ENVIRONMENT
& HEALTH

Ms. Melinda Dejewski
St. Francis City Hall
Engineering Department
3400 East Howard Avenue
St. Francis, WI 53235

**GROUNDWATER SAMPLE RESULTS FOR HYDROPUNCH BORINGS INSTALLED IN THE CITY RIGHT-OF-WAY**
**SHUR-LINE/FORMER EZ PAINTR FACILITY**
**4051 SOUTH IOWA AVENUE, ST. FRANCIS, WISCONSIN**
**WDNR BRRTS NO. 02-41-183146**

October 21, 2019

Ramboll
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Ref. 1690004991

Dear Ms. Dejewski:

Ramboll US Corporation (Ramboll), on behalf of Newell Operating Company (Newell), is providing the City of St. Francis (City) with the attached laboratory analytical results for groundwater samples collected from hydropunch borings (HP-2 through HP-5) advanced in the City right-of-way along South Iowa Avenue and East Norwich Avenue. The groundwater samples were collected per the September 18, 2019, approved Petition for Special Privileges and the associated Street Opening Permits.

Based on these results, a permanent groundwater monitoring well is being proposed to be installed at the location of HP-2, as described in the previously approved permit application for this location. Additional wells are also being considered in the East Norwich Avenue right-of-way to further define the extent of groundwater impacts. Ramboll, on behalf of Newell, will be submitting additional Petition for Special Privileges and the associated Street Opening Permits as appropriate.

If you have any questions or require additional information, please feel contact us at the number listed below.

Yours sincerely,

**Susan Petrofske**
Managing Consultant

D 262 901 3501
spetrofske@ramboll.com

**Jeanne M. Tarvin, PG, CPG**
Managing Principal

D 262 901 0085
jtarvin@ramboll.com

cc: Kristin Jones, Newell (electronic copy)

Attachments

# ATTACHMENT 1

## FIGURE 1 – HYDROPUNCH SAMPLE LOCATIONS

SOURCE: AERIAL IMAGERY: GOOGLE EARTH™, IMAGE DATED 04/07/2017.

LEGEND

- PROPERTY BOUNDARY
- FENCE LINE
- DITCH
- NATURAL GAS
- WATER LINE
- OVERHEAD LINE
- UNDERGROUND ELECTRIC
- UNDERGROUND TELEPHONE
- SANITARY
- STORM
- HYDRANT
- WATER VALVE
- MANHOLE
- SANITARY MANHOLE
- STORM MANHOLE
- ELECTRIC MANHOLE
- CURB INLET
- POWER POLE
- TELEPHONE PEDESTAL
- EXISTING MONITORING WELL
- TEMPORARY MONITORING WELL
- HYDROPUNCH LOCATION
- SEPTEMBER 2019 SOIL BORING/ HYDROPUNCH LOCATION

NOTE

HP-1 WAS PREVIOUSLY REFERRED TO AS HP-17.

0 75
SCALE IN FEET

RAMBOLL

DRAFTED BY: HJW | DATE: 10/17/19

# SOIL BORING AND HYDROPUNCH LOCATIONS

SHUR-LINE FACILITY
ST.FRANCIS, WISCONSIN

FIGURE
1

1690004991

L:\Loop Project Files_CAD\1690004991_Shur-Line\2019-10\01_Hydropunch Sample Locations.dwg

# ATTACHMENT 2

## TABLE 1 – GROUNDWATER ANALYTICAL DATA (CITY ROW ONLY)

# Table 1. Groundwater Analytical Data
# Shur-Line Facility
# St. Francis, WI
# Ramboll Project No. 1690004991

| Parameters | | Benzene | cis-1,2-Dichloroethene | Methylene chloride | Toluene | 1,1,1-Trichloroethane | Trichloroethene | Xylenes, total |
|---|---|---|---|---|---|---|---|---|
| **NR 140 ES Standard** | | 5 | 70 | 5 | 800 | 200 | 5 | 2000 |
| **NR 140 PAL Standard** | | 0.5 | 7 | 0.5 | 160 | 40 | 0.5 | 400 |
| | | | | | | | | |
| HP-2 | 9/24/2019 | <0.15 | *55* | *2.4* *J TB* | 0.21 J | 17 | **250** | 0.79 J |
| HP-3 | 9/24/2019 | 0.30 J | <0.41 | **14** **TB** | 0.40 J | <0.38 | <0.16 | <0.22 |
| HP-4 | 9/24/2019 | <0.15 | <0.41 | **13** **TB** | <0.15 | <0.38 | <0.16 | <0.22 |
| HP-5 | 9/24/2019 | 0.27 J | *8.8* | **14** **TB** | 0.44 J | <0.38 | **24** | <0.22 |

**Notes:**
VOCs = Volatile Organic Compounds
Groundwater concentrations are shown in micrograms per liter (ug/L).
Analytical results are displayed for detected parameters only.
Analytical results compared to the WDNR NR 140 groundwater quality standards published February 2017.
ES = Enforcement Standard
PAL = Preventive Action Limit
**Bold value** = NR 140 ES Exceedance
*Italic Value* = NR 140 PAL Exceedance
J = Estimated concentration. Laboratory results reported between the method detection limit and limit of quantification.
TB = Methylene chloride was detected in the trip blank
associated with this sample. The case narrative provided
by the laboratory states that methylene chloride is a

# ATTACHMENT 3

## GROUNDWATER SAMPLE ANALYTICAL RESULTS (EDITED FOR CITY ROW SAMPLES ONLY)

eurofins | Environment Testing TestAmerica

# ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-170610-1
Client Project/Site: Shur-Line

For:
Ramboll US Corporation
175 North Corporate Drive
Suite 160
Brookfield, Wisconsin 53045

Attn: Susan Petrofske

*Authorized for release by:*
*10/8/2019 1:56:37 PM*

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Note: This lab report has been edited to only present groundwater analytical results for samples collected within the City of St Francis right-of-way (HP-2, HP-3, HP-4, and HP-5)

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Job ID: 500-170610-1

### Laboratory: Eurofins TestAmerica, Chicago

**Narrative**

**Job Narrative**
**500-170610-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 9/25/2019 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.9º C.

