

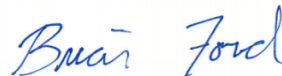
August 15, 2018

## Cascade Corporation- Fairview, OR

Sample Delivery Group: L1016195  
Samples Received: 08/09/2018  
Project Number: PNG0564  
Description: Cascade TSA

Report To: Cindy Bartlett  
2201 NE 201st Avenue  
Fairview, OR 97024-9718

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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# SAMPLE SUMMARY



## TS-C-INF-080818 L1016195-01 GW

| Method   | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst |
|--|-----------|----------|-----------------------|--------------------|---------|
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG1150348 | 1        | 08/09/18 22:30        | 08/09/18 22:30     | PP      |

Collected by PY/DT      Collected date/time      Received date/time  
 08/08/18 12:05      08/09/18 08:45

<sup>1</sup> Cp

## TS-C-EFF-080818 L1016195-02 GW

| Method   | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst |
|--|-----------|----------|-----------------------|--------------------|---------|
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG1150348 | 1        | 08/09/18 22:50        | 08/09/18 22:50     | PP      |

Collected by PY/DT      Collected date/time      Received date/time  
 08/08/18 12:10      08/09/18 08:45

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

## TS-C-EFF-080818-DUP L1016195-03 GW

| Method   | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst |
|--|-----------|----------|-----------------------|--------------------|---------|
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG1150348 | 1        | 08/09/18 23:10        | 08/09/18 23:10     | PP      |

Collected by PY/DT      Collected date/time      Received date/time  
 08/08/18 12:11      08/09/18 08:45

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

## TRIP BLANK #404 L1016195-04 GW

| Method   | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst |
|--|-----------|----------|-----------------------|--------------------|---------|
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG1150348 | 1        | 08/09/18 22:10        | 08/09/18 22:10     | PP      |

Collected by PY/DT      Collected date/time      Received date/time  
 08/08/18 00:00      08/09/18 08:45

<sup>8</sup> Al

<sup>9</sup> Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford  
Project Manager

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

| Analyte                        | Result | Qualifier | RDL   | Dilution | Analysis         | Batch     |
|--------------------------------|--------|-----------|-------|----------|------------------|-----------|
|                                | ug/l   |           | ug/l  |          | date / time      |           |
| Acetone                        | ND     |           | 25.0  | 1        | 08/09/2018 22:30 | WG1150348 |
| Acrolein                       | ND     |           | 50.0  | 1        | 08/09/2018 22:30 | WG1150348 |
| Acrylonitrile                  | ND     |           | 5.00  | 1        | 08/09/2018 22:30 | WG1150348 |
| Benzene                        | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Bromobenzene                   | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Bromodichloromethane           | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Bromoform                      | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Bromomethane                   | ND     |           | 2.50  | 1        | 08/09/2018 22:30 | WG1150348 |
| n-Butylbenzene                 | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| sec-Butylbenzene               | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| tert-Butylbenzene              | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Carbon disulfide               | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Carbon tetrachloride           | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Chlorobenzene                  | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Chlorodibromomethane           | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Chloroethane                   | ND     |           | 2.50  | 1        | 08/09/2018 22:30 | WG1150348 |
| Chloroform                     | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Chloromethane                  | ND     |           | 1.25  | 1        | 08/09/2018 22:30 | WG1150348 |
| 2-Chlorotoluene                | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 4-Chlorotoluene                | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,2-Dibromo-3-Chloropropane    | ND     |           | 2.50  | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,2-Dibromoethane              | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Dibromomethane                 | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,2-Dichlorobenzene            | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,3-Dichlorobenzene            | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,4-Dichlorobenzene            | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Dichlorodifluoromethane        | ND     |           | 2.50  | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,1-Dichloroethane             | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,2-Dichloroethane             | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,1-Dichloroethene             | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| cis-1,2-Dichloroethene         | 0.579  |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| trans-1,2-Dichloroethene       | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,2-Dichloropropane            | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,1-Dichloropropene            | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,3-Dichloropropane            | ND     |           | 1.00  | 1        | 08/09/2018 22:30 | WG1150348 |
| cis-1,3-Dichloropropene        | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| trans-1,3-Dichloropropene      | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 2,2-Dichloropropane            | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Di-isopropyl ether             | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Ethylbenzene                   | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Hexachloro-1,3-butadiene       | ND     |           | 1.00  | 1        | 08/09/2018 22:30 | WG1150348 |
| Isopropylbenzene               | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| p-Isopropyltoluene             | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 2-Butanone (MEK)               | ND     |           | 5.00  | 1        | 08/09/2018 22:30 | WG1150348 |
| Methylene Chloride             | ND     |           | 2.50  | 1        | 08/09/2018 22:30 | WG1150348 |
| 4-Methyl-2-pentanone (MIBK)    | ND     |           | 5.00  | 1        | 08/09/2018 22:30 | WG1150348 |
| Methyl tert-butyl ether        | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Naphthalene                    | ND     |           | 2.50  | 1        | 08/09/2018 22:30 | WG1150348 |
| n-Propylbenzene                | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Styrene                        | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,1,1,2-Tetrachloroethane      | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,1,2,2-Tetrachloroethane      | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,1,2-Trichlorotrifluoroethane | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Tetrachloroethene              | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| Toluene                        | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |
| 1,2,3-Trichlorobenzene         | ND     |           | 0.500 | 1        | 08/09/2018 22:30 | WG1150348 |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

