug/L	ND	20	21.4	107	70-130	
Dichlorodifluoromethane	ug/L	ND	20	20.5	103	70-130	
Diisopropyl ether	ug/L	ND	20	18.7	94	70-130	
Ethylbenzene	ug/L	ND	20	21.1	105	70-130	
Hexachloro-1,3-butadiene	ug/L	ND	20	20.0	100	70-130	
m&p-Xylene	ug/L	ND	40	44.2	110	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	19.4	97	70-130	
Methylene Chloride	ug/L	ND	20	17.7	88	70-130	
Naphthalene	ug/L	ND	20	21.6	108	70-130	
o-Xylene	ug/L	ND	20	21.2	106	70-130	
p-Isopropyltoluene	ug/L	ND	20	20.5	103	70-130	
Styrene	ug/L	ND	20	21.6	108	70-130	
Tetrachloroethene	ug/L	ND	20	21.2	106	70-130	
Toluene	ug/L	ND	20	21.6	108	70-155	
trans-1,2-Dichloroethene	ug/L	ND	20	20.5	103	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	18.9	95	70-130	
Trichloroethene	ug/L	ND	20	21.4	107	69-151	
Trichlorofluoromethane	ug/L	ND	20	20.1	101	70-130	
Vinyl acetate	ug/L	ND	40	31.9	80	70-130	
Vinyl chloride	ug/L	ND	20	20.2	101	70-130	
1,2-Dichloroethane-d4 (S)	%				90	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1293261

Parameter	Units	92218091003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,1-Trichloroethane	ug/L	64.2	65.5	2	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	2.0	2.1	5	30	
1,1-Dichloroethane	ug/L	47.0	48.1	2	30	
1,1-Dichloroethene	ug/L	1140	1100	4	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	12.3	12.5	1	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	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

SAMPLE DUPLICATE: 1293261

Parameter	Units	92218091003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	ND		30	
1,4-Dioxane (p-Dioxane)	ug/L	448	466	4	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	1.5	1.5	1	30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	6.1	6.2	2	30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dibromomethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Hexachloro-1,3-butadiene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
p-Isopropyltoluene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	1.1	1.1	4	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	11.2	11.2	0	30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl acetate	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	99	99	1		
4-Bromofluorobenzene (S)	%	100	99	1		
Toluene-d8 (S)	%	97	99	1		

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REPORT OF LABORATORY ANALYSIS

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(704)875-9092

QUALITY CONTROL DATA

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

QC Batch: MSV/28433 Analysis Method: EPA 8260B Mod.
QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92218091001, 92218091002, 92218091003, 92218091004, 92218091005, 92218091006, 92218091007, 92218091008, 92218091009, 92218091010, 92218091011

METHOD BLANK: 1291012 Matrix: Water
Associated Lab Samples: 92218091001, 92218091002, 92218091003, 92218091004, 92218091005, 92218091006, 92218091007, 92218091008, 92218091009, 92218091010, 92218091011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	09/23/14 14:58	
1,2-Dichloroethane-d4 (S)	%	104	50-150	09/23/14 14:58	
Toluene-d8 (S)	%	99	50-150	09/23/14 14:58	

LABORATORY CONTROL SAMPLE: 1291013

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	23.0	115	71-125	
1,2-Dichloroethane-d4 (S)	%			100	50-150	
Toluene-d8 (S)	%			99	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1291014 1291015

Parameter	Units	92217862001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	20	19.5	19.6	98	98	50-150	0	30	
1,2-Dichloroethane-d4 (S)	%						105	105	50-150		150	
Toluene-d8 (S)	%						98	98	50-150		150	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALIFIERS

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

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

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 39196 KOP-FLEX HANOVER MD
Pace Project No.: 92218091

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92218091001	**MW-25-40**	EPA 8260	MSV/28479		
92218091002	**MW-31**	EPA 8260	MSV/28479		
92218091003	**MW-25-130**	EPA 8260	MSV/28479		
92218091004	**MW-25-190**	EPA 8260	MSV/28479		
92218091005	**MW-200**	EPA 8260	MSV/28479		
92218091006	**MW-35**	EPA 8260	MSV/28479		
92218091007	**MW-28-45**	EPA 8260	MSV/28479		
92218091008	**MW-28-210**	EPA 8260	MSV/28479		
92218091009	**MW-33-295**	EPA 8260	MSV/28479		
92218091010	**MW-33-236**	EPA 8260	MSV/28479		
92218091011	**EB-091814**	EPA 8260	MSV/28479		
92218091012	**TRIP BLANK**	EPA 8260	MSV/28479		
92218091001	**MW-25-40**	EPA 8260B Mod.	MSV/28433		
92218091002	**MW-31**	EPA 8260B Mod.	MSV/28433		
92218091003	**MW-25-130**	EPA 8260B Mod.	MSV/28433		
92218091004	**MW-25-190**	EPA 8260B Mod.	MSV/28433		
92218091005	**MW-200**	EPA 8260B Mod.	MSV/28433		
92218091006	**MW-35**	EPA 8260B Mod.	MSV/28433		
92218091007	**MW-28-45**	EPA 8260B Mod.	MSV/28433		
92218091008	**MW-28-210**	EPA 8260B Mod.	MSV/28433		
92218091009	**MW-33-295**	EPA 8260B Mod.	MSV/28433		
92218091010	**MW-33-236**	EPA 8260B Mod.	MSV/28433		
92218091011	**EB-091814**	EPA 8260B Mod.	MSV/28433		

Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: April 07. 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.14**	Issuing Authority: Pace Huntersville Quality Office

Client Name: WSP Environment & Energy

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

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

Thermometer Used: IR Gun T1102 (T1401) **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 5.7 °C **Biological Tissue is Frozen:** Yes No (N/A)

Temp should be above freezing to 6°C

Date and Initials of person examining contents: JNO 9/19/14

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☑Yes ☐No ☐N/A	16. No date/time on label
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: JY Date: 9/19/14

SRF Review: JY Date: 9/22/14

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)

Place label here

WO# : 92218091

92218091

CHAIN OF CUSTODY RECORD

N° 01684

Project Number:	Site and Location:
39196	Kop-Flex, Hanover, MD

Contact Name:	Contact Email:
ERIC JOHNSON	@WSPGROUP.COM

Sampler's Name:	Sampler's Signature:
JAMES EDWARDS ABRA BACCHIONI	

Matrices:
S = Soil:
Aq = Water
A = Air: Bu = Bulk
W = Wipe
Bi = Biota:
OW = Oily Waste:
O = Other

Requested Analyses

Sample Identification:	Depth	Date	Time	Matrix	Number of Containers	VOCs (8260)	1,4-Dioxane (8260SIM)	Remarks
MW-25-40	N/A	9/15/14	1330	Aq	6	X	X	92180911001
MW-31		9/15/14	1715	Aq	6	X	X	002
MW-25-130		9/16/14	1225	Aq	6	X	X	003
MW-25-190		9/16/14	1545	Aq	6	X	X	004
MW-200		9/16/14	1030	Aq	6	X	X	005
MW-35		9/17/14	1255	Aq	6	X	X	006
MW-28-45		9/17/14	1740	Aq	6	X	X	007
MW-28-210		9/17/14	1855	Aq	6	X	X	008
MW-33-295		9/18/14	1208	Aq	6	X	X	009
MW-33-236		9/18/14	1215	Aq	6	X	X	010
EB-091814		9/18/14	1515	Aq	6	X	X	011
TRIP BLANK		N/A	N/A	Aq	2	X		012

Relinquished by (Signature):	Date | Time	Received by (Signature):
	9/18/14 1600	Jaclyn Wilson Pace 0920 9/19/14
Relinquished by (Signature):	Date | Time	Received by (Signature):
Turn-Around Time: STANDARD		Tracking Number: 805751971273

Laboratory Name: PACE
Laboratory Location: HUNTERSVILLE, NC
Custody Seal Numbers: 02094, 02750
Method of Shipment: FEDEX

WSP
WSP Environment & Energy

- ☒ Reston Office: 11190 Sunrise Valley Dr., #300, Reston, VA 20191 / Tel: 703-709-6500
- ☐ Pittsburgh Office: 750 Holiday Dr., #410, Pittsburgh, PA 15220 / Tel: 412-604-1040
- ☐ San Jose Office: 2025 Gateway Place, #435, San Jose, CA 95110 / Tel: 408-453-6100
- ☐ New Jersey Office: 334 Elizabeth Ave., Somerset, NJ 08873 / Tel: 732-564-0888
- ☐ Denver Office: 4600 South Ulster, #930, Denver, CO 80237 / Tel: 303-850-9200
- ☐ Minneapolis Office: 123 North 3rd St., #808, Minneapolis, MN 55401 / Tel: 612-343-0510
- ☐ Boxborough Office: 1740 Massachusetts Ave., Boxborough, MA 01719 / Tel: 978-635-9600
- ☐ Cazenovia Office: 5 Sullivan St., Cazenovia, NY 13035 / Tel: 315-655-3900

Enclosure C – Laboratory Report for September 2014 Residential Well Samples

New Jersey ACCUTEST LABORATORIES

09/26/14

Technical Report for

WSP Environment and Energy

090149-04, Kop-Flex, Hanover, MD

3919613

Accutest Job Number: JB76539

Sampling Dates: 09/11/14 - 09/12/14

Report to:

WSP Environment and Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20190
eric.johnson@wspgroup.com

ATTN: Eric Johnson

Total number of pages in report: **38**

NELAP ACCREDITED TNI LABORATORY

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

Nancy F. Cole
Nancy Cole
Laboratory Director

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, OH VAP (CL0056), PA, RI, SC, TN, VA, WV, DoD ELAP (L-A-B L2248)