**GC/MS VOA**
Method(s) 8260B: Methylene chloride was detected in the following samples: HP-2 (500-170610-1), HP-3 (500-170610-2), HP-4 (500-170610-3), HP-5 (500-170610-4), HP-6 (500-170610-5), Trip Blank (500-170610-6) and (MB 500-508687/6). The method blank associated with this samples were non-detect for Methylene chloride. Methylene chloride is known lab contaminant; therefore all low level detects for this compound should be suspected as lab contamination.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Client Sample ID: HP-2 — Lab Sample ID: 500-170610-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 17 | | 1.0 | 0.38 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 1.7 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 55 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Methylene Chloride | 2.4 | J | 5.0 | 1.6 | ug/L | 1 | | 8260B | Total/NA |
| Toluene | 0.21 | J | 0.50 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Xylenes, Total | 0.79 | J | 1.0 | 0.22 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene - DL | 250 | | 5.0 | 1.6 | ug/L | 10 | | 8260B | Total/NA |

## Client Sample ID: HP-3 — Lab Sample ID: 500-170610-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.30 | J | 0.50 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Methylene Chloride | 14 | | 5.0 | 1.6 | ug/L | 1 | | 8260B | Total/NA |
| Toluene | 0.40 | J | 0.50 | 0.15 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: HP-4 — Lab Sample ID: 500-170610-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | 13 | | 5.0 | 1.6 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: HP-5 — Lab Sample ID: 500-170610-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.27 | J | 0.50 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 8.8 | | 1.0 | 0.41 | ug/L | 1 | | 8260B | Total/NA |
| Methylene Chloride | 14 | | 5.0 | 1.6 | ug/L | 1 | | 8260B | Total/NA |
| Toluene | 0.44 | J | 0.50 | 0.15 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 24 | | 0.50 | 0.16 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: Trip Blank — Lab Sample ID: 500-170610-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | 14 | | 5.0 | 1.6 | ug/L | 1 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

# Method Summary

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL CHI |
| 5030B | Purge and Trap | SW846 | TAL CHI |

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# Sample Summary

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---|---|---|---|---|---|
| 500-170610-1 | HP-2 | Water | 09/24/19 09:00 | 09/25/19 09:10 | |
| 500-170610-2 | HP-3 | Water | 09/24/19 09:45 | 09/25/19 09:10 | |
| 500-170610-3 | HP-4 | Water | 09/24/19 10:45 | 09/25/19 09:10 | |
| 500-170610-4 | HP-5 | Water | 09/24/19 11:45 | 09/25/19 09:10 | |
| 500-170610-5 | HP-6 | Water | 09/24/19 12:50 | 09/25/19 09:10 | |
| 500-170610-6 | Trip Blank | Water | 09/24/19 00:00 | 09/25/19 09:10 | |

# Client Sample Results

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Client Sample ID: HP-2

**Date Collected: 09/24/19 09:00**
**Date Received: 09/25/19 09:10**

## Lab Sample ID: 500-170610-1

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/07/19 16:20 | 1 |
| **1,1,1-Trichloroethane** | **17** | | 1.0 | 0.38 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,1,2-Trichloroethane | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 16:20 | 1 |
| **1,1-Dichloroethane** | **1.7** | | 1.0 | 0.41 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,1-Dichloroethene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,1-Dichloropropene | <0.30 | | 1.0 | 0.30 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,2,3-Trichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,2,3-Trichloropropane | <0.41 | | 2.0 | 0.41 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,2,4-Trichlorobenzene | <0.34 | | 1.0 | 0.34 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,2,4-Trimethylbenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,2-Dibromo-3-Chloropropane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,2-Dibromoethane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,2-Dichlorobenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,2-Dichloroethane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,2-Dichloropropane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,3,5-Trimethylbenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,3-Dichlorobenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,3-Dichloropropane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 16:20 | 1 |
| 1,4-Dichlorobenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 16:20 | 1 |
| 2,2-Dichloropropane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/07/19 16:20 | 1 |
| 2-Chlorotoluene | <0.31 | | 1.0 | 0.31 | ug/L | | | 10/07/19 16:20 | 1 |
| 4-Chlorotoluene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 16:20 | 1 |
| Benzene | <0.15 | | 0.50 | 0.15 | ug/L | | | 10/07/19 16:20 | 1 |
| Bromobenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 16:20 | 1 |
| Bromochloromethane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 16:20 | 1 |
| Bromodichloromethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/07/19 16:20 | 1 |
| Bromoform | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/07/19 16:20 | 1 |
| Bromomethane | <0.80 | | 3.0 | 0.80 | ug/L | | | 10/07/19 16:20 | 1 |
| Carbon tetrachloride | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/07/19 16:20 | 1 |
| Chlorobenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 16:20 | 1 |
| Chloroethane | <0.51 | | 1.0 | 0.51 | ug/L | | | 10/07/19 16:20 | 1 |
| Chloroform | <0.37 | | 2.0 | 0.37 | ug/L | | | 10/07/19 16:20 | 1 |
| Chloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/07/19 16:20 | 1 |
| **cis-1,2-Dichloroethene** | **55** | | 1.0 | 0.41 | ug/L | | | 10/07/19 16:20 | 1 |
| cis-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/07/19 16:20 | 1 |
| Dibromochloromethane | <0.49 | | 1.0 | 0.49 | ug/L | | | 10/07/19 16:20 | 1 |
| Dibromomethane | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/07/19 16:20 | 1 |
| Dichlorodifluoromethane | <0.67 | | 3.0 | 0.67 | ug/L | | | 10/07/19 16:20 | 1 |
| Ethylbenzene | <0.18 | | 0.50 | 0.18 | ug/L | | | 10/07/19 16:20 | 1 |
| Hexachlorobutadiene | <0.45 | | 1.0 | 0.45 | ug/L | | | 10/07/19 16:20 | 1 |
| Isopropyl ether | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/07/19 16:20 | 1 |
| Isopropylbenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 16:20 | 1 |
| Methyl tert-butyl ether | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 16:20 | 1 |
| **Methylene Chloride** | **2.4** | **J** | 5.0 | 1.6 | ug/L | | | 10/07/19 16:20 | 1 |
| Naphthalene | <0.34 | | 1.0 | 0.34 | ug/L | | | 10/07/19 16:20 | 1 |
| n-Butylbenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 16:20 | 1 |
| N-Propylbenzene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 16:20 | 1 |
| p-Isopropyltoluene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 16:20 | 1 |

