11190 Sunrise Valley Drive
Suite 300
Reston, VA 20191
Main: 703 709 6500
www.wspgroup.com/usa

May 13, 2015

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. 5
Kop-Flex Voluntary Cleanup Site #31, Hanover, Maryland

Dear Erich:

WSP USA Corp., on behalf of Emerson, is submitting this progress report describing the investigation and remediation activities conducted in the first quarter 2015 at the Kop-Flex Voluntary Cleanup Program (VCP) site in Hanover, Maryland. The report also describes the activities planned for the second quarter 2015. 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
k:\emerson\kop-flex\reporting\status reports\mde reports\2015\3705_042415rejrep_kopflex_progress_rpt_5_dft.docx

cc: Mr. Stephen Clarke, Emerson Electric Co. (electronic copy)
Ms. Richelle Hanson, Maryland Department of the Environment

Enclosures

Progress Report No. 5

Kop-Flex VCP Site #31

January 2015 through March 2015

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 the First Quarter 2015.

- A public informational meeting involving representatives of the Maryland Department of the Environment (MDE) was convened on January 29, 2015, at the Brooklyn Park Community Library in Brooklyn, Maryland. The meeting was held to obtain public input concerning the application for renewal of State Discharge Permit 15-DP-3442 and National Pollutant Discharge Elimination System Permit MD0069094 for the site.

- In February 2015, EMERSUB 16 LLC received a letter from the MDE Water Supply Program requesting additional information in support of the previously submitted application for a Water Appropriation and Use Permit. The permit is for the planned extraction of groundwater from the affected portions of the aquifer system as part of the future remedial activities at the site.

- A meeting between Emerson, WSP, Trammell Crow (property developer) and their consultants, and MDE and U.S. Environmental Protection Agency (EPA), Region III was held at the MDE offices in Baltimore, Maryland on March 3, 2015, to review the status of site investigation and remedial planning activities. At the meeting MDE indicated a comprehensive Response Action Plan (RAP) addressing both soil and groundwater impacts was needed for the site and outlined key points to be included in the RAP. For the off-property area, results of recent groundwater sampling activities were reviewed, and MDE and EPA Region III discussed approaches to a revised groundwater monitoring program to assess the groundwater quality in the area hydraulically downgradient of the site.

- As part of the March 2015 quarterly sampling event for the offsite monitoring wells (see below), water level measurements were obtained from selected deep wells at the site. A contour map of the potentiometric surface for the Lower Patapsco Aquifer based on the contouring of water level data from both on and off-property deep monitoring wells is provided in Figure 1. Evaluation of the hydraulic head data indicates a generally south-southeast flow path for groundwater in this deeper semi-confined aquifer.

2.0 Off-Property Activities

2.1 Offsite Monitoring Wells

- Recently installed off-property monitoring wells were sampled the week of March 16, 2015, as requested by MDE. The analytical results are presented in Table 1. (A copy of the laboratory report for these samples is provided in Enclosure A.) Historical sampling data for the off-property wells are summarized in Table 2. No site-related VOCs were detected in the samples from the two Surficial Aquifer wells (MW-25-40 and MW-28-45) (Figure 2). For the wells completed in the Lower Patapsco Aquifer, high VOC concentrations were detected in the sample from well MW-25-130, which is located in the residential area south of the former Kop-Flex facility and 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 on- and off-property deep monitoring well locations. The sampling data for the deep monitoring wells located further south of the MW-25 location contained trace to very low concentrations of the site-related VOCs (Figure 2). Additionally, 1,4-dioxane was not detected in the sample collected from the southeastern-most well (MW-35-298) in the investigation area (Table 1). Although this compound was detected at a concentration of 36.7 micrograms per liter in the September 2014 sample, the most recent data is consistent with the results from the December 2014 monitoring event.