Sections: 1 2 3 4

Table of Contents

Sample Summary

WSP Environment and Energy

Job No: JB76539

090149-04, Kop-Flex, Hanover, MD
Project No: 3919613

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB76539-1	09/11/14	15:00	AB	09/13/14	AQ	Ground Water	RW-7740TO-091114
JB76539-2	09/11/14	15:45	AB	09/13/14	AQ	Ground Water	RW-7742TO-091114
JB76539-3	09/11/14	17:57	AB	09/13/14	AQ	Ground Water	RW-7718TO-091114
JB76539-4	09/11/14	18:16	AB	09/13/14	AQ	Ground Water	RW-7718TO-091114-F
JB76539-5	09/12/14	10:20	AB	09/13/14	AQ	Ground Water	RW-7932AND-091214
JB76539-6	09/12/14	10:45	AB	09/13/14	AQ	Ground Water	RW-7932AND-091214-F
JB76539-7	09/12/14	11:30	AB	09/13/14	AQ	Ground Water	RW-1000AND-091214
JB76539-8	09/12/14	12:30	AB	09/13/14	AQ	Ground Water	RW-1227OCM-091214-F
JB76539-9	09/12/14	12:50	AB	09/13/14	AQ	Ground Water	RW-1227OCM-091214
JB76539-10	09/12/14	12:50	AB	09/13/14	AQ	Trip Blank Water	TRIP BLANK

Summary of Hits

Job Number: JB76539
Account: WSP Environment and Energy
Project: 090149-04, Kop-Flex, Hanover, MD
Collected: 09/11/14 thru 09/12/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB76539-1	**RW-7740TO-091114**					
1,1-Dichloroethylene		1.4	0.50	0.083	ug/l	EPA 524.2 REV 4.1
1,1,1-Trichloroethane		0.17 J	0.50	0.027	ug/l	EPA 524.2 REV 4.1
JB76539-2	**RW-7742TO-091114**					
1,1-Dichloroethylene		0.62	0.50	0.083	ug/l	EPA 524.2 REV 4.1
1,1,1-Trichloroethane		0.13 J	0.50	0.027	ug/l	EPA 524.2 REV 4.1
JB76539-3	**RW-7718TO-091114**					
Methyl Tert Butyl Ether		0.83	0.50	0.056	ug/l	EPA 524.2 REV 4.1
JB76539-4	**RW-7718TO-091114-F**					
Methyl Tert Butyl Ether		0.82	0.50	0.056	ug/l	EPA 524.2 REV 4.1
JB76539-5	**RW-7932AND-091214**					
1,1-Dichloroethylene		4.0	0.50	0.083	ug/l	EPA 524.2 REV 4.1
1,1,1-Trichloroethane		0.47 J	0.50	0.027	ug/l	EPA 524.2 REV 4.1
1,4-Dioxane		2.2	2.0	1.0	ug/l	SW846 8260B BY SIM
JB76539-6	**RW-7932AND-091214-F**					
1,1-Dichloroethylene		2.9	0.50	0.083	ug/l	EPA 524.2 REV 4.1
1,1,1-Trichloroethane		0.32 J	0.50	0.027	ug/l	EPA 524.2 REV 4.1
JB76539-7	**RW-1000AND-091214**					
1,1-Dichloroethylene		3.8	0.50	0.083	ug/l	EPA 524.2 REV 4.1
1,1,1-Trichloroethane		0.47 J	0.50	0.027	ug/l	EPA 524.2 REV 4.1
1,4-Dioxane		3.6	2.0	1.0	ug/l	SW846 8260B BY SIM
JB76539-8	**RW-1227OCM-091214-F**					
Bromoform		0.28 J	0.50	0.038	ug/l	EPA 524.2 REV 4.1
1,1,1-Trichloroethane		0.18 J	0.50	0.027	ug/l	EPA 524.2 REV 4.1
JB76539-9	**RW-1227OCM-091214**					
1,1-Dichloroethylene		2.0	0.50	0.083	ug/l	EPA 524.2 REV 4.1
1,1,1-Trichloroethane		0.21 J	0.50	0.027	ug/l	EPA 524.2 REV 4.1

Summary of Hits

Job Number: JB76539
Account: WSP Environment and Energy
Project: 090149-04, Kop-Flex, Hanover, MD
Collected: 09/11/14 thru 09/12/14

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB76539-10	**TRIP BLANK**					

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RW-7740TO-091114		
Lab Sample ID:	JB76539-1	**Date Sampled:**	09/11/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D52047.D	1	09/17/14	PR	n/a	n/a	V4D2315
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	0.76	ug/l	
78-93-3	2-Butanone	ND	5.0	0.32	ug/l	
71-43-2	Benzene	ND	0.50	0.028	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.062	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.054	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.034	ug/l	
75-25-2	Bromoform	ND	0.50	0.038	ug/l	
74-83-9	Bromomethane	ND	0.50	0.099	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.028	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.17	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.021	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.051	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.023	ug/l	
75-00-3	Chloroethane	ND	0.50	0.070	ug/l	
67-66-3	Chloroform	ND	0.50	0.066	ug/l	
74-87-3	Chloromethane	ND	0.50	0.078	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.040	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.028	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.092	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.026	ug/l	
75-35-4	1,1-Dichloroethylene	1.4	0.50	0.083	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.061	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.12	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.048	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.030	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.050	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.064	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.064	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.036	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.044	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.047	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.060	ug/l	