# Client Sample Results

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Client Sample ID: HP-2

**Date Collected: 09/24/19 09:00**
**Date Received: 09/25/19 09:10**

## Lab Sample ID: 500-170610-1

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| sec-Butylbenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 16:20 | 1 |
| Styrene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 16:20 | 1 |
| tert-Butylbenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 16:20 | 1 |
| Tetrachloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/07/19 16:20 | 1 |
| **Toluene** | **0.21** | **J** | 0.50 | 0.15 | ug/L | | | 10/07/19 16:20 | 1 |
| trans-1,2-Dichloroethene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 16:20 | 1 |
| trans-1,3-Dichloropropene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 16:20 | 1 |
| Trichlorofluoromethane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 16:20 | 1 |
| Vinyl chloride | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/07/19 16:20 | 1 |
| **Xylenes, Total** | **0.79** | **J** | 1.0 | 0.22 | ug/L | | | 10/07/19 16:20 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *119* | | *75 - 126* | | *10/07/19 16:20* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *72 - 124* | | *10/07/19 16:20* | *1* |
| *Dibromofluoromethane* | *104* | | *75 - 120* | | *10/07/19 16:20* | *1* |
| *Toluene-d8 (Surr)* | *102* | | *75 - 120* | | *10/07/19 16:20* | *1* |

### Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Trichloroethene** | **250** | | 5.0 | 1.6 | ug/L | | | 10/07/19 16:46 | 10 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *120* | | *75 - 126* | | *10/07/19 16:46* | *10* |
| *4-Bromofluorobenzene (Surr)* | *105* | | *72 - 124* | | *10/07/19 16:46* | *10* |
| *Dibromofluoromethane* | *106* | | *75 - 120* | | *10/07/19 16:46* | *10* |
| *Toluene-d8 (Surr)* | *101* | | *75 - 120* | | *10/07/19 16:46* | *10* |

# Client Sample Results

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Client Sample ID: HP-3

**Date Collected: 09/24/19 09:45**
**Date Received: 09/25/19 09:10**

## Lab Sample ID: 500-170610-2

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,1,1-Trichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,1,2-Trichloroethane | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,1-Dichloroethane | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,1-Dichloroethene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,1-Dichloropropene | <0.30 | | 1.0 | 0.30 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,2,3-Trichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,2,3-Trichloropropane | <0.41 | | 2.0 | 0.41 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,2,4-Trichlorobenzene | <0.34 | | 1.0 | 0.34 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,2,4-Trimethylbenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,2-Dibromo-3-Chloropropane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,2-Dibromoethane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,2-Dichlorobenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,2-Dichloroethane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,2-Dichloropropane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,3,5-Trimethylbenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,3-Dichlorobenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,3-Dichloropropane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 17:12 | 1 |
| 1,4-Dichlorobenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 17:12 | 1 |
| 2,2-Dichloropropane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/07/19 17:12 | 1 |
| 2-Chlorotoluene | <0.31 | | 1.0 | 0.31 | ug/L | | | 10/07/19 17:12 | 1 |
| 4-Chlorotoluene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 17:12 | 1 |
| **Benzene** | **0.30** | **J** | 0.50 | 0.15 | ug/L | | | 10/07/19 17:12 | 1 |
| Bromobenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 17:12 | 1 |
| Bromochloromethane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 17:12 | 1 |
| Bromodichloromethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/07/19 17:12 | 1 |
| Bromoform | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/07/19 17:12 | 1 |
| Bromomethane | <0.80 | | 3.0 | 0.80 | ug/L | | | 10/07/19 17:12 | 1 |
| Carbon tetrachloride | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/07/19 17:12 | 1 |
| Chlorobenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:12 | 1 |
| Chloroethane | <0.51 | | 1.0 | 0.51 | ug/L | | | 10/07/19 17:12 | 1 |
| Chloroform | <0.37 | | 2.0 | 0.37 | ug/L | | | 10/07/19 17:12 | 1 |
| Chloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/07/19 17:12 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 17:12 | 1 |
| cis-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/07/19 17:12 | 1 |
| Dibromochloromethane | <0.49 | | 1.0 | 0.49 | ug/L | | | 10/07/19 17:12 | 1 |
| Dibromomethane | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/07/19 17:12 | 1 |
| Dichlorodifluoromethane | <0.67 | | 3.0 | 0.67 | ug/L | | | 10/07/19 17:12 | 1 |
| Ethylbenzene | <0.18 | | 0.50 | 0.18 | ug/L | | | 10/07/19 17:12 | 1 |
| Hexachlorobutadiene | <0.45 | | 1.0 | 0.45 | ug/L | | | 10/07/19 17:12 | 1 |
| Isopropyl ether | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/07/19 17:12 | 1 |
| Isopropylbenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:12 | 1 |
| Methyl tert-butyl ether | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:12 | 1 |
| **Methylene Chloride** | **14** | | 5.0 | 1.6 | ug/L | | | 10/07/19 17:12 | 1 |
| Naphthalene | <0.34 | | 1.0 | 0.34 | ug/L | | | 10/07/19 17:12 | 1 |
| n-Butylbenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:12 | 1 |
| N-Propylbenzene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 17:12 | 1 |
| p-Isopropyltoluene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 17:12 | 1 |

# Client Sample Results

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Client Sample ID: HP-3

**Date Collected: 09/24/19 09:45**
**Date Received: 09/25/19 09:10**

## Lab Sample ID: 500-170610-2

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| sec-Butylbenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 17:12 | 1 |
| Styrene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:12 | 1 |
| tert-Butylbenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 17:12 | 1 |
| Tetrachloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/07/19 17:12 | 1 |
| **Toluene** | **0.40** | **J** | 0.50 | 0.15 | ug/L | | | 10/07/19 17:12 | 1 |
| trans-1,2-Dichloroethene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 17:12 | 1 |
| trans-1,3-Dichloropropene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 17:12 | 1 |
| Trichloroethene | <0.16 | | 0.50 | 0.16 | ug/L | | | 10/07/19 17:12 | 1 |
| Trichlorofluoromethane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 17:12 | 1 |
| Vinyl chloride | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/07/19 17:12 | 1 |
| Xylenes, Total | <0.22 | | 1.0 | 0.22 | ug/L | | | 10/07/19 17:12 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *120* | | *75 - 126* | | *10/07/19 17:12* | *1* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *72 - 124* | | *10/07/19 17:12* | *1* |
| *Dibromofluoromethane* | *104* | | *75 - 120* | | *10/07/19 17:12* | *1* |
| *Toluene-d8 (Surr)* | *102* | | *75 - 120* | | *10/07/19 17:12* | *1* |