2.2 Residential Well Sampling

- WSP continued with the sampling of the Phase 3 residential wells during the first quarter of 2015. These activities included sending, via Federal Express, a second access request letter to property owners on January 12, 2015, and conducting door-to-door visits to homeowners the week of February 9, 2015. As of the end of the reporting period, water samples have been collected from 28 residential wells and the non-potable well at the U.S. Post Office branch on Reece Road. The locations of the properties are shown in Figure 3. Fifteen of the properties either had no potable well on the property or declined access to collect a water sample. Six of the homeowners in the Phase 3 sampling area have not responded to repeated requests for access to conduct sampling, if a water-supply well is present on the property. It should also be noted that well sampling has not been conducted at one property (763 Donaldson Avenue) where access has been granted by the homeowner. WSP will remain in contact with the homeowner and anticipates sampling this well during the second quarter of 2015.

  Table 3 summarizes the historical analytical results for the potable wells sampled in the Phase 3 area. Copies of the certified laboratory reports for these well samples collected during the first quarter 2015 are included in Enclosure B. Site-related VOCs were not been detected in any of the private well samples in the Phase 3 area, except for a trace concentration (0.77 micrograms per liter) of 1,2-dichloroethane in the sample collected from the property at 854 Reece Road. Given this detection, MDE requested the collection of additional samples from this well to further characterize the levels of site-related VOCs at this location.

- A letter report describing the 2014 quarterly residential well sampling activities was submitted to MDE on March 4, 2015. This report presented the analytical results for the following properties in the Phase 1 and 2 areas:

- 7718 Twin Oaks Road
- 7740 Twin Oaks Road
- 7742 Twin Oaks Road
- 7932 Andorick Drive
- 1227 Old Camp Meade Road
- 1012 Minnetonka Road

The locations of the properties are shown in the enclosed Figure 4. No site-related VOCs were detected at concentrations above the applicable federal or state standards in any of the samples. Based on evaluation of the sampling data, WSP recommended the continued monitoring of the residential wells at 7740 Twin Oaks Road and 7932 Andorick Drive on a semi-annual sampling schedule.

- On March 19, 2015, water samples were collected from the potable wells at 7740 Twin Oaks Road and 7932 Andorick Drive, which were identified for continued monitoring in the sampling report submitted to MDE. The residential well located at 854 Reece Road was not sampled due to the inability to schedule the sampling event with the homeowner.

  The analytical results for these residential wells samples were received on April 14, 2015. Copies of the laboratory reporting sheets for these samples are included in the certified analytical reports provided in Enclosure B. No site-related VOCs were detected above the applicable groundwater comparative criteria in either of the well samples.

3.0 Planned Activities for Next Reporting Period (April 2015 – June 2015)

3.1 Onsite Activities

- Submittal of the site Response Action Plan (RAP) to MDE and completion of the public notification requirements (property sign and newspaper notice) pursuant to the MDE VCP guidance.
- Participation with MDE in a public informational meeting for the site RAP.
- Respond to information requests from MDE related to agency review of the Water Appropriation and Use Permit application.
- Conduct the first 2015 semi-annual sampling event for the existing onsite monitoring wells (including the deep well on the adjacent Williams-Scotsman property) in mid to late June.

3.2 Off-Property Activities

- Conduct the second quarter 2015 sampling of the off-property monitoring wells in conjunction with the semi-annual onsite groundwater sampling event.
- Submittal of a Groundwater Monitoring Plan for the off-property VOC plume to MDE and EPA Region III.

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)
INFERRED GROUNDWATER FLOW DIRECTION

MW-27D-113
MW-19-56
MW-23D-92
KOP–FLEX
MW-16D-101 86.27
MW-2D-139
MW-17D-97
MW-25D-105 85.37
85.24
MW-22D-114 84.59
MW-21D-102 85.13
MW-1D-112 83.98
WILLIAMS SCOTSMAN, INC.
MW-24D-128 78.20
ROUTE 100
STONY RUN
PENN CENTRAL RAILROAD TRACKS
MW-25 70.51
MW-28 57.44
MW-35 45.79
MW-33 46.78
MW-31 48.48
WATER LINE EXTENSION
MINNETONKA ROAD
MORGAN STANLEY DRIVE
SEVERN ELEMENTARY SCHOOL
SEVERN POST OFFICE
OLD CAMP MEADE ROAD
TELEGRAPH ROAD – ROUTE 174
DONALDSON AVENUE
OLD DONALDSON AVE.
TEAGUE WAY
BITTERSWEET ROAD
PINE TREE ROAD
SEVERN ROAD
SEVERN GRADE ROAD
RIVER ROAD
CARROLL CT.
ARUNDEL CT.
ROUTE 100
85
80
75
70
65
60
55
50