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

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

Report of Analysis

Client Sample ID:	RW-7740TO-091114		
Lab Sample ID:	JB76539-1	**Date Sampled:**	09/11/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.045	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.021	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.021	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.067	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.026	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.024	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.049	ug/l	
110-54-3	Hexane	ND	0.50	0.038	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.12	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.051	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.093	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.051	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.056	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.18	ug/l	
91-20-3	Naphthalene	ND	0.50	0.050	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.075	ug/l	
100-42-5	Styrene	ND	0.50	0.033	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.053	ug/l	
71-55-6	1,1,1-Trichloroethane	0.17	0.50	0.027	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.038	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.059	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.059	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.066	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.045	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.081	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.075	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.047	ug/l	
108-88-3	Toluene	ND	0.50	0.071	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.030	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.080	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.043	ug/l	
	m,p-Xylene	ND	0.50	0.11	ug/l	
95-47-6	o-Xylene	ND	0.50	0.046	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	101%		78-114%
460-00-4	4-Bromofluorobenzene	98%		77-115%

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

Report of Analysis

Client Sample ID:	RW-7740TO-091114		
Lab Sample ID:	JB76539-1	**Date Sampled:**	09/11/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C113616.D	1	09/15/14	PS	n/a	n/a	V3C5135
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	117%		36-149%
460-00-4	4-Bromofluorobenzene	99%		34-135%

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

Report of Analysis

Client Sample ID:	RW-7742TO-091114		
Lab Sample ID:	JB76539-2	**Date Sampled:**	09/11/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D52048.D	1	09/17/14	PR	n/a	n/a	V4D2315
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	0.76	ug/l	
78-93-3	2-Butanone	ND	5.0	0.32	ug/l	
71-43-2	Benzene	ND	0.50	0.028	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.062	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.054	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.034	ug/l	
75-25-2	Bromoform	ND	0.50	0.038	ug/l	
74-83-9	Bromomethane	ND	0.50	0.099	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.028	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.17	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.021	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.051	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.023	ug/l	
75-00-3	Chloroethane	ND	0.50	0.070	ug/l	
67-66-3	Chloroform	ND	0.50	0.066	ug/l	
74-87-3	Chloromethane	ND	0.50	0.078	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.040	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.028	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.092	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.026	ug/l	
75-35-4	1,1-Dichloroethylene	0.62	0.50	0.083	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.061	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.12	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.048	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.030	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.050	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.064	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.064	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.036	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.044	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.047	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.060	ug/l	

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

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

Report of Analysis

Client Sample ID: RW-7742TO-091114
Lab Sample ID: JB76539-2
Matrix: AQ - Ground Water
Method: EPA 524.2 REV 4.1
Project: 090149-04, Kop-Flex, Hanover, MD

Date Sampled: 09/11/14
Date Received: 09/13/14
Percent Solids: n/a

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.045	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.021	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.021	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.067	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.026	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.024	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.049	ug/l	
110-54-3	Hexane	ND	0.50	0.038	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.12	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.051	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.093	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.051	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.056	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.18	ug/l	
91-20-3	Naphthalene	ND	0.50	0.050	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.075	ug/l	
100-42-5	Styrene	ND	0.50	0.033	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.053	ug/l	
71-55-6	1,1,1-Trichloroethane	0.13	0.50	0.027	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.038	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.059	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.059	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.066	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.045	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.081	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.075	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.047	ug/l	
108-88-3	Toluene	ND	0.50	0.071	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.030	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.080	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.043	ug/l	
	m,p-Xylene	ND	0.50	0.11	ug/l	
95-47-6	o-Xylene	ND	0.50	0.046	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	99%		78-114%
460-00-4	4-Bromofluorobenzene	96%		77-115%

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

Report of Analysis

Client Sample ID:	RW-7742TO-091114		
Lab Sample ID:	JB76539-2	**Date Sampled:**	09/11/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C113617.D	1	09/15/14	PS	n/a	n/a	V3C5135
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		36-149%
460-00-4	4-Bromofluorobenzene	87%		34-135%

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

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

Report of Analysis

Client Sample ID:	RW-7718TO-091114		
Lab Sample ID:	JB76539-3	**Date Sampled:**	09/11/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D52049.D	1	09/17/14	PR	n/a	n/a	V4D2315
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	0.76	ug/l	
78-93-3	2-Butanone	ND	5.0	0.32	ug/l	
71-43-2	Benzene	ND	0.50	0.028	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.062	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.054	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.034	ug/l	
75-25-2	Bromoform	ND	0.50	0.038	ug/l	
74-83-9	Bromomethane	ND	0.50	0.099	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.028	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.17	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.021	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.051	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.023	ug/l	
75-00-3	Chloroethane	ND	0.50	0.070	ug/l	
67-66-3	Chloroform	ND	0.50	0.066	ug/l	
74-87-3	Chloromethane	ND	0.50	0.078	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.040	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.028	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.092	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.026	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.083	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.061	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.12	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.048	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.030	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.050	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.064	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.064	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.036	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.044	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.047	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.060	ug/l	

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

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

Report of Analysis

Client Sample ID: RW-7718TO-091114
Lab Sample ID: JB76539-3
Matrix: AQ - Ground Water
Method: EPA 524.2 REV 4.1
Project: 090149-04, Kop-Flex, Hanover, MD