| Analyte                  | Result<br>ug/l | Qualifier | RDL<br>ug/l | Dilution | Analysis<br>date / time | Batch                     |
|--------------------------|----------------|-----------|-------------|----------|-------------------------|---------------------------|
| 1,2,4-Trichlorobenzene   | ND             |           | 0.500       | 1        | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| 1,1,1-Trichloroethane    | ND             |           | 0.500       | 1        | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| 1,1,2-Trichloroethane    | ND             |           | 0.500       | 1        | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| Trichloroethene          | 5.56           |           | 0.500       | 1        | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| Trichlorofluoromethane   | ND             |           | 2.50        | 1        | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| 1,2,3-Trichloropropane   | ND             |           | 2.50        | 1        | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| 1,2,4-Trimethylbenzene   | ND             |           | 0.500       | 1        | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| 1,2,3-Trimethylbenzene   | ND             |           | 0.500       | 1        | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| 1,3,5-Trimethylbenzene   | ND             |           | 0.500       | 1        | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| Vinyl chloride           | ND             |           | 0.500       | 1        | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| Xylenes, Total           | ND             |           | 1.50        | 1        | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| (S) Toluene-d8           | 108            |           | 80.0-120    |          | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| (S) Dibromofluoromethane | 99.7           |           | 76.0-123    |          | 08/09/2018 22:30        | <a href="#">WG1150348</a> |
| (S) 4-Bromofluorobenzene | 86.5           |           | 80.0-120    |          | 08/09/2018 22:30        | <a href="#">WG1150348</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

| Analyte                        | Result | Qualifier | RDL   | Dilution | Analysis         | Batch     |
|--------------------------------|--------|-----------|-------|----------|------------------|-----------|
|                                | ug/l   |           | ug/l  |          | date / time      |           |
| Acetone                        | ND     |           | 25.0  | 1        | 08/09/2018 22:50 | WG1150348 |
| Acrolein                       | ND     |           | 50.0  | 1        | 08/09/2018 22:50 | WG1150348 |
| Acrylonitrile                  | ND     |           | 5.00  | 1        | 08/09/2018 22:50 | WG1150348 |
| Benzene                        | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Bromobenzene                   | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Bromodichloromethane           | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Bromoform                      | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Bromomethane                   | ND     |           | 2.50  | 1        | 08/09/2018 22:50 | WG1150348 |
| n-Butylbenzene                 | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| sec-Butylbenzene               | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| tert-Butylbenzene              | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Carbon disulfide               | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Carbon tetrachloride           | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Chlorobenzene                  | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Chlorodibromomethane           | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Chloroethane                   | ND     |           | 2.50  | 1        | 08/09/2018 22:50 | WG1150348 |
| Chloroform                     | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Chloromethane                  | ND     |           | 1.25  | 1        | 08/09/2018 22:50 | WG1150348 |
| 2-Chlorotoluene                | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 4-Chlorotoluene                | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,2-Dibromo-3-Chloropropane    | ND     |           | 2.50  | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,2-Dibromoethane              | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Dibromomethane                 | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,2-Dichlorobenzene            | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,3-Dichlorobenzene            | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,4-Dichlorobenzene            | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Dichlorodifluoromethane        | ND     |           | 2.50  | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,1-Dichloroethane             | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,2-Dichloroethane             | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,1-Dichloroethene             | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| cis-1,2-Dichloroethene         | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| trans-1,2-Dichloroethene       | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,2-Dichloropropane            | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,1-Dichloropropene            | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,3-Dichloropropane            | ND     |           | 1.00  | 1        | 08/09/2018 22:50 | WG1150348 |
| cis-1,3-Dichloropropene        | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| trans-1,3-Dichloropropene      | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 2,2-Dichloropropane            | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Di-isopropyl ether             | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Ethylbenzene                   | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Hexachloro-1,3-butadiene       | ND     |           | 1.00  | 1        | 08/09/2018 22:50 | WG1150348 |
| Isopropylbenzene               | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| p-Isopropyltoluene             | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 2-Butanone (MEK)               | ND     |           | 5.00  | 1        | 08/09/2018 22:50 | WG1150348 |
| Methylene Chloride             | ND     |           | 2.50  | 1        | 08/09/2018 22:50 | WG1150348 |
| 4-Methyl-2-pentanone (MIBK)    | ND     |           | 5.00  | 1        | 08/09/2018 22:50 | WG1150348 |
| Methyl tert-butyl ether        | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Naphthalene                    | ND     |           | 2.50  | 1        | 08/09/2018 22:50 | WG1150348 |
| n-Propylbenzene                | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Styrene                        | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,1,1,2-Tetrachloroethane      | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,1,2,2-Tetrachloroethane      | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,1,2-Trichlorotrifluoroethane | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Tetrachloroethene              | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| Toluene                        | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |
| 1,2,3-Trichlorobenzene         | ND     |           | 0.500 | 1        | 08/09/2018 22:50 | WG1150348 |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

| Analyte                  | Result<br>ug/l | Qualifier | RDL<br>ug/l | Dilution | Analysis<br>date / time | Batch                     |
|--------------------------|----------------|-----------|-------------|----------|-------------------------|---------------------------|
| 1,2,4-Trichlorobenzene   | ND             |           | 0.500       | 1        | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| 1,1,1-Trichloroethane    | ND             |           | 0.500       | 1        | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| 1,1,2-Trichloroethane    | ND             |           | 0.500       | 1        | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| Trichloroethene          | ND             |           | 0.500       | 1        | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| Trichlorofluoromethane   | ND             |           | 2.50        | 1        | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| 1,2,3-Trichloropropane   | ND             |           | 2.50        | 1        | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| 1,2,4-Trimethylbenzene   | ND             |           | 0.500       | 1        | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| 1,2,3-Trimethylbenzene   | ND             |           | 0.500       | 1        | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| 1,3,5-Trimethylbenzene   | ND             |           | 0.500       | 1        | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| Vinyl chloride           | ND             |           | 0.500       | 1        | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| Xylenes, Total           | ND             |           | 1.50        | 1        | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| (S) Toluene-d8           | 108            |           | 80.0-120    |          | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| (S) Dibromofluoromethane | 101            |           | 76.0-123    |          | 08/09/2018 22:50        | <a href="#">WG1150348</a> |
| (S) 4-Bromofluorobenzene | 91.3           |           | 80.0-120    |          | 08/09/2018 22:50        | <a href="#">WG1150348</a> |