# Client Sample Results

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Client Sample ID: HP-4

**Date Collected: 09/24/19 10:45**
**Date Received: 09/25/19 09:10**

## Lab Sample ID: 500-170610-3

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,1,1-Trichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,1,2-Trichloroethane | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,1-Dichloroethane | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,1-Dichloroethene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,1-Dichloropropene | <0.30 | | 1.0 | 0.30 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,2,3-Trichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,2,3-Trichloropropane | <0.41 | | 2.0 | 0.41 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,2,4-Trichlorobenzene | <0.34 | | 1.0 | 0.34 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,2,4-Trimethylbenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,2-Dibromo-3-Chloropropane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,2-Dibromoethane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,2-Dichlorobenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,2-Dichloroethane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,2-Dichloropropane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,3,5-Trimethylbenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,3-Dichlorobenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,3-Dichloropropane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 17:38 | 1 |
| 1,4-Dichlorobenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 17:38 | 1 |
| 2,2-Dichloropropane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/07/19 17:38 | 1 |
| 2-Chlorotoluene | <0.31 | | 1.0 | 0.31 | ug/L | | | 10/07/19 17:38 | 1 |
| 4-Chlorotoluene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 17:38 | 1 |
| Benzene | <0.15 | | 0.50 | 0.15 | ug/L | | | 10/07/19 17:38 | 1 |
| Bromobenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 17:38 | 1 |
| Bromochloromethane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 17:38 | 1 |
| Bromodichloromethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/07/19 17:38 | 1 |
| Bromoform | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/07/19 17:38 | 1 |
| Bromomethane | <0.80 | | 3.0 | 0.80 | ug/L | | | 10/07/19 17:38 | 1 |
| Carbon tetrachloride | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/07/19 17:38 | 1 |
| Chlorobenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:38 | 1 |
| Chloroethane | <0.51 | | 1.0 | 0.51 | ug/L | | | 10/07/19 17:38 | 1 |
| Chloroform | <0.37 | | 2.0 | 0.37 | ug/L | | | 10/07/19 17:38 | 1 |
| Chloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/07/19 17:38 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 17:38 | 1 |
| cis-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/07/19 17:38 | 1 |
| Dibromochloromethane | <0.49 | | 1.0 | 0.49 | ug/L | | | 10/07/19 17:38 | 1 |
| Dibromomethane | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/07/19 17:38 | 1 |
| Dichlorodifluoromethane | <0.67 | | 3.0 | 0.67 | ug/L | | | 10/07/19 17:38 | 1 |
| Ethylbenzene | <0.18 | | 0.50 | 0.18 | ug/L | | | 10/07/19 17:38 | 1 |
| Hexachlorobutadiene | <0.45 | | 1.0 | 0.45 | ug/L | | | 10/07/19 17:38 | 1 |
| Isopropyl ether | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/07/19 17:38 | 1 |
| Isopropylbenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:38 | 1 |
| Methyl tert-butyl ether | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:38 | 1 |
| **Methylene Chloride** | **13** | | 5.0 | 1.6 | ug/L | | | 10/07/19 17:38 | 1 |
| Naphthalene | <0.34 | | 1.0 | 0.34 | ug/L | | | 10/07/19 17:38 | 1 |
| n-Butylbenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:38 | 1 |
| N-Propylbenzene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 17:38 | 1 |
| p-Isopropyltoluene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 17:38 | 1 |

# Client Sample Results

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Client Sample ID: HP-4

**Date Collected: 09/24/19 10:45**
**Date Received: 09/25/19 09:10**

## Lab Sample ID: 500-170610-3

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| sec-Butylbenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 17:38 | 1 |
| Styrene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 17:38 | 1 |
| tert-Butylbenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 17:38 | 1 |
| Tetrachloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/07/19 17:38 | 1 |
| Toluene | <0.15 | | 0.50 | 0.15 | ug/L | | | 10/07/19 17:38 | 1 |
| trans-1,2-Dichloroethene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 17:38 | 1 |
| trans-1,3-Dichloropropene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 17:38 | 1 |
| Trichloroethene | <0.16 | | 0.50 | 0.16 | ug/L | | | 10/07/19 17:38 | 1 |
| Trichlorofluoromethane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 17:38 | 1 |
| Vinyl chloride | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/07/19 17:38 | 1 |
| Xylenes, Total | <0.22 | | 1.0 | 0.22 | ug/L | | | 10/07/19 17:38 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *123* | | *75 - 126* | | *10/07/19 17:38* | *1* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *72 - 124* | | *10/07/19 17:38* | *1* |
| *Dibromofluoromethane* | *106* | | *75 - 120* | | *10/07/19 17:38* | *1* |
| *Toluene-d8 (Surr)* | *102* | | *75 - 120* | | *10/07/19 17:38* | *1* |

# Client Sample Results

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Client Sample ID: HP-5

**Date Collected: 09/24/19 11:45**
**Date Received: 09/25/19 09:10**

## Lab Sample ID: 500-170610-4

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,1,1-Trichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,1,2-Trichloroethane | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,1-Dichloroethane | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,1-Dichloroethene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,1-Dichloropropene | <0.30 | | 1.0 | 0.30 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,2,3-Trichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,2,3-Trichloropropane | <0.41 | | 2.0 | 0.41 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,2,4-Trichlorobenzene | <0.34 | | 1.0 | 0.34 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,2,4-Trimethylbenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,2-Dibromo-3-Chloropropane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,2-Dibromoethane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,2-Dichlorobenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,2-Dichloroethane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,2-Dichloropropane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,3,5-Trimethylbenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,3-Dichlorobenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,3-Dichloropropane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 18:04 | 1 |
| 1,4-Dichlorobenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 18:04 | 1 |
| 2,2-Dichloropropane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/07/19 18:04 | 1 |
| 2-Chlorotoluene | <0.31 | | 1.0 | 0.31 | ug/L | | | 10/07/19 18:04 | 1 |
| 4-Chlorotoluene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 18:04 | 1 |
| **Benzene** | **0.27** | **J** | 0.50 | 0.15 | ug/L | | | 10/07/19 18:04 | 1 |
| Bromobenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 18:04 | 1 |
| Bromochloromethane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 18:04 | 1 |
| Bromodichloromethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/07/19 18:04 | 1 |
| Bromoform | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/07/19 18:04 | 1 |
| Bromomethane | <0.80 | | 3.0 | 0.80 | ug/L | | | 10/07/19 18:04 | 1 |
| Carbon tetrachloride | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/07/19 18:04 | 1 |
| Chlorobenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:04 | 1 |
| Chloroethane | <0.51 | | 1.0 | 0.51 | ug/L | | | 10/07/19 18:04 | 1 |
| Chloroform | <0.37 | | 2.0 | 0.37 | ug/L | | | 10/07/19 18:04 | 1 |
| Chloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/07/19 18:04 | 1 |
| **cis-1,2-Dichloroethene** | **8.8** | | 1.0 | 0.41 | ug/L | | | 10/07/19 18:04 | 1 |
| cis-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/07/19 18:04 | 1 |
| Dibromochloromethane | <0.49 | | 1.0 | 0.49 | ug/L | | | 10/07/19 18:04 | 1 |
| Dibromomethane | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/07/19 18:04 | 1 |
| Dichlorodifluoromethane | <0.67 | | 3.0 | 0.67 | ug/L | | | 10/07/19 18:04 | 1 |
| Ethylbenzene | <0.18 | | 0.50 | 0.18 | ug/L | | | 10/07/19 18:04 | 1 |
| Hexachlorobutadiene | <0.45 | | 1.0 | 0.45 | ug/L | | | 10/07/19 18:04 | 1 |
| Isopropyl ether | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/07/19 18:04 | 1 |
| Isopropylbenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:04 | 1 |
| Methyl tert-butyl ether | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:04 | 1 |
| **Methylene Chloride** | **14** | | 5.0 | 1.6 | ug/L | | | 10/07/19 18:04 | 1 |
| Naphthalene | <0.34 | | 1.0 | 0.34 | ug/L | | | 10/07/19 18:04 | 1 |
| n-Butylbenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:04 | 1 |
| N-Propylbenzene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 18:04 | 1 |
| p-Isopropyltoluene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 18:04 | 1 |