Date Sampled: 09/11/14
Date Received: 09/13/14
Percent Solids: n/a

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.045	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.021	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.021	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.067	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.026	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.024	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.049	ug/l	
110-54-3	Hexane	ND	0.50	0.038	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.12	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.051	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.093	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.051	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.83	0.50	0.056	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.18	ug/l	
91-20-3	Naphthalene	ND	0.50	0.050	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.075	ug/l	
100-42-5	Styrene	ND	0.50	0.033	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.053	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.027	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.038	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.059	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.059	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.066	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.045	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.081	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.075	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.047	ug/l	
108-88-3	Toluene	ND	0.50	0.071	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.030	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.080	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.043	ug/l	
	m,p-Xylene	ND	0.50	0.11	ug/l	
95-47-6	o-Xylene	ND	0.50	0.046	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	99%		78-114%
460-00-4	4-Bromofluorobenzene	96%		77-115%

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

Report of Analysis

Client Sample ID:	RW-7718TO-091114		
Lab Sample ID:	JB76539-3	**Date Sampled:**	09/11/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C113618.D	1	09/15/14	PS	n/a	n/a	V3C5135
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	90%		36-149%
460-00-4	4-Bromofluorobenzene	76%		34-135%

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

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

Report of Analysis

Client Sample ID:	RW-7718TO-091114-F		
Lab Sample ID:	JB76539-4	**Date Sampled:**	09/11/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D52050.D	1	09/17/14	PR	n/a	n/a	V4D2315
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	0.76	ug/l	
78-93-3	2-Butanone	ND	5.0	0.32	ug/l	
71-43-2	Benzene	ND	0.50	0.028	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.062	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.054	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.034	ug/l	
75-25-2	Bromoform	ND	0.50	0.038	ug/l	
74-83-9	Bromomethane	ND	0.50	0.099	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.028	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.17	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.021	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.051	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.023	ug/l	
75-00-3	Chloroethane	ND	0.50	0.070	ug/l	
67-66-3	Chloroform	ND	0.50	0.066	ug/l	
74-87-3	Chloromethane	ND	0.50	0.078	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.040	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.028	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.092	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.026	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.083	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.061	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.12	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.048	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.030	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.050	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.064	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.064	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.036	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.044	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.047	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.060	ug/l	

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

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

Report of Analysis

Client Sample ID:	RW-7718TO-091114-F		
Lab Sample ID:	JB76539-4	**Date Sampled:**	09/11/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.045	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.021	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.021	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.067	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.026	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.024	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.049	ug/l	
110-54-3	Hexane	ND	0.50	0.038	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.12	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.051	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.093	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.051	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.82	0.50	0.056	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.18	ug/l	
91-20-3	Naphthalene	ND	0.50	0.050	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.075	ug/l	
100-42-5	Styrene	ND	0.50	0.033	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.053	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.027	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.038	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.059	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.059	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.066	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.045	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.081	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.075	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.047	ug/l	
108-88-3	Toluene	ND	0.50	0.071	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.030	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.080	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.043	ug/l	
	m,p-Xylene	ND	0.50	0.11	ug/l	
95-47-6	o-Xylene	ND	0.50	0.046	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	100%		78-114%
460-00-4	4-Bromofluorobenzene	94%		77-115%

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

Report of Analysis

Client Sample ID:	RW-7718TO-091114-F		
Lab Sample ID:	JB76539-4	**Date Sampled:**	09/11/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C113619.D	1	09/15/14	PS	n/a	n/a	V3C5135
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	83%		36-149%
460-00-4	4-Bromofluorobenzene	73%		34-135%

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

Report of Analysis

Client Sample ID:	RW-7932AND-091214		
Lab Sample ID:	JB76539-5	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D52051.D	1	09/17/14	PR	n/a	n/a	V4D2315
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	0.76	ug/l	
78-93-3	2-Butanone	ND	5.0	0.32	ug/l	
71-43-2	Benzene	ND	0.50	0.028	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.062	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.054	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.034	ug/l	
75-25-2	Bromoform	ND	0.50	0.038	ug/l	
74-83-9	Bromomethane	ND	0.50	0.099	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.028	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.17	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.021	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.051	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.023	ug/l	
75-00-3	Chloroethane	ND	0.50	0.070	ug/l	
67-66-3	Chloroform	ND	0.50	0.066	ug/l	
74-87-3	Chloromethane	ND	0.50	0.078	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.040	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.028	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.092	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.026	ug/l	
75-35-4	1,1-Dichloroethylene	4.0	0.50	0.083	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.061	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.12	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.048	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.030	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.050	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.064	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.064	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.036	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.044	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.047	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.060	ug/l	

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

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

Report of Analysis

Client Sample ID:	RW-7932AND-091214		
Lab Sample ID:	JB76539-5	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.045	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.021	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.021	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.067	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.026	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.024	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.049	ug/l	
110-54-3	Hexane	ND	0.50	0.038	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.12	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.051	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.093	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.051	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.056	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.18	ug/l	
91-20-3	Naphthalene	ND	0.50	0.050	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.075	ug/l	
100-42-5	Styrene	ND	0.50	0.033	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.053	ug/l	
71-55-6	1,1,1-Trichloroethane	0.47	0.50	0.027	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.038	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.059	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.059	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.066	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.045	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.081	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.075	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.047	ug/l	
108-88-3	Toluene	ND	0.50	0.071	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.030	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.080	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.043	ug/l	
	m,p-Xylene	ND	0.50	0.11	ug/l	
95-47-6	o-Xylene	ND	0.50	0.046	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	101%		78-114%
460-00-4	4-Bromofluorobenzene	97%		77-115%