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

| Analyte                        | Result | Qualifier | RDL   | Dilution | Analysis         | Batch     |
|--------------------------------|--------|-----------|-------|----------|------------------|-----------|
|                                | ug/l   |           | ug/l  |          | date / time      |           |
| Acetone                        | ND     |           | 25.0  | 1        | 08/09/2018 23:10 | WG1150348 |
| Acrolein                       | ND     |           | 50.0  | 1        | 08/09/2018 23:10 | WG1150348 |
| Acrylonitrile                  | ND     |           | 5.00  | 1        | 08/09/2018 23:10 | WG1150348 |
| Benzene                        | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Bromobenzene                   | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Bromodichloromethane           | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Bromoform                      | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Bromomethane                   | ND     |           | 2.50  | 1        | 08/09/2018 23:10 | WG1150348 |
| n-Butylbenzene                 | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| sec-Butylbenzene               | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| tert-Butylbenzene              | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Carbon disulfide               | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Carbon tetrachloride           | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Chlorobenzene                  | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Chlorodibromomethane           | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Chloroethane                   | ND     |           | 2.50  | 1        | 08/09/2018 23:10 | WG1150348 |
| Chloroform                     | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Chloromethane                  | ND     |           | 1.25  | 1        | 08/09/2018 23:10 | WG1150348 |
| 2-Chlorotoluene                | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 4-Chlorotoluene                | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,2-Dibromo-3-Chloropropane    | ND     |           | 2.50  | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,2-Dibromoethane              | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Dibromomethane                 | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,2-Dichlorobenzene            | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,3-Dichlorobenzene            | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,4-Dichlorobenzene            | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Dichlorodifluoromethane        | ND     |           | 2.50  | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,1-Dichloroethane             | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,2-Dichloroethane             | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,1-Dichloroethene             | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| cis-1,2-Dichloroethene         | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| trans-1,2-Dichloroethene       | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,2-Dichloropropane            | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,1-Dichloropropene            | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,3-Dichloropropane            | ND     |           | 1.00  | 1        | 08/09/2018 23:10 | WG1150348 |
| cis-1,3-Dichloropropene        | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| trans-1,3-Dichloropropene      | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 2,2-Dichloropropane            | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Di-isopropyl ether             | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Ethylbenzene                   | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Hexachloro-1,3-butadiene       | ND     |           | 1.00  | 1        | 08/09/2018 23:10 | WG1150348 |
| Isopropylbenzene               | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| p-Isopropyltoluene             | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 2-Butanone (MEK)               | ND     |           | 5.00  | 1        | 08/09/2018 23:10 | WG1150348 |
| Methylene Chloride             | ND     |           | 2.50  | 1        | 08/09/2018 23:10 | WG1150348 |
| 4-Methyl-2-pentanone (MIBK)    | ND     |           | 5.00  | 1        | 08/09/2018 23:10 | WG1150348 |
| Methyl tert-butyl ether        | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Naphthalene                    | ND     |           | 2.50  | 1        | 08/09/2018 23:10 | WG1150348 |
| n-Propylbenzene                | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Styrene                        | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,1,1,2-Tetrachloroethane      | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,1,2,2-Tetrachloroethane      | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,1,2-Trichlorotrifluoroethane | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Tetrachloroethene              | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| Toluene                        | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |
| 1,2,3-Trichlorobenzene         | ND     |           | 0.500 | 1        | 08/09/2018 23:10 | WG1150348 |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

| Analyte                  | Result<br>ug/l | Qualifier | RDL<br>ug/l | Dilution | Analysis<br>date / time | Batch                     |
|--------------------------|----------------|-----------|-------------|----------|-------------------------|---------------------------|
| 1,2,4-Trichlorobenzene   | ND             |           | 0.500       | 1        | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| 1,1,1-Trichloroethane    | ND             |           | 0.500       | 1        | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| 1,1,2-Trichloroethane    | ND             |           | 0.500       | 1        | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| Trichloroethene          | ND             |           | 0.500       | 1        | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| Trichlorofluoromethane   | ND             |           | 2.50        | 1        | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| 1,2,3-Trichloropropane   | ND             |           | 2.50        | 1        | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| 1,2,4-Trimethylbenzene   | ND             |           | 0.500       | 1        | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| 1,2,3-Trimethylbenzene   | ND             |           | 0.500       | 1        | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| 1,3,5-Trimethylbenzene   | ND             |           | 0.500       | 1        | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| Vinyl chloride           | ND             |           | 0.500       | 1        | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| Xylenes, Total           | ND             |           | 1.50        | 1        | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| (S) Toluene-d8           | 104            |           | 80.0-120    |          | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| (S) Dibromofluoromethane | 99.7           |           | 76.0-123    |          | 08/09/2018 23:10        | <a href="#">WG1150348</a> |
| (S) 4-Bromofluorobenzene | 89.2           |           | 80.0-120    |          | 08/09/2018 23:10        | <a href="#">WG1150348</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