# Client Sample Results

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Client Sample ID: HP-5

**Date Collected: 09/24/19 11:45**
**Date Received: 09/25/19 09:10**

## Lab Sample ID: 500-170610-4

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| sec-Butylbenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 18:04 | 1 |
| Styrene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:04 | 1 |
| tert-Butylbenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 18:04 | 1 |
| Tetrachloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/07/19 18:04 | 1 |
| **Toluene** | **0.44** | **J** | 0.50 | 0.15 | ug/L | | | 10/07/19 18:04 | 1 |
| trans-1,2-Dichloroethene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 18:04 | 1 |
| trans-1,3-Dichloropropene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 18:04 | 1 |
| **Trichloroethene** | **24** | | 0.50 | 0.16 | ug/L | | | 10/07/19 18:04 | 1 |
| Trichlorofluoromethane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 18:04 | 1 |
| Vinyl chloride | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/07/19 18:04 | 1 |
| Xylenes, Total | <0.22 | | 1.0 | 0.22 | ug/L | | | 10/07/19 18:04 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *120* | | *75 - 126* | | *10/07/19 18:04* | *1* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *72 - 124* | | *10/07/19 18:04* | *1* |
| *Dibromofluoromethane* | *106* | | *75 - 120* | | *10/07/19 18:04* | *1* |
| *Toluene-d8 (Surr)* | *102* | | *75 - 120* | | *10/07/19 18:04* | *1* |

# Client Sample Results

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Client Sample ID: Trip Blank

**Lab Sample ID: 500-170610-6**

**Date Collected: 09/24/19 00:00**
**Matrix: Water**
**Date Received: 09/25/19 09:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,1,1-Trichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,1,2-Trichloroethane | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,1-Dichloroethane | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,1-Dichloroethene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,1-Dichloropropene | <0.30 | | 1.0 | 0.30 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,2,3-Trichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,2,3-Trichloropropane | <0.41 | | 2.0 | 0.41 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,2,4-Trichlorobenzene | <0.34 | | 1.0 | 0.34 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,2,4-Trimethylbenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,2-Dibromo-3-Chloropropane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,2-Dibromoethane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,2-Dichlorobenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,2-Dichloroethane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,2-Dichloropropane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,3,5-Trimethylbenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,3-Dichlorobenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,3-Dichloropropane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 18:56 | 1 |
| 1,4-Dichlorobenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 18:56 | 1 |
| 2,2-Dichloropropane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/07/19 18:56 | 1 |
| 2-Chlorotoluene | <0.31 | | 1.0 | 0.31 | ug/L | | | 10/07/19 18:56 | 1 |
| 4-Chlorotoluene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 18:56 | 1 |
| Benzene | <0.15 | | 0.50 | 0.15 | ug/L | | | 10/07/19 18:56 | 1 |
| Bromobenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 18:56 | 1 |
| Bromochloromethane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 18:56 | 1 |
| Bromodichloromethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/07/19 18:56 | 1 |
| Bromoform | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/07/19 18:56 | 1 |
| Bromomethane | <0.80 | | 3.0 | 0.80 | ug/L | | | 10/07/19 18:56 | 1 |
| Carbon tetrachloride | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/07/19 18:56 | 1 |
| Chlorobenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:56 | 1 |
| Chloroethane | <0.51 | | 1.0 | 0.51 | ug/L | | | 10/07/19 18:56 | 1 |
| Chloroform | <0.37 | | 2.0 | 0.37 | ug/L | | | 10/07/19 18:56 | 1 |
| Chloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/07/19 18:56 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 18:56 | 1 |
| cis-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/07/19 18:56 | 1 |
| Dibromochloromethane | <0.49 | | 1.0 | 0.49 | ug/L | | | 10/07/19 18:56 | 1 |
| Dibromomethane | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/07/19 18:56 | 1 |
| Dichlorodifluoromethane | <0.67 | | 3.0 | 0.67 | ug/L | | | 10/07/19 18:56 | 1 |
| Ethylbenzene | <0.18 | | 0.50 | 0.18 | ug/L | | | 10/07/19 18:56 | 1 |
| Hexachlorobutadiene | <0.45 | | 1.0 | 0.45 | ug/L | | | 10/07/19 18:56 | 1 |
| Isopropyl ether | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/07/19 18:56 | 1 |
| Isopropylbenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:56 | 1 |
| Methyl tert-butyl ether | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:56 | 1 |
| **Methylene Chloride** | **14** | | 5.0 | 1.6 | ug/L | | | 10/07/19 18:56 | 1 |
| Naphthalene | <0.34 | | 1.0 | 0.34 | ug/L | | | 10/07/19 18:56 | 1 |
| n-Butylbenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:56 | 1 |
| N-Propylbenzene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 18:56 | 1 |
| p-Isopropyltoluene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 18:56 | 1 |

# Client Sample Results

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Client Sample ID: Trip Blank