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

Report of Analysis

Client Sample ID:	RW-7932AND-091214		
Lab Sample ID:	JB76539-5	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C113620.D	1	09/15/14	PS	n/a	n/a	V3C5135
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	2.2	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	90%		36-149%
460-00-4	4-Bromofluorobenzene	78%		34-135%

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

Report of Analysis

Client Sample ID:	RW-7932AND-091214-F		
Lab Sample ID:	JB76539-6	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D52052.D	1	09/17/14	PR	n/a	n/a	V4D2315
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	0.76	ug/l	
78-93-3	2-Butanone	ND	5.0	0.32	ug/l	
71-43-2	Benzene	ND	0.50	0.028	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.062	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.054	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.034	ug/l	
75-25-2	Bromoform	ND	0.50	0.038	ug/l	
74-83-9	Bromomethane	ND	0.50	0.099	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.028	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.17	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.021	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.051	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.023	ug/l	
75-00-3	Chloroethane	ND	0.50	0.070	ug/l	
67-66-3	Chloroform	ND	0.50	0.066	ug/l	
74-87-3	Chloromethane	ND	0.50	0.078	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.040	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.028	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.092	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.026	ug/l	
75-35-4	1,1-Dichloroethylene	2.9	0.50	0.083	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.061	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.12	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.048	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.030	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.050	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.064	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.064	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.036	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.044	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.047	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.060	ug/l	

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

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

Report of Analysis

Client Sample ID:	RW-7932AND-091214-F		
Lab Sample ID:	JB76539-6	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.045	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.021	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.021	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.067	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.026	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.024	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.049	ug/l	
110-54-3	Hexane	ND	0.50	0.038	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.12	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.051	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.093	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.051	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.056	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.18	ug/l	
91-20-3	Naphthalene	ND	0.50	0.050	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.075	ug/l	
100-42-5	Styrene	ND	0.50	0.033	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.053	ug/l	
71-55-6	1,1,1-Trichloroethane	0.32	0.50	0.027	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.038	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.059	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.059	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.066	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.045	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.081	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.075	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.047	ug/l	
108-88-3	Toluene	ND	0.50	0.071	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.030	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.080	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.043	ug/l	
	m,p-Xylene	ND	0.50	0.11	ug/l	
95-47-6	o-Xylene	ND	0.50	0.046	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	100%		78-114%
460-00-4	4-Bromofluorobenzene	96%		77-115%

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

Report of Analysis

Client Sample ID:	RW-7932AND-091214-F		
Lab Sample ID:	JB76539-6	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C113621.D	1	09/16/14	PS	n/a	n/a	V3C5135
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		36-149%
460-00-4	4-Bromofluorobenzene	80%		34-135%

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

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

Report of Analysis

Client Sample ID:	RW-1000AND-091214		
Lab Sample ID:	JB76539-7	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D52053.D	1	09/17/14	PR	n/a	n/a	V4D2315
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	0.76	ug/l	
78-93-3	2-Butanone	ND	5.0	0.32	ug/l	
71-43-2	Benzene	ND	0.50	0.028	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.062	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.054	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.034	ug/l	
75-25-2	Bromoform	ND	0.50	0.038	ug/l	
74-83-9	Bromomethane	ND	0.50	0.099	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.028	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.17	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.021	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.051	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.023	ug/l	
75-00-3	Chloroethane	ND	0.50	0.070	ug/l	
67-66-3	Chloroform	ND	0.50	0.066	ug/l	
74-87-3	Chloromethane	ND	0.50	0.078	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.040	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.028	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.092	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.026	ug/l	
75-35-4	1,1-Dichloroethylene	3.8	0.50	0.083	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.061	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.12	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.048	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.030	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.050	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.064	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.064	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.036	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.044	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.047	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.060	ug/l	

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

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

Report of Analysis

Client Sample ID:	RW-1000AND-091214		
Lab Sample ID:	JB76539-7	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.045	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.021	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.021	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.067	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.026	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.024	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.049	ug/l	
110-54-3	Hexane	ND	0.50	0.038	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.12	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.051	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.093	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.051	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.056	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.18	ug/l	
91-20-3	Naphthalene	ND	0.50	0.050	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.075	ug/l	
100-42-5	Styrene	ND	0.50	0.033	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.053	ug/l	
71-55-6	1,1,1-Trichloroethane	0.47	0.50	0.027	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.038	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.059	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.059	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.066	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.045	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.081	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.075	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.047	ug/l	
108-88-3	Toluene	ND	0.50	0.071	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.030	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.080	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.043	ug/l	
	m,p-Xylene	ND	0.50	0.11	ug/l	
95-47-6	o-Xylene	ND	0.50	0.046	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	98%		78-114%
460-00-4	4-Bromofluorobenzene	96%		77-115%

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

Report of Analysis

Client Sample ID:	RW-1000AND-091214		
Lab Sample ID:	JB76539-7	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C113622.D	1	09/16/14	PS	n/a	n/a	V3C5135
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	3.6	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	88%		36-149%
460-00-4	4-Bromofluorobenzene	78%		34-135%