| Analyte                        | Result | Qualifier | RDL   | Dilution | Analysis         | Batch     |
|--------------------------------|--------|-----------|-------|----------|------------------|-----------|
|                                | ug/l   |           | ug/l  |          | date / time      |           |
| Acetone                        | ND     |           | 25.0  | 1        | 08/09/2018 22:10 | WG1150348 |
| Acrolein                       | ND     |           | 50.0  | 1        | 08/09/2018 22:10 | WG1150348 |
| Acrylonitrile                  | ND     |           | 5.00  | 1        | 08/09/2018 22:10 | WG1150348 |
| Benzene                        | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Bromobenzene                   | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Bromodichloromethane           | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Bromoform                      | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Bromomethane                   | ND     |           | 2.50  | 1        | 08/09/2018 22:10 | WG1150348 |
| n-Butylbenzene                 | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| sec-Butylbenzene               | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| tert-Butylbenzene              | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Carbon disulfide               | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Carbon tetrachloride           | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Chlorobenzene                  | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Chlorodibromomethane           | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Chloroethane                   | ND     |           | 2.50  | 1        | 08/09/2018 22:10 | WG1150348 |
| Chloroform                     | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Chloromethane                  | ND     |           | 1.25  | 1        | 08/09/2018 22:10 | WG1150348 |
| 2-Chlorotoluene                | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 4-Chlorotoluene                | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,2-Dibromo-3-Chloropropane    | ND     |           | 2.50  | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,2-Dibromoethane              | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Dibromomethane                 | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,2-Dichlorobenzene            | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,3-Dichlorobenzene            | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,4-Dichlorobenzene            | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Dichlorodifluoromethane        | ND     |           | 2.50  | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,1-Dichloroethane             | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,2-Dichloroethane             | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,1-Dichloroethene             | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| cis-1,2-Dichloroethene         | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| trans-1,2-Dichloroethene       | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,2-Dichloropropane            | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,1-Dichloropropene            | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,3-Dichloropropane            | ND     |           | 1.00  | 1        | 08/09/2018 22:10 | WG1150348 |
| cis-1,3-Dichloropropene        | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| trans-1,3-Dichloropropene      | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 2,2-Dichloropropane            | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Di-isopropyl ether             | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Ethylbenzene                   | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Hexachloro-1,3-butadiene       | ND     |           | 1.00  | 1        | 08/09/2018 22:10 | WG1150348 |
| Isopropylbenzene               | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| p-Isopropyltoluene             | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 2-Butanone (MEK)               | ND     |           | 5.00  | 1        | 08/09/2018 22:10 | WG1150348 |
| Methylene Chloride             | ND     |           | 2.50  | 1        | 08/09/2018 22:10 | WG1150348 |
| 4-Methyl-2-pentanone (MIBK)    | ND     |           | 5.00  | 1        | 08/09/2018 22:10 | WG1150348 |
| Methyl tert-butyl ether        | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Naphthalene                    | ND     |           | 2.50  | 1        | 08/09/2018 22:10 | WG1150348 |
| n-Propylbenzene                | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Styrene                        | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,1,1,2-Tetrachloroethane      | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,1,2,2-Tetrachloroethane      | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,1,2-Trichlorotrifluoroethane | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Tetrachloroethene              | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| Toluene                        | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |
| 1,2,3-Trichlorobenzene         | ND     |           | 0.500 | 1        | 08/09/2018 22:10 | WG1150348 |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 08/08/18 00:00

L1016195

Volatile Organic Compounds (GC/MS) by Method 8260B

| Analyte                  | Result<br>ug/l | Qualifier | RDL<br>ug/l | Dilution | Analysis<br>date / time | Batch                     |
|--------------------------|----------------|-----------|-------------|----------|-------------------------|---------------------------|
| 1,2,4-Trichlorobenzene   | ND             |           | 0.500       | 1        | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| 1,1,1-Trichloroethane    | ND             |           | 0.500       | 1        | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| 1,1,2-Trichloroethane    | ND             |           | 0.500       | 1        | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| Trichloroethene          | ND             |           | 0.500       | 1        | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| Trichlorofluoromethane   | ND             |           | 2.50        | 1        | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| 1,2,3-Trichloropropane   | ND             |           | 2.50        | 1        | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| 1,2,4-Trimethylbenzene   | ND             |           | 0.500       | 1        | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| 1,2,3-Trimethylbenzene   | ND             |           | 0.500       | 1        | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| 1,3,5-Trimethylbenzene   | ND             |           | 0.500       | 1        | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| Vinyl chloride           | ND             |           | 0.500       | 1        | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| Xylenes, Total           | ND             |           | 1.50        | 1        | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| (S) Toluene-d8           | 108            |           | 80.0-120    |          | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| (S) Dibromofluoromethane | 99.5           |           | 76.0-123    |          | 08/09/2018 22:10        | <a href="#">WG1150348</a> |
| (S) 4-Bromofluorobenzene | 87.7           |           | 80.0-120    |          | 08/09/2018 22:10        | <a href="#">WG1150348</a> |

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Method Blank (MB)

(MB) R3333590-2 08/09/18 21:36

| Analyte                     | MB Result<br>ug/l | MB Qualifier | MB MDL<br>ug/l | MB RDL<br>ug/l |
|-----------------------------|-------------------|--------------|----------------|----------------|
| Acetone                     | U                 |              | 1.05           | 25.0           |
| Acrolein                    | U                 |              | 3.97           | 50.0           |
| Acrylonitrile               | U                 |              | 0.873          | 5.00           |
| Benzene                     | U                 |              | 0.0896         | 0.500          |
| Bromobenzene                | U                 |              | 0.133          | 0.500          |
| Bromodichloromethane        | U                 |              | 0.0800         | 0.500          |
| Bromoform                   | U                 |              | 0.186          | 0.500          |
| Bromomethane                | U                 |              | 0.157          | 2.50           |
| n-Butylbenzene              | U                 |              | 0.143          | 0.500          |
| sec-Butylbenzene            | U                 |              | 0.134          | 0.500          |
| tert-Butylbenzene           | U                 |              | 0.183          | 0.500          |
| Carbon disulfide            | U                 |              | 0.101          | 0.500          |
| Carbon tetrachloride        | U                 |              | 0.159          | 0.500          |
| Chlorobenzene               | U                 |              | 0.140          | 0.500          |
| Chlorodibromomethane        | U                 |              | 0.128          | 0.500          |
| Chloroethane                | U                 |              | 0.141          | 2.50           |
| Chloroform                  | U                 |              | 0.0860         | 0.500          |
| Chloromethane               | U                 |              | 0.153          | 1.25           |
| 2-Chlorotoluene             | U                 |              | 0.111          | 0.500          |
| 4-Chlorotoluene             | U                 |              | 0.0972         | 0.500          |
| 1,2-Dibromo-3-Chloropropane | U                 |              | 0.325          | 2.50           |
| 1,2-Dibromoethane           | U                 |              | 0.193          | 0.500          |
| Dibromomethane              | U                 |              | 0.117          | 0.500          |
| 1,2-Dichlorobenzene         | U                 |              | 0.101          | 0.500          |
| 1,3-Dichlorobenzene         | U                 |              | 0.130          | 0.500          |
| 1,4-Dichlorobenzene         | U                 |              | 0.121          | 0.500          |
| Dichlorodifluoromethane     | U                 |              | 0.127          | 2.50           |
| 1,1-Dichloroethane          | U                 |              | 0.114          | 0.500          |
| 1,2-Dichloroethane          | U                 |              | 0.108          | 0.500          |
| 1,1-Dichloroethene          | U                 |              | 0.188          | 0.500          |
| cis-1,2-Dichloroethene      | U                 |              | 0.0933         | 0.500          |
| trans-1,2-Dichloroethene    | U                 |              | 0.152          | 0.500          |
| 1,2-Dichloropropane         | U                 |              | 0.190          | 0.500          |
| 1,1-Dichloropropene         | U                 |              | 0.128          | 0.500          |
| 1,3-Dichloropropane         | U                 |              | 0.147          | 1.00           |
| cis-1,3-Dichloropropene     | U                 |              | 0.0976         | 0.500          |
| trans-1,3-Dichloropropene   | U                 |              | 0.222          | 0.500          |
| 2,2-Dichloropropane         | U                 |              | 0.0929         | 0.500          |
| Di-isopropyl ether          | U                 |              | 0.0924         | 0.500          |
| Ethylbenzene                | U                 |              | 0.158          | 0.500          |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3333590-2 08/09/18 21:36