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

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APPROVED	KJW	

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POTENTIOMETRIC SURFACE CONTOURS FOR THE LOWER PATAPSCO AQUIFER (MARCH 2015)

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
00039196–025

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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 / **10.8**
1,4-Dioxane	ND / 6.0
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
ND NOT DETECTED

MW-27D-113
MW-19-56
MW-23D-92
KOP–FLEX
MW-16D-101
MW-2D-138
MW-17D-97
MW-26D-105
MW-22D-114
MW-21D-102
MW-1D-112
MW-24D-128
STONY RUN
PENN CENTRAL RAILROAD TRACKS
WILLIAMS SCOTSMAN, INC.
ROUTE 100

MW-25			
	30'-40'	120'-130'	182'-192'
1,1-DCA	ND	38.6	11.7
1,2-DCA	ND	**10.8**	ND
1,1-DCE	ND	**854**	**53**
1,4-Dioxane	ND	**446**	**49.4**
1,1,1-TCA	ND	43.5	13.7

MW-25

MW-28		
	35'-45'	200'-210'
1,1-DCA	ND	ND
1,2-DCA	ND	ND
1,1-DCE	ND	**10.8**
1,4-Dioxane	ND	6.0
1,1,1-TCA	ND	ND

MW-28

SIDEN DRIVE, WILLOW DRIVE, KIDWELL CT, FAIRBANKS DRIVE, ALPINE WAY, GAGNA DRIVE, CHAPEL, BOOTHE LANE, TUCKERMAN DRIVE, BOULDER CT, WISP COURT, FAIRBANKS CT, RICKER ROAD, 7769

WATER LINE EXTENSION
1066, 1063, 7708, 7710, 7718, 1059, 1054, 7709, 715, 1041, 1043, 7742, TWIN OAKS ROAD

TELEGRAPH ROAD – ROUTE 170
MINNETONKA ROAD
MORGAN STATION DRIVE
MONTGOMERY WARD
GABRIEL MARTIN

MW-33		
	226'-236'	285'-295'
1,1-DCA	ND	ND
1,2-DCA	ND	ND
1,1-DCE	ND	4.8
1,4-Dioxane	ND	**8**
1,1,1-TCA	ND	ND

MW-33

SEVERN ELEMENTARY SCHOOL
OLD CAMP MEADE ROAD
REECE ROAD – ROUTE 174
SEVERN STATION ROAD
SCATTERED PINES COURT
SEVERN ROAD
REECE ROAD
1245
BARNHILL CIRCLE
ANDORICK DRIVE
GREEN MOSS GLEN
1932
TEABERRY LANE
BITTERSWEET ROAD
1409
1397
1388
THY FRIEND PLACE
PRIDE TREE CIRCLE
SEVERN POST OFFICE
DONALDSON AVENUE
OLD DONALDSON AVE
CLARK STATION ROAD

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

MW-35

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

MW-31

MW-33

N

0 300 600 900
SCALE IN FEET

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FIGURE 2

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

OFFSITE MONITORING WELL VOC CONCENTRATIONS (MARCH 2015)