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

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

Report of Analysis

Client Sample ID:	RW-1227OCM-091214-F		
Lab Sample ID:	JB76539-8	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D52054.D	1	09/17/14	PR	n/a	n/a	V4D2315
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	0.76	ug/l	
78-93-3	2-Butanone	ND	5.0	0.32	ug/l	
71-43-2	Benzene	ND	0.50	0.028	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.062	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.054	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.034	ug/l	
75-25-2	Bromoform	0.28	0.50	0.038	ug/l	J
74-83-9	Bromomethane	ND	0.50	0.099	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.028	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.17	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.021	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.051	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.023	ug/l	
75-00-3	Chloroethane	ND	0.50	0.070	ug/l	
67-66-3	Chloroform	ND	0.50	0.066	ug/l	
74-87-3	Chloromethane	ND	0.50	0.078	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.040	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.028	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.092	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.026	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.083	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.061	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.12	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.048	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.030	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.050	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.064	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.064	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.036	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.044	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.047	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.060	ug/l	

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

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

Report of Analysis

Client Sample ID:	RW-1227OCM-091214-F		
Lab Sample ID:	JB76539-8	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.045	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.021	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.021	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.067	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.026	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.024	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.049	ug/l	
110-54-3	Hexane	ND	0.50	0.038	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.12	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.051	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.093	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.051	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.056	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.18	ug/l	
91-20-3	Naphthalene	ND	0.50	0.050	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.075	ug/l	
100-42-5	Styrene	ND	0.50	0.033	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.053	ug/l	
71-55-6	1,1,1-Trichloroethane	0.18	0.50	0.027	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.038	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.059	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.059	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.066	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.045	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.081	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.075	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.047	ug/l	
108-88-3	Toluene	ND	0.50	0.071	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.030	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.080	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.043	ug/l	
	m,p-Xylene	ND	0.50	0.11	ug/l	
95-47-6	o-Xylene	ND	0.50	0.046	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	99%		78-114%
460-00-4	4-Bromofluorobenzene	94%		77-115%

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

Report of Analysis

Client Sample ID: RW-1227OCM-091214-F
Lab Sample ID: JB76539-8
Matrix: AQ - Ground Water
Method: SW846 8260B BY SIM
Project: 090149-04, Kop-Flex, Hanover, MD

Date Sampled: 09/12/14
Date Received: 09/13/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C113623.D	1	09/16/14	PS	n/a	n/a	V3C5135
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		36-149%
460-00-4	4-Bromofluorobenzene	82%		34-135%

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

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

Report of Analysis

Client Sample ID:	RW-1227OCM-091214		
Lab Sample ID:	JB76539-9	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D52073.D	1	09/18/14	PR	n/a	n/a	V4D2316
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	0.76	ug/l	
78-93-3	2-Butanone	ND	5.0	0.32	ug/l	
71-43-2	Benzene	ND	0.50	0.028	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.062	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.054	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.034	ug/l	
75-25-2	Bromoform	ND	0.50	0.038	ug/l	
74-83-9	Bromomethane	ND	0.50	0.099	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.028	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.17	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.021	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.051	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.023	ug/l	
75-00-3	Chloroethane	ND	0.50	0.070	ug/l	
67-66-3	Chloroform	ND	0.50	0.066	ug/l	
74-87-3	Chloromethane	ND	0.50	0.078	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.040	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.028	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.092	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.026	ug/l	
75-35-4	1,1-Dichloroethylene	2.0	0.50	0.083	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.061	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.12	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.048	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.030	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.050	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.064	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.064	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.036	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.044	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.047	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.060	ug/l	

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

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

Report of Analysis

Client Sample ID:	RW-1227OCM-091214		
Lab Sample ID:	JB76539-9	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.045	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.021	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.021	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.067	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.026	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.024	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.049	ug/l	
110-54-3	Hexane	ND	0.50	0.038	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.12	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.051	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.093	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.051	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.056	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.18	ug/l	
91-20-3	Naphthalene	ND	0.50	0.050	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.075	ug/l	
100-42-5	Styrene	ND	0.50	0.033	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.053	ug/l	
71-55-6	1,1,1-Trichloroethane	0.21	0.50	0.027	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.038	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.059	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.059	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.066	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.045	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.081	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.075	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.047	ug/l	
108-88-3	Toluene	ND	0.50	0.071	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.030	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.080	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.043	ug/l	
	m,p-Xylene	ND	0.50	0.11	ug/l	
95-47-6	o-Xylene	ND	0.50	0.046	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	100%		78-114%
460-00-4	4-Bromofluorobenzene	95%		77-115%

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

Report of Analysis

Client Sample ID:	RW-1227OCM-091214		
Lab Sample ID:	JB76539-9	**Date Sampled:**	09/12/14
Matrix:	AQ - Ground Water	**Date Received:**	09/13/14
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C113624.D	1	09/16/14	PS	n/a	n/a	V3C5135
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		36-149%
460-00-4	4-Bromofluorobenzene	85%		34-135%

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

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

Report of Analysis

Client Sample ID: TRIP BLANK
Lab Sample ID: JB76539-10
Matrix: AQ - Trip Blank Water
Method: EPA 524.2 REV 4.1
Project: 090149-04, Kop-Flex, Hanover, MD