| Analyte                        | MB Result<br>ug/l | MB Qualifier | MB MDL<br>ug/l | MB RDL<br>ug/l |
|--------------------------------|-------------------|--------------|----------------|----------------|
| Hexachloro-1,3-butadiene       | U                 |              | 0.157          | 1.00           |
| Isopropylbenzene               | U                 |              | 0.126          | 0.500          |
| p-Isopropyltoluene             | U                 |              | 0.138          | 0.500          |
| 2-Butanone (MEK)               | U                 |              | 1.28           | 5.00           |
| Methylene Chloride             | U                 |              | 1.07           | 2.50           |
| 4-Methyl-2-pentanone (MIBK)    | U                 |              | 0.823          | 5.00           |
| Methyl tert-butyl ether        | U                 |              | 0.102          | 0.500          |
| Naphthalene                    | U                 |              | 0.174          | 2.50           |
| n-Propylbenzene                | U                 |              | 0.162          | 0.500          |
| Styrene                        | U                 |              | 0.117          | 0.500          |
| 1,1,1,2-Tetrachloroethane      | U                 |              | 0.120          | 0.500          |
| 1,1,2,2-Tetrachloroethane      | U                 |              | 0.130          | 0.500          |
| 1,1,2-Trichlorotrifluoroethane | U                 |              | 0.164          | 0.500          |
| Tetrachloroethene              | U                 |              | 0.199          | 0.500          |
| Toluene                        | U                 |              | 0.412          | 0.500          |
| 1,2,3-Trichlorobenzene         | U                 |              | 0.164          | 0.500          |
| 1,2,4-Trichlorobenzene         | U                 |              | 0.355          | 0.500          |
| 1,1,1-Trichloroethane          | U                 |              | 0.0940         | 0.500          |
| 1,1,2-Trichloroethane          | U                 |              | 0.186          | 0.500          |
| Trichloroethene                | U                 |              | 0.153          | 0.500          |
| Trichlorofluoromethane         | U                 |              | 0.130          | 2.50           |
| 1,2,3-Trichloropropane         | U                 |              | 0.247          | 2.50           |
| 1,2,4-Trimethylbenzene         | U                 |              | 0.123          | 0.500          |
| 1,2,3-Trimethylbenzene         | U                 |              | 0.0739         | 0.500          |
| 1,3,5-Trimethylbenzene         | U                 |              | 0.124          | 0.500          |
| Vinyl chloride                 | U                 |              | 0.118          | 0.500          |
| Xylenes, Total                 | U                 |              | 0.316          | 1.50           |
| (S) Toluene-d8                 | 108               |              |                | 80.0-120       |
| (S) Dibromofluoromethane       | 101               |              |                | 76.0-123       |
| (S) 4-Bromofluorobenzene       | 93.0              |              |                | 80.0-120       |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3333590-1 08/09/18 20:56

| Analyte       | Spike Amount<br>ug/l | LCS Result<br>ug/l | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|---------------|----------------------|--------------------|---------------|------------------|---------------|
| Acetone       | 125                  | 125                | 100           | 10.0-160         |               |
| Acrolein      | 125                  | 122                | 97.7          | 10.0-160         |               |
| Acrylonitrile | 125                  | 109                | 87.4          | 60.0-142         |               |



Laboratory Control Sample (LCS)