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

DRAWN BY	EGC
CHECKED	RJW 4/10/2015
APPROVED	

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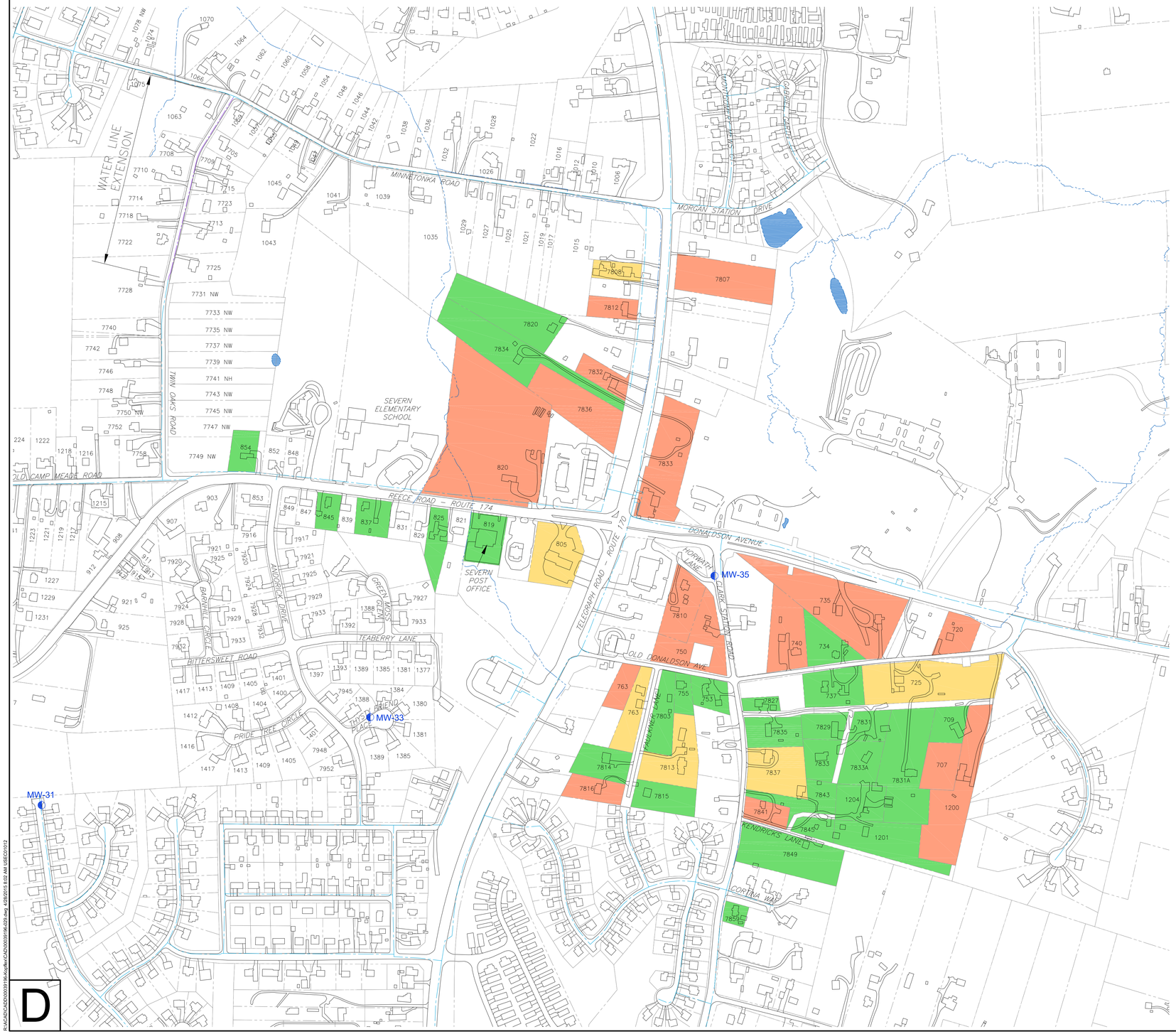
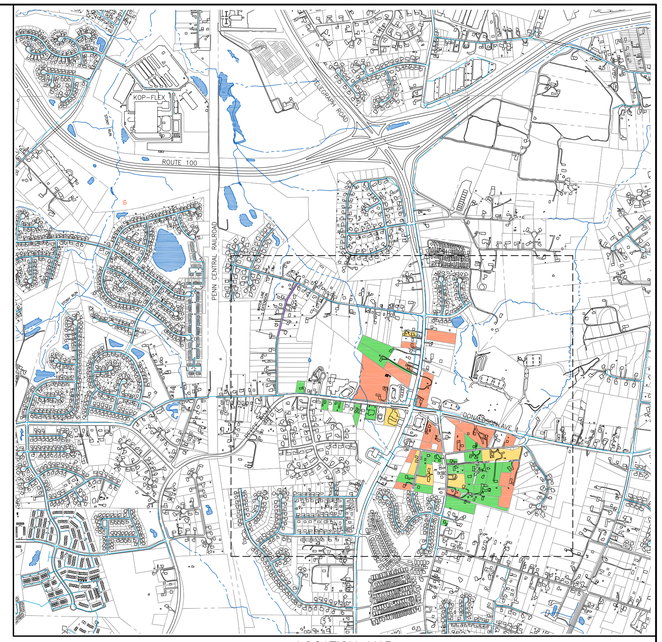
REV	DESCRIPTION		
1	Revised:	Chkd:	Appr.:
2	Revised:	Chkd:	Appr.:
3	Revised:	Chkd:	Appr.:

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





LOCATION MAP
SCALE: 1"=1200'

LEGEND
- PROPERTY LINE
- WATER MAIN
- WATER MAIN EXTENSION
- STREAM
- WATER BODY
- DEEP MONITORING WELL
- 7836 STREET NUMBER (FROM PROPERTY ADDRESS)
- 7812 NO RESIDENCE OR WELL AT ADDRESS OR REFUSED SAMPLING
- 7834 SAMPLE COLLECTED
- 7832 NO REPLY/NOT SAMPLED

N

0 250 500 750
SCALE IN FEET

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REVISIONS

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

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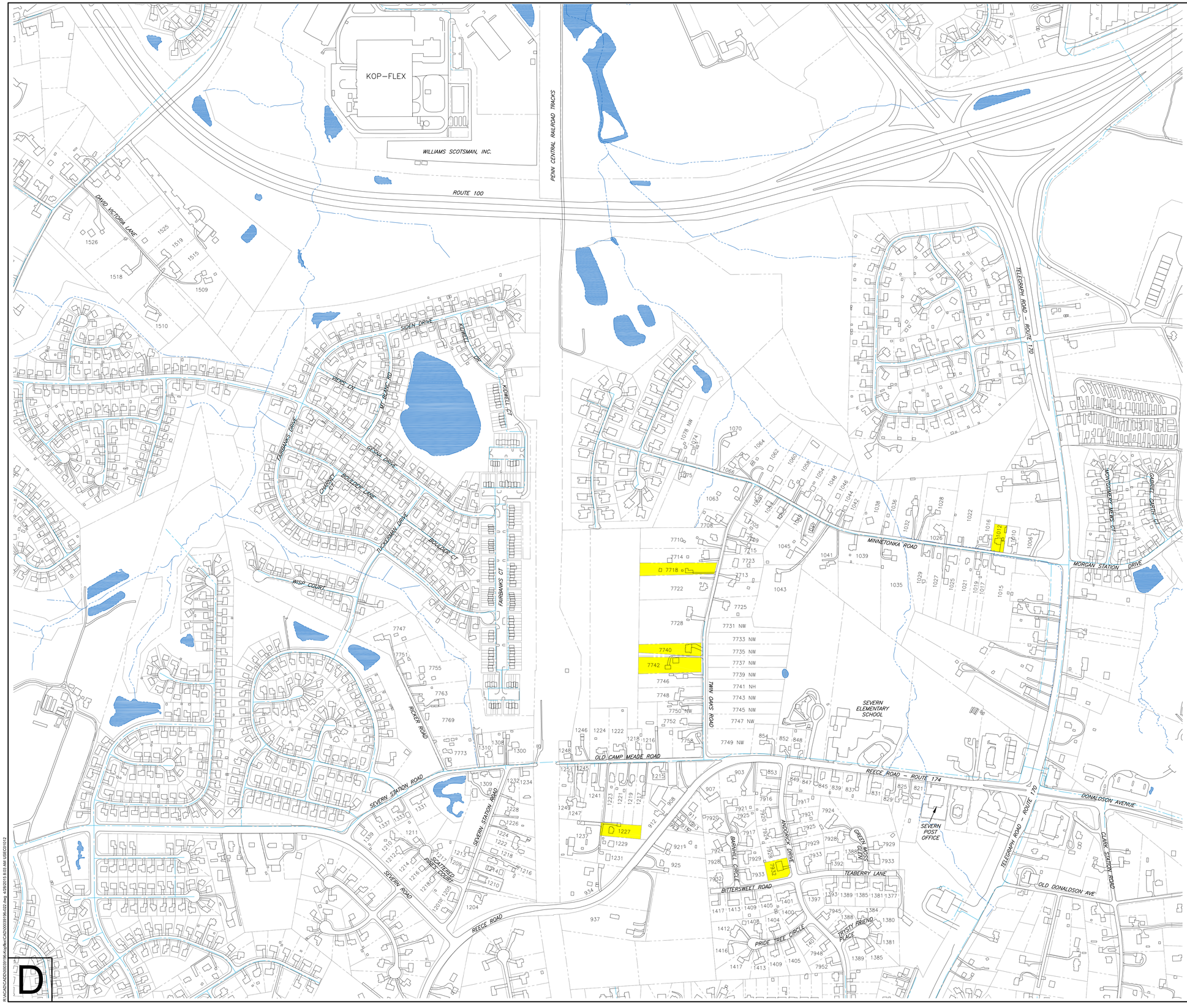
PHASE 3 RESIDENTIAL WELL SAMPLING LOCATIONS