Date Sampled: 09/12/14
Date Received: 09/13/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D52074.D	1	09/18/14	PR	n/a	n/a	V4D2316
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	0.76	ug/l	
78-93-3	2-Butanone	ND	5.0	0.32	ug/l	
71-43-2	Benzene	ND	0.50	0.028	ug/l	
108-86-1	Bromobenzene	ND	0.50	0.062	ug/l	
74-97-5	Bromochloromethane	ND	0.50	0.054	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.034	ug/l	
75-25-2	Bromoform	ND	0.50	0.038	ug/l	
74-83-9	Bromomethane	ND	0.50	0.099	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	0.028	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	0.17	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	0.021	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.051	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.023	ug/l	
75-00-3	Chloroethane	ND	0.50	0.070	ug/l	
67-66-3	Chloroform	ND	0.50	0.066	ug/l	
74-87-3	Chloromethane	ND	0.50	0.078	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	0.040	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	0.028	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.092	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.026	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.083	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	0.061	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	0.12	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	0.048	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.030	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.050	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	0.064	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	0.064	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.036	ug/l	
74-95-3	Dibromomethane	ND	0.50	0.044	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.047	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	0.060	ug/l	

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

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	JB76539-10	**Date Sampled:**	09/12/14
Matrix:	AQ - Trip Blank Water	**Date Received:**	09/13/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	090149-04, Kop-Flex, Hanover, MD		

VOA List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	0.50	0.045	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	0.021	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.021	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.067	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.026	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.024	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	0.049	ug/l	
110-54-3	Hexane	ND	0.50	0.038	ug/l	
591-78-6	2-Hexanone	ND	2.0	0.12	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	0.051	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	0.093	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.051	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.056	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.18	ug/l	
91-20-3	Naphthalene	ND	0.50	0.050	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	0.075	ug/l	
100-42-5	Styrene	ND	0.50	0.033	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	0.053	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.027	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.038	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.059	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	0.059	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	0.066	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.045	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.081	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.075	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.047	ug/l	
108-88-3	Toluene	ND	0.50	0.071	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.030	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.080	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.043	ug/l	
	m,p-Xylene	ND	0.50	0.11	ug/l	
95-47-6	o-Xylene	ND	0.50	0.046	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	99%		78-114%
460-00-4	4-Bromofluorobenzene	94%		77-115%

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

New Jersey ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

5B76539 3019 6570 0890

WSP CHAIN-OF-CUSTODY RECORD

WSP Office Address: 11190 Sunrise Valley Dr. Ste 300 Reston VA 20191

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Project Name & Location	Project No.	WSP Contact Name
Kop-Flex, Hanover, MD	39196.13	Eric Johnson

Sampler's Name	Sampler's Signature	WSP Contact E-mail	WSP Contact Phone
Abra Bacchani, James Edwards		Eric.Johnson@wspgroup.com	(703) 709-6500

Requested Analysis: VOCs (524.2); 1,4-Dioxane (Low SIM)

Requested TAT: Standard

Requested Deliverable: ☐ LEVEL II ☐ ERIMS EDD ☐ LEVEL III ☐ GISKEY EDD ☐ LEVEL IV ☐ EQUIS EDD

Sample ID	Comp / Grab	Collection Date Start	Collection Date Stop	Collection Time Start	Collection Time Stop	Matrix	No. of Containers	Preservative HCl	Preservative HX							Sample Comments
RW-7740TO-091114	G	9/11/14		1500		GW	6	X	X						1	
RW-7742TO-091114	G	9/11/14		1545		GW	6	X	X						-	
RW-7718TO-091114	G	9/11/14		1757		GW	6	X	X						3	
RW-7718TO-091114-F	G	9/11/14		1816		GW	6	X	X						-	
RW-7932AND-091214	G	9/12/14		1020		GW	6	X	X						5	
RW-7932AND-091214-F	G	9/12/14		1045		GW	6	X	X						-	V662
RW-1000AND-091214	G	9/12/14		1130		GW	6	X	X						7	
RW-12270CM-091214-F	G	9/12/14		1230		GW	6	X	X						-	
RW-12270CM-091214	G	9/12/14		1250		GW	6	X	X						9	
TRIP BLANK	NA	NA		NA		NA	2	X								

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time	Laboratory Name	Laboratory Location	Laboratory Contact
	9/12/13	1500				Accutest	Dayton, NJ	TM
Relinquished By (Signature)	**Date**	**Time**	**Received By (Signature)**	**Date**	**Time**	**Method of Shipment**	**Airbill No.**	**Shipping Date** / **No. of Coolers**
	9/12/14	9.30		9-12-14	9:30	FedEx		9/12/13 — 1

Sample Condition (Laboratory Use Only)	Temp in °C	Received on Ice	Sealed Cooler	Sample Intact	Additional Comments

*Use start and stop time/date for composite and air samples. Include single start time and date for all other samples.

Matrix: GW = Groundwater S = Soil SE = Sediment SW = Surface Water WW = Wastewater A = Air W = Wipe B = Bulk BI = Biota O = Other (detail in comments)

Preservation: I = Ice H = HCl N = HNO_3 S = H_2SO_4 NO = NaOH O = Other (detail in comments)

ANS

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB76539 **Client:** _____ **Project:** _____

Date / Time Received: 9/13/2014 **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Initial/Adjusted): #1: (3.7/3.7); 0

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

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

Quality Control Preservatio	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com

JB76539: Chain of Custody
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