(LCS) R3333590-1 08/09/18 20:56

| Analyte                     | Spike Amount<br>ug/l | LCS Result<br>ug/l | LCS Rec.<br>% | Rec. Limits<br>% | <u>LCS Qualifier</u> |
|-----------------------------|----------------------|--------------------|---------------|------------------|----------------------|
| Benzene                     | 25.0                 | 21.7               | 86.8          | 69.0-123         |                      |
| Bromobenzene                | 25.0                 | 21.3               | 85.2          | 79.0-120         |                      |
| Bromodichloromethane        | 25.0                 | 25.7               | 103           | 76.0-120         |                      |
| Bromoform                   | 25.0                 | 24.0               | 96.0          | 67.0-132         |                      |
| Bromomethane                | 25.0                 | 26.4               | 105           | 18.0-160         |                      |
| n-Butylbenzene              | 25.0                 | 22.9               | 91.6          | 72.0-126         |                      |
| sec-Butylbenzene            | 25.0                 | 24.1               | 96.3          | 74.0-121         |                      |
| tert-Butylbenzene           | 25.0                 | 24.3               | 97.3          | 75.0-122         |                      |
| Carbon disulfide            | 25.0                 | 22.7               | 90.6          | 55.0-127         |                      |
| Carbon tetrachloride        | 25.0                 | 25.8               | 103           | 63.0-122         |                      |
| Chlorobenzene               | 25.0                 | 28.8               | 115           | 79.0-121         |                      |
| Chlorodibromomethane        | 25.0                 | 28.2               | 113           | 75.0-125         |                      |
| Chloroethane                | 25.0                 | 22.2               | 88.8          | 47.0-152         |                      |
| Chloroform                  | 25.0                 | 24.0               | 96.0          | 72.0-121         |                      |
| Chloromethane               | 25.0                 | 23.0               | 92.1          | 48.0-139         |                      |
| 2-Chlorotoluene             | 25.0                 | 23.7               | 94.9          | 74.0-122         |                      |
| 4-Chlorotoluene             | 25.0                 | 22.8               | 91.3          | 79.0-120         |                      |
| 1,2-Dibromo-3-Chloropropane | 25.0                 | 21.7               | 86.7          | 64.0-127         |                      |
| 1,2-Dibromoethane           | 25.0                 | 27.4               | 110           | 77.0-123         |                      |
| Dibromomethane              | 25.0                 | 26.2               | 105           | 78.0-120         |                      |
| 1,2-Dichlorobenzene         | 25.0                 | 24.6               | 98.2          | 80.0-120         |                      |
| 1,3-Dichlorobenzene         | 25.0                 | 25.6               | 102           | 72.0-123         |                      |
| 1,4-Dichlorobenzene         | 25.0                 | 22.8               | 91.2          | 77.0-120         |                      |
| Dichlorodifluoromethane     | 25.0                 | 31.7               | 127           | 49.0-155         |                      |
| 1,1-Dichloroethane          | 25.0                 | 21.8               | 87.2          | 70.0-126         |                      |
| 1,2-Dichloroethane          | 25.0                 | 27.6               | 110           | 67.0-126         |                      |
| 1,1-Dichloroethene          | 25.0                 | 22.4               | 89.4          | 64.0-129         |                      |
| cis-1,2-Dichloroethene      | 25.0                 | 21.6               | 86.3          | 73.0-120         |                      |
| trans-1,2-Dichloroethene    | 25.0                 | 22.6               | 90.2          | 71.0-121         |                      |
| 1,2-Dichloropropane         | 25.0                 | 23.1               | 92.4          | 75.0-125         |                      |
| 1,1-Dichloropropene         | 25.0                 | 24.0               | 96.1          | 71.0-129         |                      |
| 1,3-Dichloropropane         | 25.0                 | 26.8               | 107           | 80.0-121         |                      |
| cis-1,3-Dichloropropene     | 25.0                 | 26.8               | 107           | 79.0-123         |                      |
| trans-1,3-Dichloropropene   | 25.0                 | 29.1               | 116           | 74.0-127         |                      |
| 2,2-Dichloropropane         | 25.0                 | 24.5               | 98.2          | 60.0-125         |                      |
| Di-isopropyl ether          | 25.0                 | 22.1               | 88.4          | 59.0-133         |                      |
| Ethylbenzene                | 25.0                 | 29.1               | 117           | 77.0-120         |                      |
| Hexachloro-1,3-butadiene    | 25.0                 | 24.3               | 97.3          | 64.0-131         |                      |
| Isopropylbenzene            | 25.0                 | 22.2               | 88.9          | 75.0-120         |                      |
| p-Isopropyltoluene          | 25.0                 | 24.0               | 96.2          | 74.0-126         |                      |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Laboratory Control Sample (LCS)

(LCS) R3333590-1 08/09/18 20:56

| Analyte                        | Spike Amount<br>ug/l | LCS Result<br>ug/l | LCS Rec.<br>% | Rec. Limits<br>% | <u>LCS Qualifier</u> |
|--------------------------------|----------------------|--------------------|---------------|------------------|----------------------|
| 2-Butanone (MEK)               | 125                  | 108                | 86.6          | 37.0-158         |                      |
| Methylene Chloride             | 25.0                 | 21.3               | 85.3          | 66.0-121         |                      |
| 4-Methyl-2-pentanone (MIBK)    | 125                  | 130                | 104           | 59.0-143         |                      |
| Methyl tert-butyl ether        | 25.0                 | 23.9               | 95.5          | 64.0-123         |                      |
| Naphthalene                    | 25.0                 | 23.6               | 94.3          | 62.0-128         |                      |
| n-Propylbenzene                | 25.0                 | 23.5               | 94.2          | 79.0-120         |                      |
| Styrene                        | 25.0                 | 21.7               | 86.7          | 78.0-124         |                      |
| 1,1,1,2-Tetrachloroethane      | 25.0                 | 29.5               | 118           | 75.0-122         |                      |
| 1,1,2,2-Tetrachloroethane      | 25.0                 | 21.0               | 84.1          | 71.0-122         |                      |
| 1,1,2-Trichlorotrifluoroethane | 25.0                 | 25.8               | 103           | 61.0-136         |                      |
| Tetrachloroethene              | 25.0                 | 31.1               | 124           | 70.0-127         |                      |
| Toluene                        | 25.0                 | 26.7               | 107           | 77.0-120         |                      |
| 1,2,3-Trichlorobenzene         | 25.0                 | 23.8               | 95.1          | 61.0-133         |                      |
| 1,2,4-Trichlorobenzene         | 25.0                 | 23.8               | 95.0          | 69.0-129         |                      |
| 1,1,1-Trichloroethane          | 25.0                 | 26.2               | 105           | 68.0-122         |                      |
| 1,1,2-Trichloroethane          | 25.0                 | 26.6               | 107           | 78.0-120         |                      |
| Trichloroethene                | 25.0                 | 25.6               | 102           | 78.0-120         |                      |
| Trichlorofluoromethane         | 25.0                 | 29.5               | 118           | 56.0-137         |                      |
| 1,2,3-Trichloropropane         | 25.0                 | 25.0               | 100           | 72.0-124         |                      |
| 1,2,4-Trimethylbenzene         | 25.0                 | 24.2               | 96.7          | 75.0-120         |                      |
| 1,2,3-Trimethylbenzene         | 25.0                 | 24.0               | 95.9          | 75.0-120         |                      |
| 1,3,5-Trimethylbenzene         | 25.0                 | 22.6               | 90.4          | 75.0-120         |                      |
| Vinyl chloride                 | 25.0                 | 24.0               | 95.9          | 64.0-133         |                      |
| Xylenes, Total                 | 75.0                 | 85.1               | 113           | 77.0-120         |                      |
| (S) Toluene-d8                 |                      |                    | 111           | 80.0-120         |                      |
| (S) Dibromofluoromethane       |                      |                    | 98.8          | 76.0-123         |                      |
| (S) 4-Bromofluorobenzene       |                      |                    | 88.6          | 80.0-120         |                      |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