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 3

Drawing Number
00039196-029



LEGEND

- PROPERTY LINE
- WATER MAIN
- STREAM
- WATER BODY
- QUARTERLY RESIDENTIAL WELL PROPERTIES
- 7929 HOUSE ADDRESS

N

0 300 600 900

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REV	DESCRIPTION			
1	Revised:	Drwn:	Appr.:	
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3	Revised:	Drwn:	Appr.:	

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QUARTERLY SAMPLED RESIDENTIAL WELL LOCATIONS

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.wspenvironmental.com/usa

FIGURE 4

Drawing Number
00039196–022

Tables

Table 1

Summary of Off-Property Monitoring Well Sample Results
March 2015 Sampling Event
Former Kop-Flex Facility
Hanover, Maryland

Analyte (b)	Groundwater Quality Criteria (ug/L)	MW-25-40 3/19/2015	MW-25-130 3/19/2015	MW-25-190 3/19/2015	MW-28-45 3/17/2015	MW-28-210 3/17/2015	MW-31-280 3/17/2015	MW-33-235 3/18/2015	MW-33-295 3/18/2015	MW-35-298 3/18/2015
1,1,1-Trichloroethane	200	1 U	43.5	13.7	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	90	1 U	38.6	11.7	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	1 U	**854**	**53**	1 U	**10.8**	1 U	1 U	4.8	1 U
1,2-Dichloroethane	5	1 U	**10.8**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dioxane	6.7	2 U	**446**	**49.4**	2 U	6	2 U	2 U	**8**	2 U
Tetrachloroethene	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

a/ U = not detected at a concentration above the method detection limit
Bolded number indicates concentration above the groundwater quality criteria
b/ All concentrations in micrograms per liter (µg/l)
c/ Groundwater Quality Criteria sources:
RSLs: http://www.mde.maryland.gov/assets/document/Final%20Update%20No%202.1%20dated%205-20-08(1).pdf

Table 2

Summary of COCs Detected in Off-Property Groundwater Samples
Former Kop-Flex Facility
Hanover, Maryland (a)