**Lab Sample ID: 500-170610-6**

**Date Collected: 09/24/19 00:00**
**Matrix: Water**
**Date Received: 09/25/19 09:10**

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| sec-Butylbenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 18:56 | 1 |
| Styrene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 18:56 | 1 |
| tert-Butylbenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 18:56 | 1 |
| Tetrachloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/07/19 18:56 | 1 |
| Toluene | <0.15 | | 0.50 | 0.15 | ug/L | | | 10/07/19 18:56 | 1 |
| trans-1,2-Dichloroethene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 18:56 | 1 |
| trans-1,3-Dichloropropene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 18:56 | 1 |
| Trichloroethene | <0.16 | | 0.50 | 0.16 | ug/L | | | 10/07/19 18:56 | 1 |
| Trichlorofluoromethane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 18:56 | 1 |
| Vinyl chloride | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/07/19 18:56 | 1 |
| Xylenes, Total | <0.22 | | 1.0 | 0.22 | ug/L | | | 10/07/19 18:56 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *122* | | *75 - 126* | | *10/07/19 18:56* | *1* |
| *4-Bromofluorobenzene (Surr)* | *107* | | *72 - 124* | | *10/07/19 18:56* | *1* |
| *Dibromofluoromethane* | *105* | | *75 - 120* | | *10/07/19 18:56* | *1* |
| *Toluene-d8 (Surr)* | *100* | | *75 - 120* | | *10/07/19 18:56* | *1* |

# Definitions/Glossary

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

# QC Association Summary

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## GC/MS VOA

### Analysis Batch: 508687

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-170610-1 | HP-2 | Total/NA | Water | 8260B | |
| 500-170610-1 - DL | HP-2 | Total/NA | Water | 8260B | |
| 500-170610-2 | HP-3 | Total/NA | Water | 8260B | |
| 500-170610-3 | HP-4 | Total/NA | Water | 8260B | |
| 500-170610-4 | HP-5 | Total/NA | Water | 8260B | |
| 500-170610-6 | Trip Blank | Total/NA | Water | 8260B | |
| MB 500-508687/6 | Method Blank | Total/NA | Water | 8260B | |
| LCS 500-508687/4 | Lab Control Sample | Total/NA | Water | 8260B | |

# Surrogate Summary

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Matrix: Water** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | DCA | BFB | DBFM | TOL |
| **Lab Sample ID** | **Client Sample ID** | **(75-126)** | **(72-124)** | **(75-120)** | **(75-120)** |
| 500-170610-1 | HP-2 | 119 | 103 | 104 | 102 |
| 500-170610-1 - DL | HP-2 | 120 | 105 | 106 | 101 |
| 500-170610-2 | HP-3 | 120 | 102 | 104 | 102 |
| 500-170610-3 | HP-4 | 123 | 102 | 106 | 102 |
| 500-170610-4 | HP-5 | 120 | 101 | 106 | 102 |
| 500-170610-6 | Trip Blank | 122 | 107 | 105 | 100 |
| LCS 500-508687/4 | Lab Control Sample | 115 | 103 | 103 | 101 |
| MB 500-508687/6 | Method Blank | 117 | 102 | 103 | 101 |

**Surrogate Legend**

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 500-508687/6**
**Matrix: Water**
**Analysis Batch: 508687**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,1,1-Trichloroethane | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,1,2-Trichloroethane | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,1-Dichloroethane | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,1-Dichloroethene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,1-Dichloropropene | <0.30 | | 1.0 | 0.30 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,2,3-Trichlorobenzene | <0.46 | | 1.0 | 0.46 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,2,3-Trichloropropane | <0.41 | | 2.0 | 0.41 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,2,4-Trichlorobenzene | <0.34 | | 1.0 | 0.34 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,2,4-Trimethylbenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,2-Dibromo-3-Chloropropane | <2.0 | | 5.0 | 2.0 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,2-Dibromoethane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,2-Dichlorobenzene | <0.33 | | 1.0 | 0.33 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,2-Dichloroethane | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,2-Dichloropropane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,3,5-Trimethylbenzene | <0.25 | | 1.0 | 0.25 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,3-Dichlorobenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,3-Dichloropropane | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 12:02 | 1 |
| 1,4-Dichlorobenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 12:02 | 1 |
| 2,2-Dichloropropane | <0.44 | | 1.0 | 0.44 | ug/L | | | 10/07/19 12:02 | 1 |
| 2-Chlorotoluene | <0.31 | | 1.0 | 0.31 | ug/L | | | 10/07/19 12:02 | 1 |
| 4-Chlorotoluene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 12:02 | 1 |
| Benzene | <0.15 | | 0.50 | 0.15 | ug/L | | | 10/07/19 12:02 | 1 |
| Bromobenzene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 12:02 | 1 |
| Bromochloromethane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 12:02 | 1 |
| Bromodichloromethane | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/07/19 12:02 | 1 |
| Bromoform | <0.48 | | 1.0 | 0.48 | ug/L | | | 10/07/19 12:02 | 1 |
| Bromomethane | <0.80 | | 3.0 | 0.80 | ug/L | | | 10/07/19 12:02 | 1 |
| Carbon tetrachloride | <0.38 | | 1.0 | 0.38 | ug/L | | | 10/07/19 12:02 | 1 |
| Chlorobenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 12:02 | 1 |
| Chloroethane | <0.51 | | 1.0 | 0.51 | ug/L | | | 10/07/19 12:02 | 1 |
| Chloroform | <0.37 | | 2.0 | 0.37 | ug/L | | | 10/07/19 12:02 | 1 |
| Chloromethane | <0.32 | | 1.0 | 0.32 | ug/L | | | 10/07/19 12:02 | 1 |
| cis-1,2-Dichloroethene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 12:02 | 1 |
| cis-1,3-Dichloropropene | <0.42 | | 1.0 | 0.42 | ug/L | | | 10/07/19 12:02 | 1 |
| Dibromochloromethane | <0.49 | | 1.0 | 0.49 | ug/L | | | 10/07/19 12:02 | 1 |
| Dibromomethane | <0.27 | | 1.0 | 0.27 | ug/L | | | 10/07/19 12:02 | 1 |
| Dichlorodifluoromethane | <0.67 | | 3.0 | 0.67 | ug/L | | | 10/07/19 12:02 | 1 |
| Ethylbenzene | <0.18 | | 0.50 | 0.18 | ug/L | | | 10/07/19 12:02 | 1 |
| Hexachlorobutadiene | <0.45 | | 1.0 | 0.45 | ug/L | | | 10/07/19 12:02 | 1 |
| Isopropyl ether | <0.28 | | 1.0 | 0.28 | ug/L | | | 10/07/19 12:02 | 1 |
| Isopropylbenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 12:02 | 1 |
| Methyl tert-butyl ether | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 12:02 | 1 |
| Methylene Chloride | <1.6 | | 5.0 | 1.6 | ug/L | | | 10/07/19 12:02 | 1 |
| Naphthalene | <0.34 | | 1.0 | 0.34 | ug/L | | | 10/07/19 12:02 | 1 |
| n-Butylbenzene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 12:02 | 1 |
| N-Propylbenzene | <0.41 | | 1.0 | 0.41 | ug/L | | | 10/07/19 12:02 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 500-508687/6**
**Matrix: Water**
**Analysis Batch: 508687**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 12:02 | 1 |
| sec-Butylbenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 12:02 | 1 |
| Styrene | <0.39 | | 1.0 | 0.39 | ug/L | | | 10/07/19 12:02 | 1 |
| tert-Butylbenzene | <0.40 | | 1.0 | 0.40 | ug/L | | | 10/07/19 12:02 | 1 |
| Tetrachloroethene | <0.37 | | 1.0 | 0.37 | ug/L | | | 10/07/19 12:02 | 1 |
| Toluene | <0.15 | | 0.50 | 0.15 | ug/L | | | 10/07/19 12:02 | 1 |
| trans-1,2-Dichloroethene | <0.35 | | 1.0 | 0.35 | ug/L | | | 10/07/19 12:02 | 1 |
| trans-1,3-Dichloropropene | <0.36 | | 1.0 | 0.36 | ug/L | | | 10/07/19 12:02 | 1 |
| Trichloroethene | <0.16 | | 0.50 | 0.16 | ug/L | | | 10/07/19 12:02 | 1 |
| Trichlorofluoromethane | <0.43 | | 1.0 | 0.43 | ug/L | | | 10/07/19 12:02 | 1 |
| Vinyl chloride | <0.20 | | 1.0 | 0.20 | ug/L | | | 10/07/19 12:02 | 1 |
| Xylenes, Total | <0.22 | | 1.0 | 0.22 | ug/L | | | 10/07/19 12:02 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *117* | | *75 - 126* | | *10/07/19 12:02* | *1* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *72 - 124* | | *10/07/19 12:02* | *1* |
| *Dibromofluoromethane* | *103* | | *75 - 120* | | *10/07/19 12:02* | *1* |
| *Toluene-d8 (Surr)* | *101* | | *75 - 120* | | *10/07/19 12:02* | *1* |