|                              |  |
|------------------------------|--|
| MDL                          | Method Detection Limit.  |
| ND                           | Not detected at the Reporting Limit (or MDL where applicable).   |
| RDL                          | Reported Detection Limit.  |
| Rec.                         | Recovery.  |
| RPD                          | Relative Percent Difference.   |
| SDG                          | Sample Delivery Group.   |
| (S)                          | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.   |
| U                            | Not detected at the Reporting Limit (or MDL where applicable).   |
| Analyte                      | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.   |
| Dilution                     | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.  |
| Limits                       | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.  |
| Qualifier                    | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.  |
| Result                       | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Case Narrative (Cn)          | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.  |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.  |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.  |
| Sample Results (Sr)          | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.   |
| Sample Summary (Ss)          | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.  |

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.  
 \* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

|                         |             |                             |                   |
|-------------------------|-------------|-----------------------------|-------------------|
| Alabama                 | 40660       | Nebraska                    | NE-OS-15-05       |
| Alaska                  | 17-026      | Nevada                      | TN-03-2002-34     |
| Arizona                 | AZ0612      | New Hampshire               | 2975              |
| Arkansas                | 88-0469     | New Jersey-NELAP            | TN002             |
| California              | 2932        | New Mexico <sup>1</sup>     | n/a               |
| Colorado                | TN00003     | New York                    | 11742             |
| Connecticut             | PH-0197     | North Carolina              | Env375            |
| Florida                 | E87487      | North Carolina <sup>1</sup> | DW21704           |
| Georgia                 | NELAP       | North Carolina <sup>3</sup> | 41                |
| Georgia <sup>1</sup>    | 923         | North Dakota                | R-140             |
| Idaho                   | TN00003     | Ohio-VAP                    | CL0069            |
| Illinois                | 200008      | Oklahoma                    | 9915              |
| Indiana                 | C-TN-01     | Oregon                      | TN200002          |
| Iowa                    | 364         | Pennsylvania                | 68-02979          |
| Kansas                  | E-10277     | Rhode Island                | LA000356          |
| Kentucky <sup>1,6</sup> | 90010       | South Carolina              | 84004             |
| Kentucky <sup>2</sup>   | 16          | South Dakota                | n/a               |
| Louisiana               | AI30792     | Tennessee <sup>1,4</sup>    | 2006              |
| Louisiana <sup>1</sup>  | LA180010    | Texas                       | T 104704245-17-14 |
| Maine                   | TN0002      | Texas <sup>5</sup>          | LAB0152           |
| Maryland                | 324         | Utah                        | TN00003           |
| Massachusetts           | M-TN003     | Vermont                     | VT2006            |
| Michigan                | 9958        | Virginia                    | 460132            |
| Minnesota               | 047-999-395 | Washington                  | C847              |
| Mississippi             | TN00003     | West Virginia               | 233               |
| Missouri                | 340         | Wisconsin                   | 9980939910        |
| Montana                 | CERT0086    | Wyoming                     | A2LA              |