Monitoring Well	Chloroform	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,4- Dioxane	Methylene Chloride	Methyl-tert-butyl Ether	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Total VOCs
MW-25-40															
Sep-14	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	1
Dec-14	ND	ND	ND	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	2
Mar-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
MW-25-130															
Sep-14	1.5	47.0	12.30	1,140.0	6.1	ND	492.0	ND	ND	1.1	ND	64.2	2.0	11.2	1,777
Dec-14 (c)	ND	31.4	ND	799.0	ND	ND	349.0	25.5	ND	ND	ND (d)	33.4	ND	ND	1,238
Mar-15 (c)	ND	38.6	10.8	854.0	ND	ND	446.0	66.8	ND	ND	ND	43.5	ND	ND	1,460
MW-25-190															
Sep-14	ND	10.8	ND	52.2	ND	ND	65.1	ND	ND	ND	ND	14.0	ND	ND	142
Dec-14	ND	13.3	ND	58.2	ND	ND	45.9	ND	ND	ND	ND	15.6	ND	ND	133
Mar-15	ND	11.7	ND	53.0	ND	ND	49.4	ND	ND	ND	ND	13.7	ND	ND	128
MW-28-45															
Sep-15	ND	ND	ND	ND	ND	ND	6.5	ND	ND	ND	ND	ND	ND	ND	7
Dec-14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
Mar-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
MW-28-210															
Sep-14	ND	ND	ND	6.8	ND	ND	5.1	ND	ND	ND	ND	ND	ND	ND	12
Dec-14	ND	ND	ND	9.4	ND	ND	4.1	ND	ND	ND	ND	ND	ND	ND	14
Mar-15	ND	ND	ND	10.8	ND	ND	6.0	ND	ND	ND	ND	ND	ND	ND	17
MW-31-280															
Sep-14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
Dec-14	ND	ND	ND	ND	ND	ND	2.4	ND	ND	ND	ND	ND	ND	ND	2
Mar-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
MW-33-235															
Sep-14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
Dec-14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
Mar-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
MW-33-295															
Sep-14	ND	ND	ND	3.3	ND	ND	7.2	ND	ND	ND	ND	ND	ND	ND	11
Dec-14	ND	ND	ND	3.5	ND	ND	7.1	ND	ND	ND	ND	ND	ND	ND	11
Mar-15	ND	ND	ND	4.8	ND	ND	8.0	ND	ND	ND	ND	ND	ND	ND	13
MW-35-298															
Sep-14	ND	ND	ND	ND	ND	ND	36.7	ND	ND	ND	ND	ND	ND	ND	37
Dec-14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
Mar-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0

a/ all samples measured in ppb (ug/L);
all samples collected using low-flow purging techniques
NA = not analyzed
ND = not detected
b/sample run at 20x dilution
c/ sample run at a 10x dilution
d/sample run at 2.5x dilution

Table 3

Phase 3 Residential Well Sampling
Analytical Results Summary Table, December 2014 - March 2015
Kop-Flex Inc.
Hanover, Maryland

Parameters (ug/L)	MCL	Sample ID: RW-7815-FN-121014 Sample Type: Pre-Treatment Sample Date: 12/10/2014	Sample ID: RW-7815-FN-121014F Sample Type: Post Treatment Sample Date: 12/10/2014	Sample ID: RW-7831A-CS-121014 Sample Type: Pre-Treatment Sample Date: 12/10/2014	Sample ID: RW-7833A-CS-121014 Sample Type: Pre-Treatment Sample Date: 12/10/2014	Sample ID: RW-753-DNS-121214 Sample Type: Pre-Treatment Sample Date: 12/12/2014	Sample ID: RW-819-REE-121214 Sample Type: Pre-Treatment Sample Date: 12/12/2014	Sample ID: RW-845-REE-121214 Sample Type: Pre-Treatment Sample Date: 12/12/2014	Sample ID: RW-7834TEL-121814 Sample Type: Pre-Treatment Sample Date: 12/18/2014	Sample ID: RW-7834TEL-121814F Sample Type: Post Treatment Sample Date: 12/18/2014
Benzene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	80 (a)	0.50 U	0.50 U	0.17 J	0.50 U	0.26 J	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	90 (a)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethylene	7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methyl Tert Butyl Ether	20 (a)	0.50	0.46 J	1.2	0.50 U	1.1	0.50 U	1.7	0.50 U	0.50 U
Styrene	100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.17 J
1,1,1-Trichloroethane	200	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethylene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethylene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dioxane	6.7 (b)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U

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

Notes:
MCL - US Environmental Protection Agency (EPA)
Maximum Contaminant Level
U - Undetected, value reported is quantification limit

Table 3

Phase 3 Residential Well Sampling
Analytical Results Summary Table, December 2014 - March 2015
Kop-Flex Inc.
Hanover, Maryland

	Sample ID:	RW-7835CS-121814	RW-7849CS-121714	RW-837REE-121714	RW-837REE-121714F	RW-7090DA-122214	RW-7820TELE 123014	RW-7827CS 123014	RW-7833CS 11915	RW-100CS 11915
	Sample Type:	Pre-Treatment	Pre-Treatment	Pre-Treatment	Post Treatment	Pre-Treatment	Pre-Treatment	Pre-Treatment	Pre-Treatment	Pre-Treatment
	Sample Date:	12/18/2014	12/17/2014	12/17/2014	12/17/2014	12/22/2014	12/30/2014	12/30/2014	1/19/2015	1/19/2015
Parameters (ug/L)	**MCL**									
Benzene	5	0.18 J	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	80 (a)	0.11 J	0.19 J	0.50 U	0.50 U	0.19 J	0.14 J	0.50 U	0.11 J	0.12 J
1,1-Dichloroethane	90 (a)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethylene	7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methyl Tert Butyl Ether	20 (a)	4.7	0.37 J	0.80	0.83	0.30 J	0.34 J	1.4	1.5	1.4
Styrene	100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	200	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethylene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethylene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dioxane	6.7 (b)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U

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

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Table 3

Phase 3 Residential Well Sampling
Analytical Results Summary Table, December 2014 - March 2015
Kop-Flex Inc.
Hanover, Maryland

	Sample ID:	RW-7814FN 11915	RW-737DNS 11915	RW-7803FN 12315	RW-7843CS 12315	RW-7831CS 12315	RW-7831CS 12315	RW-1201KL 012915F	RW-1201KL 12915	RW-1204KL 012915F
	Sample Type:	Pre-Treatment	Pre-Treatment	Pre-Treatment	Pre-Treatment	Pre-Treatment	Pre-Treatment	Post-Treatment	Pre-Treatment	Post-Treatment
	Sample Date:	1/16/2015	1/19/2015	1/23/2015	1/23/2015	1/23/2015	1/23/2015	1/29/2015	1/29/2015	1/29/2015
Parameters (ug/L)	**MCL**									
Benzene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	80 (a)	0.13 J	0.18 J	0.50 U	0.50 U	0.39 J	0.42 J	0.15 J	0.15 J	0.31 J
1,1-Dichloroethane	90 (a)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethylene	7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methyl Tert Butyl Ether	20 (a)	0.50 U	0.43 J	2.0	0.50 U	0.66	0.67	3.7	4.20	1.20
Styrene	100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	200	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethylene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethylene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dioxane	6.7 (b)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U

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

Notes:
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Maximum Contaminant Level
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Table 3

Phase 3 Residential Well Sampling
Analytical Results Summary Table, December 2014 - March 2015
Kop-Flex Inc.
Hanover, Maryland

	Sample ID:	RW-825REE 12915	RW-7859CS 20515	RW-7847CS 21015	RW-734DNS 021015F	RW-734DNS 21015	RW-824REE 21115	RW-7845CS 21115	RW-7550DA 31915
	Sample Type:	Pre-Treatment	Pre-Treatment	Pre-Treatment	Post-Treatment	Pre-Treatment	Pre-Treatment	Pre-Treatment	Pre-Treatment
	Sample Date:	1/29/2015	2/5/2015	2/10/2015	2/10/2015	2/10/2015	2/11/2015	2/11/2015	3/19/2015
Parameters (ug/L)	**MCL**								
Benzene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	80 (a)	0.21 J	0.47 J	0.13 J	0.62	0.62	0.22 J	0.19 J	0.14 J
1,1-Dichloroethane	90 (a)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.77	0.50 U	0.50 U
1,1-Dichloroethylene	7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methyl Tert Butyl Ether	20 (a)	0.27 J	1.1	1.7	0.84	0.84	1.7	1	0.96
Styrene	100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	200	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethylene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethylene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dioxane	6.7 (b)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U

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

Notes:
MCL - US Environmental Protection Agency (EPA)
Maximum Contaminant Level
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Enclosure A – Laboratory Report for March 2015 Offsite Monitoring Well Samples

Enclosure B – Laboratory Reports for Residential Well Samples (January – March 2015)