**Lab Sample ID: LCS 500-508687/4**
**Matrix: Water**
**Analysis Batch: 508687**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 50.0 | 42.6 | | ug/L | | 85 | 70 - 125 |
| 1,1,1-Trichloroethane | 50.0 | 44.6 | | ug/L | | 89 | 70 - 125 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 43.9 | | ug/L | | 88 | 62 - 140 |
| 1,1,2-Trichloroethane | 50.0 | 46.1 | | ug/L | | 92 | 71 - 130 |
| 1,1-Dichloroethane | 50.0 | 46.6 | | ug/L | | 93 | 70 - 125 |
| 1,1-Dichloroethene | 50.0 | 43.0 | | ug/L | | 86 | 67 - 122 |
| 1,1-Dichloropropene | 50.0 | 45.4 | | ug/L | | 91 | 70 - 121 |
| 1,2,3-Trichlorobenzene | 50.0 | 41.6 | | ug/L | | 83 | 51 - 145 |
| 1,2,3-Trichloropropane | 50.0 | 47.2 | | ug/L | | 94 | 50 - 133 |
| 1,2,4-Trichlorobenzene | 50.0 | 40.9 | | ug/L | | 82 | 57 - 137 |
| 1,2,4-Trimethylbenzene | 50.0 | 44.8 | | ug/L | | 90 | 70 - 123 |
| 1,2-Dibromo-3-Chloropropane | 50.0 | 41.7 | | ug/L | | 83 | 56 - 123 |
| 1,2-Dibromoethane | 50.0 | 44.7 | | ug/L | | 89 | 70 - 125 |
| 1,2-Dichlorobenzene | 50.0 | 43.9 | | ug/L | | 88 | 70 - 125 |
| 1,2-Dichloroethane | 50.0 | 52.3 | | ug/L | | 105 | 68 - 127 |
| 1,2-Dichloropropane | 50.0 | 47.2 | | ug/L | | 94 | 67 - 130 |
| 1,3,5-Trimethylbenzene | 50.0 | 45.5 | | ug/L | | 91 | 70 - 123 |
| 1,3-Dichlorobenzene | 50.0 | 44.5 | | ug/L | | 89 | 70 - 125 |
| 1,3-Dichloropropane | 50.0 | 46.8 | | ug/L | | 94 | 62 - 136 |
| 1,4-Dichlorobenzene | 50.0 | 43.8 | | ug/L | | 88 | 70 - 120 |
| 2,2-Dichloropropane | 50.0 | 40.8 | | ug/L | | 82 | 58 - 139 |
| 2-Chlorotoluene | 50.0 | 45.0 | | ug/L | | 90 | 70 - 125 |
| 4-Chlorotoluene | 50.0 | 45.8 | | ug/L | | 92 | 68 - 124 |
| Benzene | 50.0 | 45.2 | | ug/L | | 90 | 70 - 120 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 500-508687/4**
**Matrix: Water**
**Analysis Batch: 508687**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Bromobenzene | 50.0 | 44.0 | | ug/L | | 88 | 70 - 122 |
| Bromochloromethane | 50.0 | 46.9 | | ug/L | | 94 | 65 - 122 |
| Bromodichloromethane | 50.0 | 45.6 | | ug/L | | 91 | 69 - 120 |
| Bromoform | 50.0 | 39.3 | | ug/L | | 79 | 56 - 132 |
| Bromomethane | 50.0 | 42.0 | | ug/L | | 84 | 40 - 152 |
| Carbon tetrachloride | 50.0 | 43.4 | | ug/L | | 87 | 59 - 133 |
| Chlorobenzene | 50.0 | 44.6 | | ug/L | | 89 | 70 - 120 |
| Chloroethane | 50.0 | 40.9 | | ug/L | | 82 | 48 - 136 |
| Chloroform | 50.0 | 45.4 | | ug/L | | 91 | 70 - 120 |
| Chloromethane | 50.0 | 41.2 | | ug/L | | 82 | 56 - 152 |
| cis-1,2-Dichloroethene | 50.0 | 45.2 | | ug/L | | 90 | 70 - 125 |
| cis-1,3-Dichloropropene | 50.0 | 43.6 | | ug/L | | 87 | 64 - 127 |
| Dibromochloromethane | 50.0 | 43.6 | | ug/L | | 87 | 68 - 125 |
| Dibromomethane | 50.0 | 46.0 | | ug/L | | 92 | 70 - 120 |
| Dichlorodifluoromethane | 50.0 | 34.2 | | ug/L | | 68 | 40 - 159 |
| Ethylbenzene | 50.0 | 44.3 | | ug/L | | 89 | 70 - 123 |
| Hexachlorobutadiene | 50.0 | 42.3 | | ug/L | | 85 | 51 - 150 |
| Isopropylbenzene | 50.0 | 44.6 | | ug/L | | 89 | 70 - 126 |
| Methyl tert-butyl ether | 50.0 | 43.1 | | ug/L | | 86 | 55 - 123 |
| Methylene Chloride | 50.0 | 44.9 | | ug/L | | 90 | 69 - 125 |
| Naphthalene | 50.0 | 39.5 | | ug/L | | 79 | 53 - 144 |
| n-Butylbenzene | 50.0 | 43.7 | | ug/L | | 87 | 68 - 125 |
| N-Propylbenzene | 50.0 | 45.1 | | ug/L | | 90 | 69 - 127 |
| p-Isopropyltoluene | 50.0 | 45.1 | | ug/L | | 90 | 70 - 125 |
| sec-Butylbenzene | 50.0 | 44.4 | | ug/L | | 89 | 70 - 123 |
| Styrene | 50.0 | 45.1 | | ug/L | | 90 | 70 - 120 |
| tert-Butylbenzene | 50.0 | 44.5 | | ug/L | | 89 | 70 - 121 |
| Tetrachloroethene | 50.0 | 43.2 | | ug/L | | 86 | 70 - 128 |
| Toluene | 50.0 | 44.2 | | ug/L | | 88 | 70 - 125 |
| trans-1,2-Dichloroethene | 50.0 | 43.8 | | ug/L | | 88 | 70 - 125 |
| trans-1,3-Dichloropropene | 50.0 | 43.7 | | ug/L | | 87 | 62 - 128 |
| Trichloroethene | 50.0 | 47.4 | | ug/L | | 95 | 70 - 125 |
| Trichlorofluoromethane | 50.0 | 47.0 | | ug/L | | 94 | 55 - 128 |
| Vinyl chloride | 50.0 | 43.2 | | ug/L | | 86 | 64 - 126 |
| Xylenes, Total | 100 | 88.2 | | ug/L | | 88 | 70 - 125 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *115* | | *75 - 126* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *72 - 124* |
| *Dibromofluoromethane* | *103* | | *75 - 120* |
| *Toluene-d8 (Surr)* | *101* | | *75 - 120* |