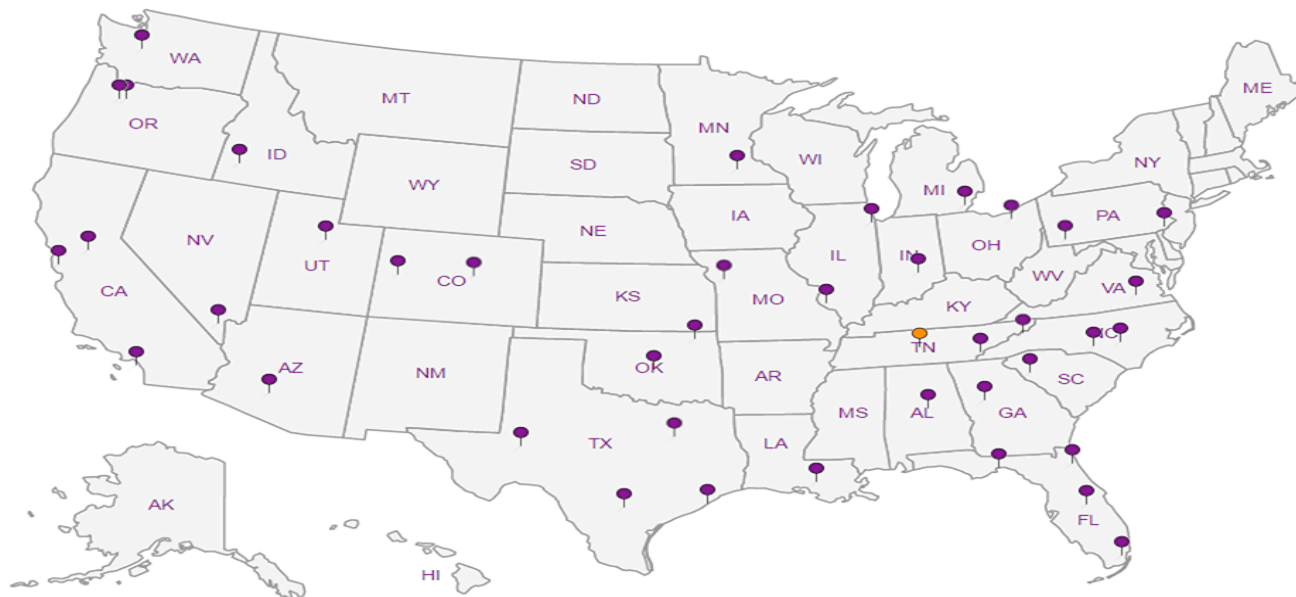
## Third Party Federal Accreditations

|                               |         |                    |               |
|-------------------------------|---------|--------------------|---------------|
| A2LA – ISO 17025              | 1461.01 | AIHA-LAP,LLC EMLAP | 100789        |
| A2LA – ISO 17025 <sup>5</sup> | 1461.02 | DOD                | 1461.01       |
| Canada                        | 1461.01 | USDA               | P330-15-00234 |
| EPA-Crypto                    | TN00003 |                    |               |

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn



5 Sr

6 Qc

7 Gl

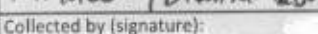
8 Al

9 Sc

|   |  |   |  |
|---|--|---|--|
| <b>Cascade Corporation- Fairview, OR</b><br>2201 NE 201st Avenue<br>Fairview, OR 97024-9718 | Billing Information:<br><b>Accounts Payable</b><br><b>P.O. Box 20187</b><br><b>Portland, OR 97294-0187</b> | Analysis / Container / Preservative<br>Pres Chk | Chain of Custody Page 1 of 2<br>   |
|   | Report to:<br><b>Cindy Bartlett</b>  | Email To: <b>CBartlett@Geosyntec.com</b>        | 12065 Lebanon Rd<br>Mount Juliet, TN 37122<br>Phone: 615-758-5858<br>Phone: 800-767-5859<br>Fax: 615-758-5859<br> |

|  |   |
|--|---|
| Project Description:<br><b>Cascade TSA</b> | City/State Collected:<br><b>Fairview OR</b> |
|--|---|

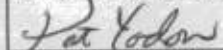
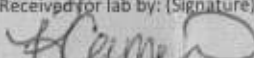
|  |                                    |   |                           |
|--|------------------------------------|---|---------------------------|
| Phone: <b>503-669-6286</b><br>Fax:                           | Client Project #<br><b>PNG0564</b> | Lab Project #<br><b>CASCORFOR-PNG0564</b> | VOCs V8260LL 40ml/Amb-HCl |
| Collected by (print):<br><b>Pat Yodan / District Manager</b> | Site/Facility ID #                 | P.O. #                                    |                           |

|   |  |         |                     |              |
|---|--|---------|---------------------|--------------|
| Collected by (signature):<br> | <b>Rush? (Lab MUST Be Notified)</b><br><input type="checkbox"/> Same Day <input type="checkbox"/> Five Day<br><input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only)<br><input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only)<br><input type="checkbox"/> Three Day | Quote # | Date Results Needed | No. of Cntrs |
| Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>                    |  |         |                     |              |

| Sample ID           | Comp/Grab | Matrix * | Depth | Date   | Time  | No. of Cntrs |   |  |  |  |  |  |  |  |  |  |  |  |
|---------------------|-----------|----------|-------|--------|-------|--------------|---|--|--|--|--|--|--|--|--|--|--|--|
| TS-C-INF-080818     |           | GW       |       | 8/8/18 | 12:05 | 3            | X |  |  |  |  |  |  |  |  |  |  |  |
| TS-C-EFF-080818     |           | GW       |       | 8/8/18 | 12:10 | 3            | X |  |  |  |  |  |  |  |  |  |  |  |
| TS-C-EFF-080818-DVD |           | GW       |       | 8/8/18 | 12:11 | 3            | X |  |  |  |  |  |  |  |  |  |  |  |
| Trip Blank #404     |           | W        |       | 8/8/18 | NA    | 1            | X |  |  |  |  |  |  |  |  |  |  |  |

L# **1016195**  
**G223**  
 Acctnum: **CASCORFOR**  
 Template: **T138629**  
 Prelogin: **P663642**  
 TSR: **110 - Brian Ford**  
 PB: **7/20/18 MB**

|  |                                  |   |   |
|--|----------------------------------|---|---|
| * Matrix:<br>SS - Soil AIR - Air F - Filter<br>GW - Groundwater B - Bioassay<br>WW - WasteWater<br>DW - Drinking Water<br>OT - Other | Remarks:                         | pH _____ Temp _____<br>Flow _____ Other _____ | <b>Sample Receipt Checklist</b><br>COC Seal Present/Intact: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N<br>COC Signed/Accurate: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N<br>Bottles arrive intact: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N<br>Correct bottles used: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N<br>Sufficient volume sent: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N<br>If Applicable<br>VOA Zero Headspace: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N<br>Preservation Correct/Checked: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N |
| Samples returned via:<br><input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier     | Tracking # <b>4492 6217 8304</b> |   |   |

|  |                        |                       |  |  |                            |                    |   |
|--|------------------------|-----------------------|--|--|----------------------------|--------------------|---|
| Relinquished by: (Signature)<br> | Date:<br><b>8/8/18</b> | Time:<br><b>13:30</b> | Received by: (Signature)<br><b>FCD EX</b>  | Trip Blank Received: Yes (No) <input checked="" type="checkbox"/> <input type="checkbox"/><br>HCl/MeOH TBR | Bottles Received: <b>9</b> | Temp: <b>4.2°C</b> | If preservation required by Login: Date/Time            |
| Relinquished by: (Signature)   | Date:                  | Time:                 | Received by: (Signature)   | Date:  | Time:                      | Hold:              | Condition: NCF / OK <input checked="" type="checkbox"/> |
| Relinquished by: (Signature)   | Date:                  | Time:                 | Received for lab by: (Signature)<br> | Date: <b>8/9/18</b>  | Time: <b>0845</b>          | Hold:              | Condition: NCF / OK <input checked="" type="checkbox"/> |