# Lab Chronicle

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Client Sample ID: HP-2
**Lab Sample ID: 500-170610-1**
**Date Collected: 09/24/19 09:00**
**Matrix: Water**
**Date Received: 09/25/19 09:10**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 508687 | 10/07/19 16:20 | JLC | TAL CHI |
| Total/NA | Analysis | 8260B | DL | 10 | 508687 | 10/07/19 16:46 | JLC | TAL CHI |

## Client Sample ID: HP-3
**Lab Sample ID: 500-170610-2**
**Date Collected: 09/24/19 09:45**
**Matrix: Water**
**Date Received: 09/25/19 09:10**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 508687 | 10/07/19 17:12 | JLC | TAL CHI |

## Client Sample ID: HP-4
**Lab Sample ID: 500-170610-3**
**Date Collected: 09/24/19 10:45**
**Matrix: Water**
**Date Received: 09/25/19 09:10**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 508687 | 10/07/19 17:38 | JLC | TAL CHI |

## Client Sample ID: HP-5
**Lab Sample ID: 500-170610-4**
**Date Collected: 09/24/19 11:45**
**Matrix: Water**
**Date Received: 09/25/19 09:10**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 508687 | 10/07/19 18:04 | JLC | TAL CHI |

## Client Sample ID: Trip Blank
**Lab Sample ID: 500-170610-6**
**Date Collected: 09/24/19 00:00**
**Matrix: Water**
**Date Received: 09/25/19 09:10**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 508687 | 10/07/19 18:56 | JLC | TAL CHI |

**Laboratory References:**
TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# Accreditation/Certification Summary

Client: Ramboll US Corporation
Project/Site: Shur-Line

Job ID: 500-170610-1

## Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Wisconsin | State Program | 999580010 | 08-31-20 |

**Eurofins TestAmerica, Chicago**
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

# Chain of Custody Record

eurofins Environment Testing TestAmerica

| Client Information | Sampler: Tyler Burgett | Lab PM: Fredrick, Sandie | Carrier Tracking No(s): | COC No: 500-74569-34747.1 |
|---|---|---|---|---|
| Client Contact: Susan Petrofske | Phone: 608-498-1092 | E-Mail: sandie.fredrick@testamericainc.com | | Page: Page 1 of 1 |
| Company: Ramboll US Corporation | | | | Job #: 500-170610 |
| Address: 175 North Corporate Drive Suite 160 | Due Date Requested: | | | |
| City: Brookfield | TAT Requested (days): | | | |
| State, Zip: WI, 53045 | | | | |
| Phone: 262-901-3501 | PO #: Purchase Order not required | | | |
| Email: SPETROFSKE@ramboll.com | WO #: | | | |
| Project Name: Shur-Line | Project #: 50013868 | | | |
| Site: | SSOW#: | | | |

500-170610 COC

**Analysis Requested**

**Preservation Codes:**
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

| | Sample Identification | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 8260B - VOCs | 8260B - VOCs - Trip Blank | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Preservation Code: | | | | A | A | | |
| 1 | HP-2 | 9/24/19 | 0900 | G | Water | | | X | | | |
| 2 | HP-3 | 9/24/19 | 0945 | G | Water | | | X | | | |
| 3 | HP-4 | 9/24/19 | 1045 | G | Water | | | X | | | |
| 4 | HP-5 | 9/24/19 | 1145 | G | Water | | | X | | | |
| 6 | TRIP BLANK | 9/24/19 | | | Water | | | | X | | |
| | TEMP BLANK | 9/24/19 | | | Water | | | | | | |
| | | | | | Water | | | | | | |

*Possible Hazard Identification*
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

*Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)*
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

| Relinquished by | Date/Time | Company | Received by | Date/Time | Company |
|---|---|---|---|---|---|
| Mitchell Lauenhagen | 9/24/19 1432 | Ramboll | [illegible] | 9/24/19 1502 | |
| [illegible] | 9-24-19 1700 | TA | Shun Scott | 9/25/19 0910 | TA-CHI |
| | | | | | |

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 0.9 → 1.9



10/8/2019
Ver: 01/16/2019

# Login Sample Receipt Checklist

Client: Ramboll US Corporation

Job Number: 500-170610-1

**Login Number: 170610**
**List Number: 1**
**Creator: Scott, Sherri L**

**List Source: Eurofins TestAmerica, Chicago**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 1.9 |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |