

## Flietner, Barbara J - DNR

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**From:** Erica Klingfus <eklingfus@msa-ps.com>  
**Sent:** Friday, December 13, 2019 12:02 PM  
**To:** Flietner, Barbara J - DNR  
**Cc:** Shafel, Kathleen S - DNR; Jayne Englebert  
**Subject:** RE: Webster VOC 02-07-000337  
**Attachments:** 17644000 November 2019 Groundwater Analytical Results.pdf; 17644000 Analytical Data Table 2019.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Yes, these sampling results were recently received. Please see the attached lab report and table. Feel free to contact me with any questions.

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**From:** Flietner, Barbara J - DNR <Barbara.Flietner@wisconsin.gov>  
**Sent:** Friday, December 13, 2019 11:43 AM  
**To:** Erica Klingfus <eklingfus@msa-ps.com>  
**Cc:** Shafel, Kathleen S - DNR <Kathleen.Shafel@wisconsin.gov>  
**Subject:** Webster VOC 02-07-000337

Hello Erica,

I had noted in your Sept 25, 2019 letter that you were planning on conducting another quarterly round of groundwater samples in October 2019. Were those samples collected? If so, can you please send an updated table and I will complete review and get back to you on this site. Thank you!

Barb

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**Barbara J. Flietner, P.G., C.P.G.**

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Attachment A.1. Groundwater Analytical Table  
 Webster Quik Wash  
 BRRTS# 02-07-000337

|   | Acetone | Benzene | sec-Butyl benzene | 2-Butanone (MEX) | Chloroform | Chloromethane | Ethylbenzene | Dichlorodifluoromethane | 1,2-Dichlorobenzene | cis-1,2-Dichloroethene | 1,2-Dichloroethane | Naphthalene | Tetrachloroethene | Toluene | Trichloroethene | Xylenes | Groundwater Elevation |
|---|---------|---------|-------------------|------------------|------------|---------------|--------------|-------------------------|---------------------|------------------------|--------------------|-------------|-------------------|---------|-----------------|---------|-----------------------|
| NR 140 ES                                   | 9000    | 5       | NS                | 4000             | 6          | 30            | 700          | 1000                    | 600                 | 70                     | 5                  | 100         | 5                 | 800     | 5               | 2000    |                       |
| NR 140 PAL                                  | 1800    | 0.5     | NS                | 800              | 0.6        | 3             | 140          | 200                     | 60                  | 7                      | 0.5                | 10          | 0.5               | 160     | 0.5             | 400     |                       |
| Groundwater Concentrations in ug/l (or ppb) |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| <b>91-1</b>                                 |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 9/17/1991                                   |         | <0.2    |                   |                  |            |               |              |                         | <1.0                |                        | <0.5               |             | <0.5              | <0.5    | <0.2            |         | 947.23                |
| 10/14/1991                                  |         | 0.6     |                   |                  |            |               | <1.0         |                         | <1.0                |                        | <0.5               |             | <0.5              | 1.0     | <0.2            | <1.0    | 947.39                |
| 5/5/2004                                    |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                         | <0.20               | <0.50                  |                    | <0.25       | <0.50             | <0.20   | <0.20           | <0.50   |                       |
| 8/12/2004                                   |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                         | <0.20               | <0.50                  |                    | <0.25       | <0.50             | <0.20   | <0.20           | <0.50   |                       |
| 6/22/2005                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                         | <0.60               | <0.4                   |                    | <0.8        | <0.45             | <0.3    | <0.5            | <0.62   | 949.04                |
| 6/21/2006                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                         | <0.60               | <0.4                   |                    | <0.8        | <0.71             | <0.3    | <0.5            | <0.62   | 949.56                |
| 6/12/2007                                   |         | <0.20   | <0.20             |                  | <0.20      |               | <0.10        |                         | <0.80               | <0.20                  |                    | <1.0        | <0.30             | <0.40   | <0.20           | <0.40   | 948.21                |
| 7/5/2016                                    | 1.3 J   | <0.042  |                   | <1.1             | <0.21      | <0.080        |              | <0.075                  |                     |                        | 0.13 J             | <0.064      | <0.13             | <0.059  | <0.051          |         | 950.78                |
| 10/3/2016                                   | <2.0    | <0.16   |                   | <1.1             | <0.21      | <0.25         |              | <0.23                   |                     |                        | <0.17              | <0.20       | <0.25             | <0.14   | <0.052          |         | 951.35                |
| 9/26/2017                                   | <8.8    | <0.34   | <0.12             | <2.4             | <0.46      | <1.1          | <0.14        | <0.31                   | <0.21               | <0.20                  | <0.32              | <0.42       | <0.16             | <0.17   | <0.18           | <0.24   | 951.75                |
| 12/13/2017                                  | <3.0    | <0.50   | <2.2              | <3.0             | <2.5       | <0.50         | <0.50        | <0.22                   | <0.50               | <0.26                  |                    | <2.5        | <0.50             | <0.50   | <0.33           | <1.50   | 951.76                |
| <b>91-2A</b>                                |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 9/17/1991                                   |         | <0.2    |                   |                  |            |               |              |                         | <1.0                |                        | <0.5               |             | <0.5              | <0.5    | <0.2            |         | 947.44                |
| 10/14/1991                                  |         | 0.5     |                   |                  |            |               | <1.0         |                         | <1.0                |                        | <0.5               |             | <0.5              | 0.9     | <0.2            | <1.0    | 947.56                |
| 5/5/2004                                    |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                         | <0.20               | <0.50                  |                    | <0.25       | 1.4               | <0.20   | <0.20           | <0.50   |                       |
| 8/12/2004                                   |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                         | <0.20               | <0.50                  |                    | <0.25       | <0.50             | <0.20   | <0.20           | <0.50   |                       |
| 6/22/2005                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                         | <0.60               | <0.4                   |                    | <0.8        | 0.711             | <0.3    | <0.5            | <0.62   | 948.57                |
| 6/21/2006                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                         | <0.60               | <0.4                   |                    | <0.8        | 1.19              | ND      | ND              | <0.62   | 949.09                |
| 6/12/2007                                   |         | <0.20   | <0.20             |                  | <0.20      |               | <0.10        |                         | <0.80               | <0.20                  |                    | <1.0        | 1.78              | <0.40   | <0.20           | <0.40   | 947.80                |
| 7/5/2016                                    | 1.9 J   | <0.042  |                   | <1.1             | <0.21      | 0.18 J        |              | <0.075                  |                     |                        | 0.15 J             | <0.064      | 0.30 J            | <0.059  | <0.051          |         | 950.31                |
| 10/3/2016                                   | <2.0    | <0.16   |                   | <1.1             | <0.21      | <0.25         |              | <0.23                   |                     |                        | <0.17              | <0.20       | 0.38 J            | <0.14   | <0.052          |         | 950.88                |
| 9/26/2017                                   | <8.8    | <0.34   | <0.12             | <2.4             | <0.46      | <1.1          | <0.14        | <0.31                   | <0.21               | <0.20                  | <0.32              | <0.42       | <0.16             | <0.17   | <0.18           | <0.24   | 951.26                |
| 12/13/2017                                  | <3.0    | <0.50   | <2.2              | <3.0             | <2.5       | <0.50         | <0.50        | <0.22                   | <0.50               | <0.26                  |                    | <2.5        | <0.50             | <0.50   | <0.33           | <1.50   | 951.24                |
| <b>91-2B</b>                                |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 9/17/1991                                   |         | 0.5     |                   |                  |            |               |              |                         | 1.4                 |                        | <0.5               |             | 112.0             | <0.5    | 6.1             |         | 947.42                |
| 10/14/1991                                  |         | <0.2    |                   |                  |            |               | <1.0         |                         | 1.4                 |                        | <0.5               |             | 105.0             | <0.5    | 7.2             | <1.0    | 947.55                |
| 5/5/2004                                    |         | 0.2     | 0.85              | 0.85             | <0.20      |               | <0.50        |                         | 0.24                | 0.86                   |                    | <0.25       | 8.7               | <0.20   | 0.47            | 0.47    |                       |
| 8/12/2004                                   |         | 0.29    | 0.91              | 0.91             | <0.20      |               | <0.50        |                         | 0.27                | 0.67                   |                    | <0.28       | 7.6               | <0.20   | 0.52            | 0.52    |                       |
| 6/22/2005                                   |         | 0.377   | 1.6               | 1.6              | <0.2       |               | <0.5         |                         | <0.60               | <0.4                   |                    | <0.8        | 5.57              | <0.3    | <0.5            | <0.5    | 949.75                |
| 6/21/2006                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                         | <0.60               | <0.4                   |                    | <0.8        | 3.43              | <0.3    | <0.5            | <0.5    | 950.26                |
| 6/12/2007                                   |         | 0.38    | <0.20             |                  | <0.20      |               | <0.10        |                         | <0.80               | <0.20                  |                    | <1.0        | 3.71              | <0.40   | 0.92            | 0.92    | 948.98                |
| 7/5/2016                                    | 2.4 J   | <0.042  |                   | <1.1             | <0.21      | <0.080        |              | <0.075                  |                     |                        | 0.093 J            | <0.064      | 1.5               | <0.059  | <0.051          |         | 951.47                |
| 10/3/2016                                   | <2.0    | <0.16   |                   | <1.1             | <0.21      | <0.25         |              | <0.23                   |                     |                        | <0.17              | <0.20       | 1.1               | <0.14   | <0.052          |         | 952.07                |
| 9/26/2017                                   | <8.8    | <0.34   | <0.12             | <2.4             | <0.46      | <1.1          | <0.14        | <0.31                   | <0.21               | <0.20                  | <0.32              | <0.42       | 1.1               | <0.17   | <0.18           | <0.24   | 952.43                |
| 12/13/2017                                  | <3.0    | <0.50   | <2.2              | <3.0             | <2.5       | <0.50         | <0.50        | <0.22                   | <0.50               | <0.26                  |                    | <2.5        | <0.50             | <0.50   | <0.33           | <1.50   | 952.45                |

Attachment A.1. Groundwater Analytical Table  
 Webster Quik Wash  
 BRRTS# 02-07-000337

|   | Acetone | Benzene | sec-Butyl benzene | 2-Butanone (MEK) | Chloroform | Chloromethane | Ethylbenzene | Dichlorodifluoromethane | 1,2-Dichlorobenzene | ds-1,2-Dichloroethene | 1,2-Dichloroethane | Naphthalene | Tetrachloroethene | Toluene | Trichloroethene | Xylenes | Groundwater Elevation |
|---|---------|---------|-------------------|------------------|------------|---------------|--------------|-------------------------|---------------------|-----------------------|--------------------|-------------|-------------------|---------|-----------------|---------|-----------------------|
| NR 140 ES                                   | 9000    | 5       | NS                | 4000             | 6          | 30            | 700          | 1000                    | 600                 | 70                    | 5                  | 100         | 5                 | 800     | 5               | 2000    |                       |
| NR 140 PAL                                  | 1800    | 0.5     | NS                | 800              | 0.6        | 3             | 140          | 200                     | 60                  | 7                     | 0.5                | 10          | 0.5               | 160     | 0.5             | 400     |                       |
| Groundwater Concentrations in ug/l (or ppb) |         |         |                   |                  |            |               |              |                         |                     |                       |                    |             |                   |         |                 |         |                       |
| <b>91-5A</b>                                |         |         |                   |                  |            |               |              |                         |                     |                       |                    |             |                   |         |                 |         |                       |
| 9/17/1991                                   |         | <0.2    |                   |                  |            |               |              |                         | <1.0                |                       | <0.5               |             | 8                 | <0.5    | <0.2            |         | 947.82                |
| 10/14/1991                                  |         | 0.4     |                   |                  |            |               | <1.0         |                         | <1.0                |                       | <0.5               |             | 5.1               | 0.8     | <0.2            | <1.0    | 947.93                |
| 5/5/2004                                    |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                         | <0.20               | <0.50                 |                    | <0.25       | 1.8               | <0.20   | <0.20           | <0.50   |                       |
| 8/12/2004                                   |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                         | <0.20               | <0.50                 |                    | <0.25       | 1                 | <0.20   | <0.20           | <0.50   |                       |
| 6/22/2005                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                         | <0.60               | <0.4                  |                    | <0.8        | <0.45             | <0.3    | <0.5            | <0.62   | 949.51                |
| 6/21/2006                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                         | <0.60               | <0.4                  |                    | <0.8        | <0.71             | <0.3    | <0.5            | <0.62   | 950.17                |
| 6/12/2007                                   |         | <0.20   | <0.20             |                  | <0.20      |               | <0.10        |                         | <0.80               | <0.20                 |                    | <1.0        | 1.15              | <0.40   | <0.20           | <0.40   | 948.96                |
| 7/5/2016                                    | <0.64   | <0.042  |                   | <1.1             | <0.21      | <0.080        |              | <0.075                  |                     |                       | 0.12 J             | <0.064      | 2.5               | <0.059  | <0.051          |         | 951.33                |
| 10/3/2016                                   | <2.0    | <0.16   |                   | <1.1             | <0.21      | <0.25         |              | <0.23                   |                     |                       | <0.17              | <0.20       | 1.8               | <0.14   | <0.052          |         | 951.91                |
| 9/26/2017                                   | <8.8    | <0.34   | <0.12             | <2.4             | <0.46      | <1.1          | <0.14        | <0.31                   | <0.21               | <0.20                 | <0.32              | <0.42       | 2.3               | <0.17   | <0.18           | <0.24   | 952.21                |
| 12/13/2017                                  | <3.0    | <0.50   | <2.2              | <3.0             | <2.5       | <0.50         | <0.50        | <0.22                   | <0.50               | <0.26                 |                    | <2.5        | 2                 | <0.50   | <0.33           | <1.50   | 952.24                |
| 8/21/2019                                   | <50.0   | <1.00   | <1.00             | <10.0            | <5.00      | <2.50         | <1.00        | <5.00                   | <1.00               | <1.00                 | <1.00              | <5.00       | <1.00             | <1.00   | <1.00           | <3.00   |                       |
| 11/25/2019                                  | <33.3   | <1.10   | <1.22             | <13.1            | <1.08      | <0.920        | <1.28        | <1.84                   | <0.733              | <0.867                | <1.20              | <3.33       | <1.24             | <1.37   | <1.33           | <3.00   |                       |
| <b>91-5B</b>                                |         |         |                   |                  |            |               |              |                         |                     |                       |                    |             |                   |         |                 |         |                       |
| 9/17/1991                                   |         | <0.2    |                   |                  |            |               |              |                         | <1.0                |                       | <0.5               |             | <0.5              | <0.5    | <0.2            |         | 947.81                |
| 10/14/1991                                  |         | 0.4     |                   |                  |            |               | <1.0         |                         | <1.0                |                       | 0.8                |             | <0.5              | <0.5    | <0.2            | <1.0    | 947.93                |
| 5/5/2004                                    |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                         | <0.20               | <0.50                 |                    | <0.25       | <0.50             | <0.20   | <0.20           | <0.50   |                       |
| 8/12/2004                                   |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                         | <0.20               | <0.50                 |                    | <0.25       | <0.50             | <0.20   | <0.20           | <0.50   |                       |
| 6/22/2005                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                         | <0.60               | <0.5                  |                    | <0.8        | 0.678             | <0.3    | <0.5            | <0.62   | 949.53                |
| 6/21/2006                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                         | <0.60               | <0.5                  |                    | <0.8        | 0.91              | <0.3    | <0.5            | <0.62   | 950.14                |
| 6/12/2007                                   |         | <0.20   | <0.20             |                  | <0.20      |               | <0.10        |                         | <0.80               | <0.10                 |                    | <1.0        | <0.30             | <0.40   | <0.20           | <0.40   | 948.90                |
| 7/5/2016                                    | <0.64   | <0.042  |                   | <1.1             | <0.21      | <0.080        |              | <0.075                  |                     |                       | 0.19 J             | <0.064      | <0.13             | <0.059  | <0.051          |         | 951.25                |
| 10/3/2016                                   | <2.0    | <0.16   |                   | <1.1             | <0.21      | <0.25         |              | <0.23                   |                     |                       | <0.17              | <0.20       | <0.25             | <0.14   | <0.052          |         | 951.85                |
| 9/26/2017                                   | <8.8    | <0.34   | <0.12             | <2.4             | <0.46      | <1.1          | <0.14        | <0.31                   | <0.21               | <0.20                 | <0.32              | <0.42       | <0.16             | <0.17   | <0.18           | <0.24   | 952.18                |
| 12/13/2017                                  | <3.0    | <0.50   | <2.2              | <3.0             | <2.5       | <0.50         | <0.50        | <0.22                   | <0.50               | <0.26                 |                    | <2.5        | <0.50             | <0.50   | <0.33           | <1.50   | 952.22                |
| <b>91-6</b>                                 |         |         |                   |                  |            |               |              |                         |                     |                       |                    |             |                   |         |                 |         |                       |
| 9/17/1991                                   |         | <0.2    |                   |                  |            |               |              |                         | <1.0                |                       | <0.5               |             | 31.8              | <0.5    | 0.4             |         | 948.09                |
| 10/14/1991                                  |         | 0.3     |                   |                  |            |               | <1.0         |                         | <1.0                |                       | <0.5               |             | 32.0              | <0.5    | 0.7             | <1.0    | 948.20                |
| 5/5/2004                                    |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                         | <0.20               | <0.50                 |                    | <0.25       | 86                | <0.20   | 0.23            | <0.50   |                       |
| 8/12/2004                                   |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                         | <0.20               | <0.50                 |                    | <0.25       | 95                | <0.20   | 0.3             | <0.50   |                       |
| 6/22/2005                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                         | <0.60               | <0.4                  |                    | <0.8        | 38.9              | <0.3    | <0.5            | <0.62   | 949.75                |
| 6/21/2006                                   |         | <1.55   | <2.0              |                  | <1.0       |               | <2.5         |                         | <3.0                | <2.0                  |                    | <4.0        | 42.7              | <1.5    | <2.5            | <3.1    | 950.18                |
| 6/12/2007                                   |         | <1.0    | <1.0              |                  | <1.0       |               | <0.5         |                         | <4.0                | <1.0                  |                    | <5.0        | 48.8              | <2.0    | <1.0            | <2.0    | 948.99                |
| 7/6/2016                                    | <0.64   | <0.042  |                   | <1.1             | <0.21      | <0.080        |              | <0.075                  |                     |                       | 0.12 J             | <0.064      | 55.2              | <0.059  | 0.77            |         | 951.36                |
| 10/3/2016                                   | <2.0    | <0.16   |                   | <1.1             | <0.21      | <0.25         |              | <0.23                   |                     |                       | <0.17              | <0.20       | 38.4              | <0.14   | 0.54            |         | 951.88                |
| 9/26/2017                                   | <8.8    | <0.34   | <0.12             | <2.4             | <0.46      | <1.1          | <0.14        | <0.31                   | <0.21               | <0.20                 | <0.32              | <0.42       | 45.7              | <0.17   | 0.72            | <0.24   | 953.19                |
| 12/13/2017                                  | <3.0    | <0.50   | <2.2              | <3.0             | <2.5       | <0.50         | <0.50        | <0.22                   | <0.50               | <0.26                 |                    | <2.5        | 17                | <0.50   | <0.33           | <1.50   | 952.21                |
| 7/16/2019                                   | <50.0   | <1.00   | <1.00             | <10.0            | <5.00      | <2.50         | <1.00        | <5.00                   | <1.00               | <1.00                 | <1.00              | <5.00       | 2.87              | 3.31    | <1.00           | <3.00   |                       |
| 11/25/2019                                  | <33.3   | <1.10   | <1.22             | <13.1            | <1.08      | <0.920        | <1.28        | <1.84                   | <0.733              | <0.867                | <1.20              | <3.33       | <1.24             | <1.37   | <1.33           | <3.00   |                       |

Attachment A.1. Groundwater Analytical Table  
 Webster Quik Wash  
 BRRTS# 02-07-000337

|   | Acetone | Benzene | sec-Butyl benzene | 2-Butanone (MEK) | Chloroform | Chloromethane | Ethylbenzene | Dichlorofluoromethane | 1,2-Dichlorobenzene | cis-1,2-Dichloroethene | 1,2-Dichloroethane | Naphthalene | Tetrachloroethene | Toluene | Trichloroethene | Xylenes | Groundwater Elevation |
|---|---------|---------|-------------------|------------------|------------|---------------|--------------|-----------------------|---------------------|------------------------|--------------------|-------------|-------------------|---------|-----------------|---------|-----------------------|
| NR 140 ES                                   | 9000    | 5       | NS                | 4000             | 6          | 30            | 700          | 1000                  | 600                 | 70                     | 5                  | 100         | 5                 | 800     | 5               | 2000    |                       |
| NR 140 PAL                                  | 1800    | 0.5     | NS                | 800              | 0.6        | 3             | 140          | 200                   | 60                  | 7                      | 0.5                | 10          | 0.5               | 160     | 0.5             | 400     |                       |
| Groundwater Concentrations in ug/l (or ppb) |         |         |                   |                  |            |               |              |                       |                     |                        |                    |             |                   |         |                 |         |                       |
| <b>91-7</b>                                 |         |         |                   |                  |            |               |              |                       |                     |                        |                    |             |                   |         |                 |         |                       |
| 9/17/1991                                   |         | <0.2    |                   |                  |            |               |              |                       |                     |                        | <0.5               |             |                   | <0.5    | <0.5            | <0.2    | 948.05                |
| 10/14/1991                                  |         | <0.2    |                   |                  |            |               | <1.0         |                       | <1.0                |                        | <0.5               |             |                   | 0.6     | <0.5            | <0.2    | <1.0                  |
| 5/5/2004                                    |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                       | <0.20               | <0.50                  |                    |             |                   | <0.25   | <0.50           | <0.20   | <0.50                 |
| 8/12/2004                                   |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                       | <0.20               | <0.50                  |                    |             |                   | <0.25   | <0.50           | <0.20   | <0.50                 |
| 6/22/2005                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                       | <0.60               | <0.4                   |                    |             |                   | <0.8    | <0.45           | <0.3    | <0.62                 |
| 6/21/2006                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                       | <0.60               | <0.4                   |                    |             |                   | <0.8    | <0.71           | <0.3    | <0.62                 |
| 6/12/2007                                   |         | <0.20   | <0.20             |                  | <0.20      |               | <0.10        |                       | <0.80               | <0.20                  |                    |             |                   | <1.0    | <0.30           | <0.40   | <0.40                 |
| 7/6/2016                                    | 2.81    | <0.042  |                   | <1.1             | <0.21      | <0.080        |              | <0.075                |                     |                        | <0.072             | <0.064      | 1.6               | <0.059  | <0.051          |         | 951.32                |
| 10/9/2016                                   | <2.0    | <0.16   |                   | <1.1             | <0.21      | <0.25         |              | <0.23                 |                     |                        | <0.17              | <0.20       | <0.25             | <0.14   | <0.052          |         | 951.84                |
| 9/26/2017                                   | <8.8    | <0.34   | <0.12             | <2.4             | <0.46      | <1.1          | <0.14        | <0.31                 | <0.21               | <0.20                  | <0.32              | <0.42       | <0.16             | <0.17   | <0.18           | <0.24   | 952.15                |
| 12/13/2017                                  | <3.0    | <0.50   | <2.2              | <3.0             | <2.5       | <0.50         | <0.50        | <0.22                 | <0.50               | <0.26                  |                    | <2.5        | <0.50             | <0.50   | <0.33           | <1.50   | 952.18                |
| 7/16/2019                                   | <50.0   | <1.00   | <1.00             | <10.0            | <5.00      | <2.50         | <1.00        | <5.00                 | <1.00               | <1.00                  | <1.00              | <5.00       | <1.00             | <1.00   | <1.00           | <3.00   |                       |
| <b>OW-1</b>                                 |         |         |                   |                  |            |               |              |                       |                     |                        |                    |             |                   |         |                 |         |                       |
| 8/4/1986                                    |         | 0.5     |                   |                  |            |               |              |                       |                     |                        |                    |             |                   | 0.6     | <0.1            | <0.1    |                       |
| 9/23/1986                                   |         | <0.2    |                   |                  |            |               |              |                       |                     |                        |                    |             |                   | 3.3     | <0.1            | <0.1    |                       |
| 9/17/1991                                   |         | <0.2    |                   |                  |            |               |              |                       | <1.0                |                        | <0.5               |             |                   | 13.8    | <0.5            | <0.2    | 947.25                |
| 10/14/1991                                  |         | 1.1     |                   |                  |            |               | 3.3          |                       | <1.0                |                        | <0.5               |             |                   | 9.4     | 0.5             | <0.2    | 1.1                   |
| 5/5/2004                                    |         | <0.20   | <0.25             |                  | 1.5        |               | <0.50        |                       | <0.20               | <0.50                  |                    |             |                   | <0.25   | <0.50           | <0.20   | <0.50                 |
| 8/12/2004                                   |         | <0.20   | <0.25             |                  | 0.69       |               | <0.50        |                       | <0.20               | <0.50                  |                    |             |                   | <0.25   | <0.50           | <0.20   | <0.50                 |
| 6/22/2005                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                       | <0.60               | <0.4                   |                    |             |                   | <0.8    | <0.45           | <0.3    | <0.62                 |
| 6/21/2006                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                       | <0.60               | <0.4                   |                    |             |                   | <0.8    | <0.71           | <0.3    | <0.62                 |
| 6/12/2007                                   |         | <0.20   | <0.20             |                  | <0.20      |               | <0.10        |                       | <0.80               | <0.20                  |                    |             |                   | <1.0    | <0.30           | <0.40   | <0.40                 |
| 7/6/2016                                    | <0.64   | <0.042  |                   | <1.1             | <0.21      | <0.080        |              | <0.075                |                     |                        | 0.14 J             | <0.064      | <0.13             | <0.059  | <0.051          |         | 951.01                |
| 10/3/2016                                   | <2.0    | <0.16   |                   | <1.1             | <0.21      | <0.25         |              | <0.23                 |                     |                        | <0.17              | <0.20       | <0.25             | <0.14   | <0.052          |         | 951.69                |
| 9/26/2017                                   | <8.8    | <0.34   | <0.12             | <2.4             | <0.46      | <1.1          | <0.14        | <0.31                 | <0.21               | <0.20                  | <0.32              | <0.42       | <0.16             | <0.17   | <0.18           | <0.24   | 952.02                |
| 12/13/2017                                  | <3.0    | <0.50   | <2.2              | <3.0             | <2.5       | <0.50         | <0.50        | <0.22                 | <0.50               | <0.26                  |                    | <2.5        | <0.50             | <0.50   | <0.33           | <1.50   | 952.07                |
| <b>OW-2</b>                                 |         |         |                   |                  |            |               |              |                       |                     |                        |                    |             |                   |         |                 |         |                       |
| 9/23/1986                                   |         | <0.2    |                   |                  |            |               |              |                       |                     |                        | <0.3               |             |                   | 0.7     | <0.1            | <0.1    |                       |
| 9/17/1991                                   |         | <0.2    |                   |                  |            |               |              |                       |                     |                        |                    |             |                   | 2.3     | <0.5            | <0.2    | 947.25                |
| 10/14/1991                                  |         | 0.2     |                   |                  |            |               | <1.0         |                       | <1.0                |                        | 4.3                |             |                   | 1.2     | <0.5            | <0.2    | 947.20                |
| 5/5/2004                                    |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                       | <0.20               | <0.50                  |                    |             |                   | <0.25   | <0.5            | <0.20   | <0.50                 |
| 8/12/2004                                   |         | <0.20   | <0.25             |                  | <0.20      |               | <0.50        |                       | <0.20               | <0.50                  |                    |             |                   | <0.25   | <0.5            | <0.20   | <0.50                 |
| 6/22/2005                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                       | <0.60               | <0.4                   |                    |             |                   | <0.8    | <0.45           | <0.3    | <0.62                 |
| 6/21/2006                                   |         | <0.31   | <0.4              |                  | <0.2       |               | <0.5         |                       | <0.60               | <0.4                   |                    |             |                   | <0.8    | <0.71           | <0.3    | <0.62                 |
| 6/12/2007                                   |         | <0.20   | <0.20             |                  | <0.20      |               | <0.10        |                       | <0.80               | <0.20                  |                    |             |                   | <1.0    | <0.30           | <0.40   | <0.40                 |
| 7/6/2016                                    | <0.64   | <0.042  |                   | <1.1             | <0.21      | <0.080        |              | <0.075                |                     |                        | 0.085 J            | <0.064      | <0.13             | <0.059  | <0.051          |         | 950.94                |
| 10/9/2016                                   | <2.0    | <0.16   |                   | <1.1             | <0.21      | <0.25         |              | <0.23                 |                     |                        | <0.17              | <0.20       | <0.25             | <0.14   | <0.052          |         | 951.70                |
| 9/26/2017                                   | <8.8    | <0.34   | <0.12             | <2.4             | <0.46      | <1.1          | <0.14        | <0.31                 | <0.21               | <0.20                  | <0.32              | <0.42       | <0.16             | <0.17   | <0.18           | <0.24   | 952.04                |
| 12/13/2017                                  | <3.0    | <0.50   | <2.2              | <3.0             | <2.5       | <0.50         | <0.50        | <0.22                 | <0.50               | <0.26                  |                    | <2.5        | <0.50             | <0.50   | <0.33           | <1.50   | 952.07                |

Attachment A.1. Groundwater Analytical Table  
 Webster Quik Wash  
 BRRTS# 02-07-000337

|   | Acetone | Benzene | sec-Butyl benzene | 2-Butanone (MEK) | Chloroform | Chloromethane | Ethylbenzene | Dichlorodifluoromethane | 1,2-Dichlorobenzene | cis-1,2-Dichloroethane | 1,2-Dichloroethane | Naphthalene | Tetrachloroethene | Toluene | Trichloroethene | Xylenes | Groundwater Elevation |
|---|---------|---------|-------------------|------------------|------------|---------------|--------------|-------------------------|---------------------|------------------------|--------------------|-------------|-------------------|---------|-----------------|---------|-----------------------|
| NR 140 ES                                   | 9000    | 5       | NS                | 4000             | 6          | 30            | 700          | 1000                    | 600                 | 70                     | 5                  | 100         | 5                 | 800     | 5               | 2000    |                       |
| NR 140 PAL                                  | 1800    | 0.5     | NS                | 800              | 0.6        | 3             | 140          | 200                     | 60                  | 7                      | 0.5                | 10          | 0.5               | 160     | 0.5             | 400     |                       |
| Groundwater Concentrations in ug/l (or ppb) |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| <b>Soil Boring Groundwater Samples</b>      |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| GP-1  |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 7/5/2016                                    | 7.2 J   | 0.094 J |                   | 1.3 J            | 0.33 J     | <0.080        |              | 0.21 J                  |                     |                        | 0.15 J             | 0.14 J      | 19                | 0.13 J  | 0.28 J          |         |                       |
| GP-5  |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 7/15/2019                                   | <50.0   | <1.00   | <1.00             | <10.0            | <5.00      | <2.50         | <1.00        | <5.00                   | <1.00               | <1.00                  | <1.00              | <5.00       | 19.9              | <1.00   | <1.00           | <3.00   |                       |
| GP-6  |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 7/15/2019                                   | <50.0   | <1.00   | <1.00             | <10.0            | <5.00      | <2.50         | <1.00        | <5.00                   | <1.00               | <1.00                  | <1.00              | <5.00       | 15.2              | <1.00   | <1.00           | <3.00   |                       |
| GP-7  |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 7/15/2019                                   | <50.0   | <1.00   | <1.00             | <10.0            | <5.00      | <2.50         | <1.00        | <5.00                   | <1.00               | <1.00                  | <1.00              | <5.00       | 7.06              | <1.00   | <1.00           | <3.00   |                       |
| GP-8  |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 7/15/2019                                   | <50.0   | <1.00   | <1.00             | <10.0            | <5.00      | <2.50         | <1.00        | <5.00                   | <1.00               | <1.00                  | <1.00              | <5.00       | 50.2              | <1.00   | 1.54            | <3.00   |                       |
| GP-9  |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 7/16/2019                                   | <50.0   | <1.00   | <1.00             | <10.0            | <5.00      | <2.50         | <1.00        | <5.00                   | <1.00               | <1.00                  | <1.00              | <5.00       | 1.52              | <1.00   | <1.00           | <3.00   |                       |
| GP-10-30                                    |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 7/16/2019                                   | <50.0   | <1.00   | <1.00             | <10.0            | <5.00      | <2.50         | <1.00        | <5.00                   | <1.00               | <1.00                  | <1.00              | <5.00       | 28.6              | <1.00   | <1.00           | <3.00   |                       |
| GP-10-60                                    |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 7/16/2019                                   | <50.0   | <1.00   | <1.00             | <10.0            | <5.00      | <2.50         | <1.00        | <5.00                   | <1.00               | <1.00                  | <1.00              | <5.00       | <1.00             | <1.00   | <1.00           | <3.00   |                       |
| GP-11-30                                    |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 7/16/2019                                   | <50.0   | <1.00   | <1.00             | <10.0            | <5.00      | <2.50         | <1.00        | <5.00                   | <1.00               | 2.71                   | <1.00              | <5.00       | 17.5              | <1.00   | 1.15            | <3.00   |                       |
| GP-11-60                                    |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 7/16/2019                                   | <50.0   | <1.00   | <1.00             | <10.0            | <5.00      | <2.50         | <1.00        | <5.00                   | <1.00               | <1.00                  | <1.00              | <5.00       | <1.00             | <1.00   | <1.00           | 3.96    |                       |
| GP-12                                       |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 7/16/2019                                   | <250    | 35.5    | 6.94              | <50.0            | <25.0      | <12.5         | 992          | <25.0                   | <5.00               | <5.00                  | <5.00              | 329         | <5.00             | 1540    | <5.00           | 5420    |                       |
| <b>Rob's Amoco Wells</b>                    |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| RMW-1                                       |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 12/3/1997                                   |         | <0.010  |                   |                  |            |               | <0.25        |                         |                     |                        | <0.25              | <0.10       | <0.25             | <0.10   |                 | <0.25   |                       |
| RMW-2                                       |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 12/3/1997                                   |         | <0.010  |                   |                  |            |               | <0.25        |                         |                     |                        | <0.25              | <0.10       | 2.5               | <0.10   |                 | <0.25   |                       |
| RMW-3                                       |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 12/3/1997                                   |         | <0.010  |                   |                  |            |               | <0.25        |                         |                     |                        | <0.25              | <0.10       | <0.25             | <0.10   |                 | <0.25   |                       |
| RMW-4                                       |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 12/3/1997                                   |         | <0.010  |                   |                  |            |               | <0.25        |                         |                     |                        | <0.25              | <0.10       | 3.2               | <0.10   |                 | <0.25   |                       |
| RMW-5                                       |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 12/3/1997                                   |         | <0.010  |                   |                  |            |               | <0.25        |                         |                     |                        | <0.25              | <0.10       | <0.25             | <0.10   |                 | <0.25   |                       |
| RMW-10                                      |         |         |                   |                  |            |               |              |                         |                     |                        |                    |             |                   |         |                 |         |                       |
| 5/6/1998                                    |         | <0.010  |                   |                  |            |               | 5.8          |                         |                     |                        | <0.25              | 5.1         | 3.1               | 0.15    |                 | 4.1     |                       |

**Exceedance Highlights:**

**BOLD** font indicates NR 140 Enforcement Standard (ES) exceedance.

*Italic* font indicates NR 140 Preventative Action Limit (PAL) exceedance.

BTEX and other VOC compounds detected in at least one sample are included in table. See laboratory report for all results.

NS: No published standard.

**Table Notes:**

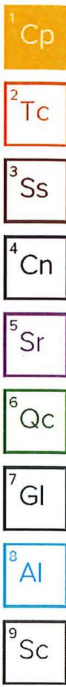
<: Indicates the analyte was not detected above the Laboratory Limit of Quantitation.

\*: Indicates total xylenes (m-,o-,p- combined) and total trimethylbenzenes (1,2,4- and 1,3,5- combined).

Blanks indicate contaminant was not analyzed.

J: Laboratory qualifier indicating the estimated concentration at or above the Limit of Detection and below the Limit of Quantitation.





## MSA Professional Services

Sample Delivery Group: L1165020  
Samples Received: 11/26/2019  
Project Number: 17644000  
Description: Webster Quick Wash

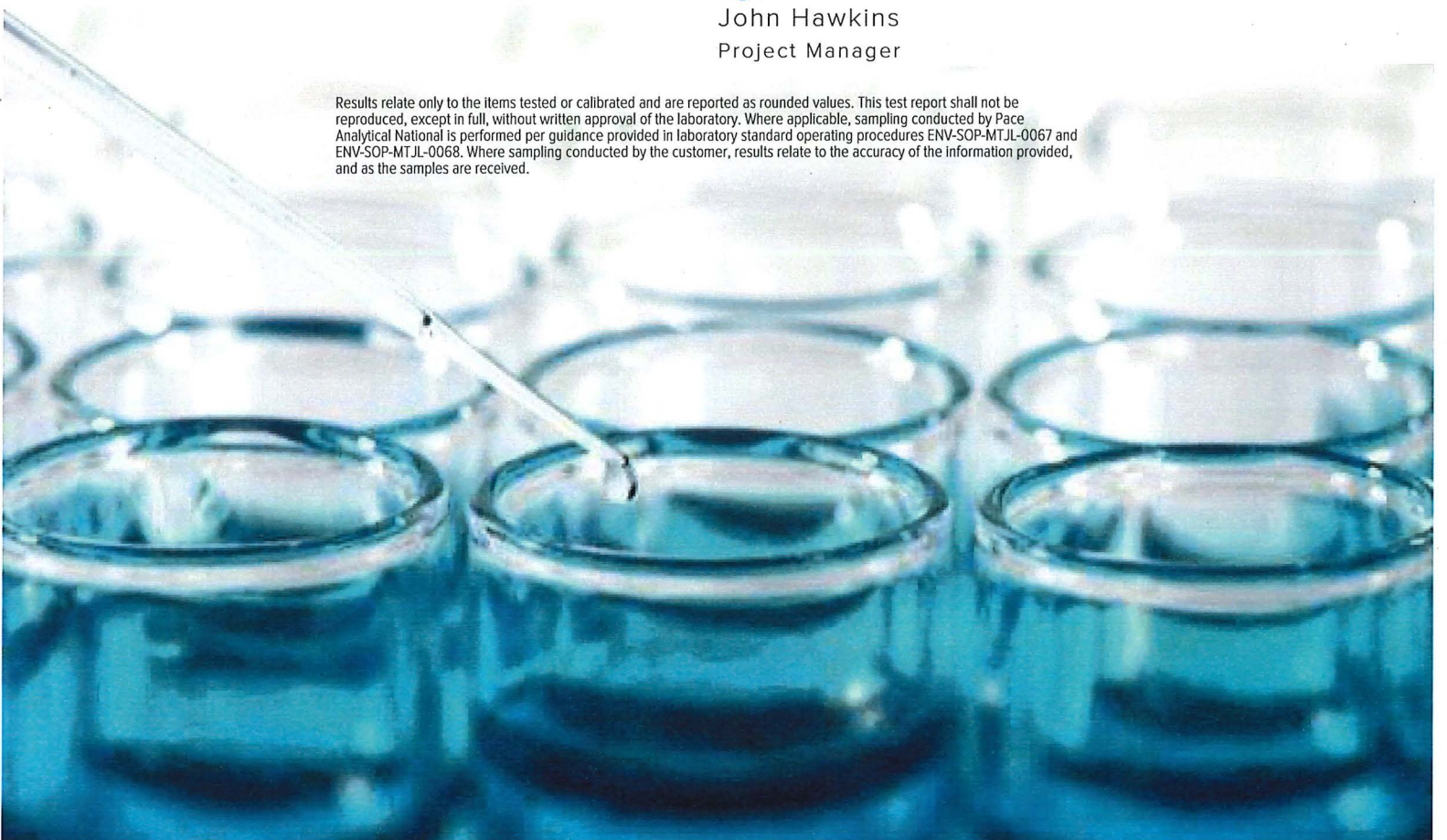
Report To: Erica Klingfus  
332 W. Superior Street, Suite 600  
Duluth, MN 55802

Entire Report Reviewed By:



John Hawkins  
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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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# SAMPLE SUMMARY

| 91-6 L1165020-01 GW                                |           |          |                       | Collected by       | Collected date/time | Received date/time |  |
|--|-----------|----------|-----------------------|--------------------|---------------------|--------------------|--|
|  |           |          |                       | Paul Butler        | 11/25/19 11:25      | 11/26/19 08:30     |  |
| Method   | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst             | Location           |  |
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG1391198 | 1        | 12/04/19 19:06        | 12/04/19 19:06     | BMB                 | Mt. Juliet, TN     |  |

1  
Cp

2  
Tc

3  
Ss

| 91-5A L1165020-02 GW                               |           |          |                       | Collected by       | Collected date/time | Received date/time |  |
|--|-----------|----------|-----------------------|--------------------|---------------------|--------------------|--|
|  |           |          |                       | Paul Butler        | 11/25/19 12:15      | 11/26/19 08:30     |  |
| Method   | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst             | Location           |  |
| Volatile Organic Compounds (GC/MS) by Method 8260B | WG1391198 | 1        | 12/04/19 19:25        | 12/04/19 19:25     | BMB                 | Mt. Juliet, TN     |  |

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
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.

John Hawkins  
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

Report Revision History

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Version 1: 12/05/19 10:49 AM

Sample Delivery Group (SDG) Narrative

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2-Chloroethyl vinyl ether degrades under acidic conditions. Associated results were determined from the analysis of an acid-preserved sample.

| <u>Lab Sample ID</u>        | <u>Project Sample ID</u> | Method |
|-----------------------------|--------------------------|--------|
| <a href="#">L1165020-01</a> | <a href="#">91-6</a>     | 8260B  |
| <a href="#">L1165020-02</a> | <a href="#">91-5A</a>    | 8260B  |



Collected date/time: 11/25/19 11:25

L1165020

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

| Analyte                     | Result<br>ug/l | Qualifier | RD<br>ug/l | Dilution | Analysis<br>date / time | Batch     |
|-----------------------------|----------------|-----------|------------|----------|-------------------------|-----------|
| Acetone                     | ND             |           | 33.3       | 1        | 12/04/2019 19:06        | WG1391198 |
| Acrolein                    | ND             |           | 29.6       | 1        | 12/04/2019 19:06        | WG1391198 |
| Acrylonitrile               | ND             |           | 6.23       | 1        | 12/04/2019 19:06        | WG1391198 |
| Allyl chloride              | ND             |           | 5.67       | 1        | 12/04/2019 19:06        | WG1391198 |
| Benzene                     | ND             |           | 1.10       | 1        | 12/04/2019 19:06        | WG1391198 |
| Bromobenzene                | ND             |           | 1.17       | 1        | 12/04/2019 19:06        | WG1391198 |
| Bromodichloromethane        | ND             |           | 1.27       | 1        | 12/04/2019 19:06        | WG1391198 |
| Bromoform                   | ND             |           | 1.56       | 1        | 12/04/2019 19:06        | WG1391198 |
| Bromomethane                | ND             |           | 2.89       | 1        | 12/04/2019 19:06        | WG1391198 |
| n-Butylbenzene              | ND             |           | 1.20       | 1        | 12/04/2019 19:06        | WG1391198 |
| sec-Butylbenzene            | ND             |           | 1.22       | 1        | 12/04/2019 19:06        | WG1391198 |
| tert-Butylbenzene           | ND             |           | 1.33       | 1        | 12/04/2019 19:06        | WG1391198 |
| Carbon tetrachloride        | ND             |           | 1.26       | 1        | 12/04/2019 19:06        | WG1391198 |
| Chlorobenzene               | ND             |           | 1.16       | 1        | 12/04/2019 19:06        | WG1391198 |
| Chlorodibromomethane        | ND             |           | 1.09       | 1        | 12/04/2019 19:06        | WG1391198 |
| Chloroethane                | ND             |           | 1.51       | 1        | 12/04/2019 19:06        | WG1391198 |
| 2-Chloroethyl vinyl ether   | ND             |           | 10.0       | 1        | 12/04/2019 19:06        | WG1391198 |
| Chloroform                  | ND             |           | 1.08       | 1        | 12/04/2019 19:06        | WG1391198 |
| Chloromethane               | ND             |           | 0.920      | 1        | 12/04/2019 19:06        | WG1391198 |
| 2-Chlorotoluene             | ND             |           | 1.25       | 1        | 12/04/2019 19:06        | WG1391198 |
| 4-Chlorotoluene             | ND             |           | 1.17       | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,2-Dibromo-3-Chloropropane | ND             |           | 4.43       | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,2-Dibromoethane           | ND             |           | 1.27       | 1        | 12/04/2019 19:06        | WG1391198 |
| Dibromomethane              | ND             |           | 1.15       | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,2-Dichlorobenzene         | ND             |           | 1.16       | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,3-Dichlorobenzene         | ND             |           | 0.733      | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,4-Dichlorobenzene         | ND             |           | 0.913      | 1        | 12/04/2019 19:06        | WG1391198 |
| Dichlorodifluoromethane     | ND             |           | 1.84       | 1        | 12/04/2019 19:06        | WG1391198 |
| Dichlorofluoromethane       | ND             |           | 1.01       | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,1-Dichloroethane          | ND             |           | 0.863      | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,2-Dichloroethane          | ND             |           | 1.20       | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,1-Dichloroethene          | ND             |           | 1.33       | 1        | 12/04/2019 19:06        | WG1391198 |
| cis-1,2-Dichloroethene      | ND             |           | 0.867      | 1        | 12/04/2019 19:06        | WG1391198 |
| trans-1,2-Dichloroethene    | ND             |           | 1.32       | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,2-Dichloropropane         | ND             |           | 1.02       | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,1-Dichloropropene         | ND             |           | 1.17       | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,3-Dichloropropane         | ND             |           | 1.22       | 1        | 12/04/2019 19:06        | WG1391198 |
| cis-1,3-Dichloropropene     | ND             |           | 1.39       | 1        | 12/04/2019 19:06        | WG1391198 |
| trans-1,3-Dichloropropene   | ND             |           | 1.40       | 1        | 12/04/2019 19:06        | WG1391198 |
| 2,2-Dichloropropane         | ND             |           | 1.07       | 1        | 12/04/2019 19:06        | WG1391198 |
| Di-isopropyl ether          | ND             |           | 1.07       | 1        | 12/04/2019 19:06        | WG1391198 |
| Ethylbenzene                | ND             |           | 1.28       | 1        | 12/04/2019 19:06        | WG1391198 |
| Ethyl ether                 | ND             |           | 1.30       | 1        | 12/04/2019 19:06        | WG1391198 |
| Hexachloro-1,3-butadiene    | ND             |           | 0.853      | 1        | 12/04/2019 19:06        | WG1391198 |
| Isopropylbenzene            | ND             |           | 1.09       | 1        | 12/04/2019 19:06        | WG1391198 |
| p-Isopropyltoluene          | ND             |           | 1.17       | 1        | 12/04/2019 19:06        | WG1391198 |
| 2-Butanone (MEK)            | ND             |           | 13.1       | 1        | 12/04/2019 19:06        | WG1391198 |
| Methylene Chloride          | ND             |           | 3.33       | 1        | 12/04/2019 19:06        | WG1391198 |
| 2-Hexanone                  | ND             |           | 12.7       | 1        | 12/04/2019 19:06        | WG1391198 |
| 4-Methyl-2-pentanone (MIBK) | ND             |           | 7.13       | 1        | 12/04/2019 19:06        | WG1391198 |
| Methyl tert-butyl ether     | ND             |           | 1.22       | 1        | 12/04/2019 19:06        | WG1391198 |
| Naphthalene                 | ND             |           | 3.33       | 1        | 12/04/2019 19:06        | WG1391198 |
| n-Propylbenzene             | ND             |           | 1.16       | 1        | 12/04/2019 19:06        | WG1391198 |
| Styrene                     | ND             |           | 1.02       | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,1,1,2-Tetrachloroethane   | ND             |           | 1.28       | 1        | 12/04/2019 19:06        | WG1391198 |
| 1,1,2,2-Tetrachloroethane   | ND             |           | 0.433      | 1        | 12/04/2019 19:06        | WG1391198 |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





Collected date/time: 11/25/19 11:25

L1165020

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

| Analyte                        | Result<br>ug/l | Qualifier | RDL<br>ug/l | Dilution | Analysis<br>date / time | Batch                     |
|--------------------------------|----------------|-----------|-------------|----------|-------------------------|---------------------------|
| 1,1,2-Trichlorotrifluoroethane | ND             |           | 1.01        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| Tetrachloroethene              | ND             |           | 1.24        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| Tetrahydrofuran                | ND             |           | 6.07        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| Toluene                        | ND             |           | 1.37        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| 1,2,3-Trichlorobenzene         | ND             |           | 0.767       | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| 1,2,4-Trichlorobenzene         | ND             |           | 1.18        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| 1,1,1-Trichloroethane          | ND             |           | 1.06        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| 1,1,2-Trichloroethane          | ND             |           | 1.28        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| Trichloroethene                | ND             |           | 1.33        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| Trichlorofluoromethane         | ND             |           | 4.00        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| 1,2,3-Trichloropropane         | ND             |           | 2.69        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| 1,2,4-Trimethylbenzene         | ND             |           | 1.24        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| 1,2,3-Trimethylbenzene         | ND             |           | 1.07        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| 1,3,5-Trimethylbenzene         | ND             |           | 1.29        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| Vinyl chloride                 | ND             |           | 0.863       | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| Xylenes, Total                 | ND             |           | 3.00        | 1        | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| (S) Toluene-d8                 | 101            |           | 80.0-120    |          | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| (S) 4-Bromofluorobenzene       | 99.7           |           | 77.0-126    |          | 12/04/2019 19:06        | <a href="#">WG1391198</a> |
| (S) 1,2-Dichloroethane-d4      | 102            |           | 70.0-130    |          | 12/04/2019 19:06        | <a href="#">WG1391198</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 11/25/19 12:15

L1165020

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

| Analyte                     | Result<br>ug/l | Qualifier | RD<br>ug/l | Dilution | Analysis<br>date / time | Batch     |
|-----------------------------|----------------|-----------|------------|----------|-------------------------|-----------|
| Acetone                     | ND             |           | 33.3       | 1        | 12/04/2019 19:25        | WG1391198 |
| Acrolein                    | ND             |           | 29.6       | 1        | 12/04/2019 19:25        | WG1391198 |
| Acrylonitrile               | ND             |           | 6.23       | 1        | 12/04/2019 19:25        | WG1391198 |
| Allyl chloride              | ND             |           | 5.67       | 1        | 12/04/2019 19:25        | WG1391198 |
| Benzene                     | ND             |           | 1.10       | 1        | 12/04/2019 19:25        | WG1391198 |
| Bromobenzene                | ND             |           | 1.17       | 1        | 12/04/2019 19:25        | WG1391198 |
| Bromodichloromethane        | ND             |           | 1.27       | 1        | 12/04/2019 19:25        | WG1391198 |
| Bromoform                   | ND             |           | 1.56       | 1        | 12/04/2019 19:25        | WG1391198 |
| Bromomethane                | ND             |           | 2.89       | 1        | 12/04/2019 19:25        | WG1391198 |
| n-Butylbenzene              | ND             |           | 1.20       | 1        | 12/04/2019 19:25        | WG1391198 |
| sec-Butylbenzene            | ND             |           | 1.22       | 1        | 12/04/2019 19:25        | WG1391198 |
| tert-Butylbenzene           | ND             |           | 1.33       | 1        | 12/04/2019 19:25        | WG1391198 |
| Carbon tetrachloride        | ND             |           | 1.26       | 1        | 12/04/2019 19:25        | WG1391198 |
| Chlorobenzene               | ND             |           | 1.16       | 1        | 12/04/2019 19:25        | WG1391198 |
| Chlorodibromomethane        | ND             |           | 1.09       | 1        | 12/04/2019 19:25        | WG1391198 |
| Chloroethane                | ND             |           | 1.51       | 1        | 12/04/2019 19:25        | WG1391198 |
| 2-Chloroethyl vinyl ether   | ND             |           | 10.0       | 1        | 12/04/2019 19:25        | WG1391198 |
| Chloroform                  | ND             |           | 1.08       | 1        | 12/04/2019 19:25        | WG1391198 |
| Chloromethane               | ND             |           | 0.920      | 1        | 12/04/2019 19:25        | WG1391198 |
| 2-Chlorotoluene             | ND             |           | 1.25       | 1        | 12/04/2019 19:25        | WG1391198 |
| 4-Chlorotoluene             | ND             |           | 1.17       | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,2-Dibromo-3-Chloropropane | ND             |           | 4.43       | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,2-Dibromoethane           | ND             |           | 1.27       | 1        | 12/04/2019 19:25        | WG1391198 |
| Dibromomethane              | ND             |           | 1.15       | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,2-Dichlorobenzene         | ND             |           | 1.16       | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,3-Dichlorobenzene         | ND             |           | 0.733      | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,4-Dichlorobenzene         | ND             |           | 0.913      | 1        | 12/04/2019 19:25        | WG1391198 |
| Dichlorodifluoromethane     | ND             |           | 1.84       | 1        | 12/04/2019 19:25        | WG1391198 |
| Dichlorofluoromethane       | ND             |           | 1.01       | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,1-Dichloroethane          | ND             |           | 0.863      | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,2-Dichloroethane          | ND             |           | 1.20       | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,1-Dichloroethene          | ND             |           | 1.33       | 1        | 12/04/2019 19:25        | WG1391198 |
| cis-1,2-Dichloroethene      | ND             |           | 0.867      | 1        | 12/04/2019 19:25        | WG1391198 |
| trans-1,2-Dichloroethene    | ND             |           | 1.32       | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,2-Dichloropropane         | ND             |           | 1.02       | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,1-Dichloropropene         | ND             |           | 1.17       | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,3-Dichloropropane         | ND             |           | 1.22       | 1        | 12/04/2019 19:25        | WG1391198 |
| cis-1,3-Dichloropropene     | ND             |           | 1.39       | 1        | 12/04/2019 19:25        | WG1391198 |
| trans-1,3-Dichloropropene   | ND             |           | 1.40       | 1        | 12/04/2019 19:25        | WG1391198 |
| 2,2-Dichloropropane         | ND             |           | 1.07       | 1        | 12/04/2019 19:25        | WG1391198 |
| Di-isopropyl ether          | ND             |           | 1.07       | 1        | 12/04/2019 19:25        | WG1391198 |
| Ethylbenzene                | ND             |           | 1.28       | 1        | 12/04/2019 19:25        | WG1391198 |
| Ethyl ether                 | ND             |           | 1.30       | 1        | 12/04/2019 19:25        | WG1391198 |
| Hexachloro-1,3-butadiene    | ND             |           | 0.853      | 1        | 12/04/2019 19:25        | WG1391198 |
| Isopropylbenzene            | ND             |           | 1.09       | 1        | 12/04/2019 19:25        | WG1391198 |
| p-Isopropyltoluene          | ND             |           | 1.17       | 1        | 12/04/2019 19:25        | WG1391198 |
| 2-Butanone (MEK)            | ND             |           | 13.1       | 1        | 12/04/2019 19:25        | WG1391198 |
| Methylene Chloride          | ND             |           | 3.33       | 1        | 12/04/2019 19:25        | WG1391198 |
| 2-Hexanone                  | ND             |           | 12.7       | 1        | 12/04/2019 19:25        | WG1391198 |
| 4-Methyl-2-pentanone (MIBK) | ND             |           | 7.13       | 1        | 12/04/2019 19:25        | WG1391198 |
| Methyl tert-butyl ether     | ND             |           | 1.22       | 1        | 12/04/2019 19:25        | WG1391198 |
| Naphthalene                 | ND             |           | 3.33       | 1        | 12/04/2019 19:25        | WG1391198 |
| n-Propylbenzene             | ND             |           | 1.16       | 1        | 12/04/2019 19:25        | WG1391198 |
| Styrene                     | ND             |           | 1.02       | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,1,1,2-Tetrachloroethane   | ND             |           | 1.28       | 1        | 12/04/2019 19:25        | WG1391198 |
| 1,1,2,2-Tetrachloroethane   | ND             |           | 0.433      | 1        | 12/04/2019 19:25        | WG1391198 |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





Collected date/time: 11/25/19 12:15

L1165020

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

| Analyte                        | Result<br>ug/l | Qualifier | RDL<br>ug/l | Dilution | Analysis<br>date / time | Batch                     |
|--------------------------------|----------------|-----------|-------------|----------|-------------------------|---------------------------|
| 1,1,2-Trichlorotrifluoroethane | ND             |           | 1.01        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| Tetrachloroethene              | ND             |           | 1.24        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| Tetrahydrofuran                | ND             |           | 6.07        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| Toluene                        | ND             |           | 1.37        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| 1,2,3-Trichlorobenzene         | ND             |           | 0.767       | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| 1,2,4-Trichlorobenzene         | ND             |           | 1.18        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| 1,1,1-Trichloroethane          | ND             |           | 1.06        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| 1,1,2-Trichloroethane          | ND             |           | 1.28        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| Trichloroethene                | ND             |           | 1.33        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| Trichlorofluoromethane         | ND             |           | 4.00        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| 1,2,3-Trichloropropane         | ND             |           | 2.69        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| 1,2,4-Trimethylbenzene         | ND             |           | 1.24        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| 1,2,3-Trimethylbenzene         | ND             |           | 1.07        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| 1,3,5-Trimethylbenzene         | ND             |           | 1.29        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| Vinyl chloride                 | ND             |           | 0.863       | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| Xylenes, Total                 | ND             |           | 3.00        | 1        | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| (S) Toluene-d8                 | 100            |           | 80.0-120    |          | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| (S) 4-Bromofluorobenzene       | 99.8           |           | 77.0-126    |          | 12/04/2019 19:25        | <a href="#">WG1391198</a> |
| (S) 1,2-Dichloroethane-d4      | 103            |           | 70.0-130    |          | 12/04/2019 19:25        | <a href="#">WG1391198</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





Method Blank (MB)

(MB) R3479180-3 12/04/19 16:58

| Analyte                     | MB Result<br>ug/l | MB Qualifier | MB MDL<br>ug/l | MB RDL<br>ug/l |
|-----------------------------|-------------------|--------------|----------------|----------------|
| Acetone                     | U                 |              | 10.0           | 33.3           |
| Acrolein                    | U                 |              | 8.87           | 29.6           |
| Acrylonitrile               | U                 |              | 1.87           | 6.23           |
| Benzene                     | U                 |              | 0.331          | 1.10           |
| Bromobenzene                | U                 |              | 0.352          | 1.17           |
| Bromodichloromethane        | U                 |              | 0.380          | 1.27           |
| Bromoform                   | U                 |              | 0.469          | 1.56           |
| Bromomethane                | U                 |              | 0.866          | 2.89           |
| n-Butylbenzene              | U                 |              | 0.361          | 1.20           |
| sec-Butylbenzene            | U                 |              | 0.365          | 1.22           |
| tert-Butylbenzene           | U                 |              | 0.399          | 1.33           |
| Carbon tetrachloride        | U                 |              | 0.379          | 1.26           |
| Chlorobenzene               | U                 |              | 0.348          | 1.16           |
| Chlorodibromomethane        | U                 |              | 0.327          | 1.09           |
| Chloroethane                | U                 |              | 0.453          | 1.51           |
| 2-Chloroethyl vinyl ether   | U                 |              | 3.01           | 10.0           |
| Chloroform                  | U                 |              | 0.324          | 1.08           |
| Chloromethane               | U                 |              | 0.276          | 0.920          |
| 2-Chlorotoluene             | U                 |              | 0.375          | 1.25           |
| 4-Chlorotoluene             | U                 |              | 0.351          | 1.17           |
| 1,2-Dibromo-3-Chloropropane | U                 |              | 1.33           | 4.43           |
| 1,2-Dibromoethane           | U                 |              | 0.381          | 1.27           |
| Dibromomethane              | U                 |              | 0.346          | 1.15           |
| 1,2-Dichlorobenzene         | U                 |              | 0.349          | 1.16           |
| 1,3-Dichlorobenzene         | U                 |              | 0.220          | 0.733          |
| 1,4-Dichlorobenzene         | U                 |              | 0.274          | 0.913          |
| Dichlorodifluoromethane     | U                 |              | 0.551          | 1.84           |
| Dichlorofluoromethane       | U                 |              | 0.302          | 1.01           |
| 1,1-Dichloroethane          | U                 |              | 0.259          | 0.863          |
| 1,2-Dichloroethane          | U                 |              | 0.361          | 1.20           |
| 1,1-Dichloroethene          | U                 |              | 0.398          | 1.33           |
| cis-1,2-Dichloroethene      | U                 |              | 0.260          | 0.867          |
| trans-1,2-Dichloroethene    | U                 |              | 0.396          | 1.32           |
| 1,2-Dichloropropane         | U                 |              | 0.306          | 1.02           |
| 1,1-Dichloropropene         | U                 |              | 0.352          | 1.17           |
| 1,3-Dichloropropane         | U                 |              | 0.366          | 1.22           |
| cis-1,3-Dichloropropene     | U                 |              | 0.418          | 1.39           |
| trans-1,3-Dichloropropene   | U                 |              | 0.419          | 1.40           |
| 2,2-Dichloropropane         | U                 |              | 0.321          | 1.07           |
| Di-isopropyl ether          | U                 |              | 0.320          | 1.07           |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3479180-3 12/04/19 16:58

| Analyte                        | MB Result<br>ug/l | MB Qualifier | MB MDL<br>ug/l | MB RDL<br>ug/l |
|--------------------------------|-------------------|--------------|----------------|----------------|
| Ethylbenzene                   | U                 |              | 0.384          | 1.28           |
| Ethyl ether                    | U                 |              | 0.389          | 1.30           |
| Hexachloro-1,3-butadiene       | U                 |              | 0.256          | 0.853          |
| 2-Hexanone                     | U                 |              | 3.82           | 12.7           |
| Isopropylbenzene               | U                 |              | 0.326          | 1.09           |
| p-Isopropyltoluene             | U                 |              | 0.350          | 1.17           |
| 2-Butanone (MEK)               | U                 |              | 3.93           | 13.1           |
| Methylene Chloride             | U                 |              | 1.00           | 3.33           |
| 4-Methyl-2-pentanone (MIBK)    | U                 |              | 2.14           | 7.13           |
| Methyl tert-butyl ether        | U                 |              | 0.367          | 1.22           |
| Naphthalene                    | U                 |              | 1.00           | 3.33           |
| n-Propylbenzene                | U                 |              | 0.349          | 1.16           |
| Styrene                        | U                 |              | 0.307          | 1.02           |
| 1,1,1,2-Tetrachloroethane      | U                 |              | 0.385          | 1.28           |
| 1,1,2,2-Tetrachloroethane      | U                 |              | 0.130          | 0.433          |
| Tetrachloroethene              | U                 |              | 0.372          | 1.24           |
| Tetrahydrofuran                | U                 |              | 1.82           | 6.07           |
| Toluene                        | U                 |              | 0.412          | 1.37           |
| 1,1,2-Trichlorotrifluoroethane | U                 |              | 0.303          | 1.01           |
| 1,2,3-Trichlorobenzene         | U                 |              | 0.230          | 0.767          |
| 1,2,4-Trichlorobenzene         | U                 |              | 0.355          | 1.18           |
| 1,1,1-Trichloroethane          | U                 |              | 0.319          | 1.06           |
| 1,1,2-Trichloroethane          | U                 |              | 0.383          | 1.28           |
| Trichloroethene                | U                 |              | 0.398          | 1.33           |
| Trichlorofluoromethane         | U                 |              | 1.20           | 4.00           |
| 1,2,3-Trichloropropane         | U                 |              | 0.807          | 2.69           |
| 1,2,3-Trimethylbenzene         | U                 |              | 0.321          | 1.07           |
| 1,2,4-Trimethylbenzene         | U                 |              | 0.373          | 1.24           |
| 1,3,5-Trimethylbenzene         | U                 |              | 0.387          | 1.29           |
| Vinyl chloride                 | U                 |              | 0.259          | 0.863          |
| Xylenes, Total                 | U                 |              | 1.06           | 3.53           |
| Allyl Chloride                 | U                 |              | 1.70           | 5.67           |
| (S) Toluene-d8                 | 100               |              |                | 80.0-120       |
| (S) 4-Bromofluorobenzene       | 99.7              |              |                | 77.0-126       |
| (S) 1,2-Dichloroethane-d4      | 104               |              |                | 70.0-130       |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3479180-1 12/04/19 16:02 • (LCSD) R3479180-2 12/04/19 16:20

| Analyte                     | Spike Amount<br>ug/l | LCS Result<br>ug/l | LCSD Result<br>ug/l | LCS Rec.<br>% | LCSD Rec.<br>% | Rec. Limits<br>% | LCS Qualifier | LCSD Qualifier | RPD<br>% | RPD Limits<br>% |
|-----------------------------|----------------------|--------------------|---------------------|---------------|----------------|------------------|---------------|----------------|----------|-----------------|
| Acetone                     | 25.0                 | 27.8               | 27.1                | 111           | 108            | 19.0-160         |               |                | 2.55     | 27              |
| Acrolein                    | 25.0                 | 32.6               | 37.6                | 130           | 150            | 10.0-160         |               |                | 14.2     | 26              |
| Acrylonitrile               | 25.0                 | 22.3               | 23.7                | 89.2          | 94.8           | 55.0-149         |               |                | 6.09     | 20              |
| Benzene                     | 5.00                 | 4.93               | 5.08                | 98.6          | 102            | 70.0-123         |               |                | 3.00     | 20              |
| Bromobenzene                | 5.00                 | 4.88               | 5.02                | 97.6          | 100            | 73.0-121         |               |                | 2.83     | 20              |
| Bromodichloromethane        | 5.00                 | 4.98               | 5.03                | 99.6          | 101            | 75.0-120         |               |                | 0.999    | 20              |
| Bromoform                   | 5.00                 | 5.64               | 5.50                | 113           | 110            | 68.0-132         |               |                | 2.51     | 20              |
| Bromomethane                | 5.00                 | 4.68               | 4.93                | 93.6          | 98.6           | 10.0-160         |               |                | 5.20     | 25              |
| n-Butylbenzene              | 5.00                 | 5.02               | 5.13                | 100           | 103            | 73.0-125         |               |                | 2.17     | 20              |
| sec-Butylbenzene            | 5.00                 | 5.04               | 5.14                | 101           | 103            | 75.0-125         |               |                | 1.96     | 20              |
| tert-Butylbenzene           | 5.00                 | 4.96               | 5.12                | 99.2          | 102            | 76.0-124         |               |                | 3.17     | 20              |
| Carbon tetrachloride        | 5.00                 | 5.44               | 5.69                | 109           | 114            | 68.0-126         |               |                | 4.49     | 20              |
| Chlorobenzene               | 5.00                 | 4.89               | 5.06                | 97.8          | 101            | 80.0-121         |               |                | 3.42     | 20              |
| Chlorodibromomethane        | 5.00                 | 5.15               | 5.19                | 103           | 104            | 77.0-125         |               |                | 0.774    | 20              |
| Chloroethane                | 5.00                 | 4.81               | 5.09                | 96.2          | 102            | 47.0-150         |               |                | 5.66     | 20              |
| 2-Chloroethyl vinyl ether   | 25.0                 | 25.9               | 25.7                | 104           | 103            | 51.0-160         |               |                | 0.775    | 20              |
| Chloroform                  | 5.00                 | 4.85               | 5.09                | 97.0          | 102            | 73.0-120         |               |                | 4.83     | 20              |
| Chloromethane               | 5.00                 | 4.50               | 4.77                | 90.0          | 95.4           | 41.0-142         |               |                | 5.83     | 20              |
| 2-Chlorotoluene             | 5.00                 | 4.84               | 5.08                | 96.8          | 102            | 76.0-123         |               |                | 4.84     | 20              |
| 4-Chlorotoluene             | 5.00                 | 4.83               | 4.99                | 96.6          | 99.8           | 75.0-122         |               |                | 3.26     | 20              |
| 1,2-Dibromo-3-Chloropropane | 5.00                 | 4.84               | 5.15                | 96.8          | 103            | 58.0-134         |               |                | 6.21     | 20              |
| 1,2-Dibromoethane           | 5.00                 | 4.89               | 5.01                | 97.8          | 100            | 80.0-122         |               |                | 2.42     | 20              |
| Dibromomethane              | 5.00                 | 5.16               | 5.10                | 103           | 102            | 80.0-120         |               |                | 1.17     | 20              |
| 1,2-Dichlorobenzene         | 5.00                 | 4.94               | 5.08                | 98.8          | 102            | 79.0-121         |               |                | 2.79     | 20              |
| 1,3-Dichlorobenzene         | 5.00                 | 4.89               | 5.11                | 97.8          | 102            | 79.0-120         |               |                | 4.40     | 20              |
| 1,4-Dichlorobenzene         | 5.00                 | 4.99               | 5.20                | 99.8          | 104            | 79.0-120         |               |                | 4.12     | 20              |
| Dichlorodifluoromethane     | 5.00                 | 4.54               | 5.14                | 90.8          | 103            | 51.0-149         |               |                | 12.4     | 20              |
| Dichlorofluoromethane       | 5.00                 | 4.80               | 4.89                | 96.0          | 97.8           | 65.0-133         |               |                | 1.86     | 20              |
| 1,1-Dichloroethane          | 5.00                 | 4.79               | 4.97                | 95.8          | 99.4           | 70.0-126         |               |                | 3.69     | 20              |
| 1,2-Dichloroethane          | 5.00                 | 5.02               | 5.19                | 100           | 104            | 70.0-128         |               |                | 3.33     | 20              |
| 1,1-Dichloroethene          | 5.00                 | 4.89               | 4.91                | 97.8          | 98.2           | 71.0-124         |               |                | 0.408    | 20              |
| cis-1,2-Dichloroethene      | 5.00                 | 4.70               | 4.97                | 94.0          | 99.4           | 73.0-120         |               |                | 5.58     | 20              |
| trans-1,2-Dichloroethene    | 5.00                 | 5.05               | 5.31                | 101           | 106            | 73.0-120         |               |                | 5.02     | 20              |
| 1,2-Dichloropropane         | 5.00                 | 4.91               | 5.04                | 98.2          | 101            | 77.0-125         |               |                | 2.61     | 20              |
| 1,1-Dichloropropene         | 5.00                 | 5.10               | 5.31                | 102           | 106            | 74.0-126         |               |                | 4.03     | 20              |
| 1,3-Dichloropropane         | 5.00                 | 5.04               | 4.99                | 101           | 99.8           | 80.0-120         |               |                | 0.997    | 20              |
| cis-1,3-Dichloropropene     | 5.00                 | 5.18               | 5.16                | 104           | 103            | 80.0-123         |               |                | 0.387    | 20              |
| trans-1,3-Dichloropropene   | 5.00                 | 5.04               | 5.18                | 101           | 104            | 78.0-124         |               |                | 2.74     | 20              |
| 2,2-Dichloropropane         | 5.00                 | 5.44               | 5.45                | 109           | 109            | 58.0-130         |               |                | 0.184    | 20              |
| Di-isopropyl ether          | 5.00                 | 4.75               | 4.79                | 95.0          | 95.8           | 58.0-138         |               |                | 0.839    | 20              |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3479180-1 12/04/19 16:02 • (LCSD) R3479180-2 12/04/19 16:20

| Analyte                        | Spike Amount<br>ug/l | LCS Result<br>ug/l | LCSD Result<br>ug/l | LCS Rec.<br>% | LCSD Rec.<br>% | Rec. Limits<br>% | LCS Qualifier | LCSD Qualifier | RPD<br>% | RPD Limits<br>% |
|--------------------------------|----------------------|--------------------|---------------------|---------------|----------------|------------------|---------------|----------------|----------|-----------------|
| Ethylbenzene                   | 5.00                 | 4.70               | 4.90                | 94.0          | 98.0           | 79.0-123         |               |                | 4.17     | 20              |
| Ethyl ether                    | 5.00                 | 5.11               | 5.27                | 102           | 105            | 66.0-130         |               |                | 3.08     | 20              |
| Hexachloro-1,3-butadiene       | 5.00                 | 4.65               | 4.40                | 93.0          | 88.0           | 54.0-138         |               |                | 5.52     | 20              |
| 2-Hexanone                     | 25.0                 | 25.1               | 26.2                | 100           | 105            | 67.0-149         |               |                | 4.29     | 20              |
| Isopropylbenzene               | 5.00                 | 4.81               | 4.91                | 96.2          | 98.2           | 76.0-127         |               |                | 2.06     | 20              |
| p-Isopropyltoluene             | 5.00                 | 4.96               | 5.09                | 99.2          | 102            | 76.0-125         |               |                | 2.59     | 20              |
| 2-Butanone (MEK)               | 25.0                 | 26.4               | 26.9                | 106           | 108            | 44.0-160         |               |                | 1.88     | 20              |
| Methylene Chloride             | 5.00                 | 4.64               | 5.30                | 92.8          | 106            | 67.0-120         |               |                | 13.3     | 20              |
| 4-Methyl-2-pentanone (MIBK)    | 25.0                 | 24.1               | 25.8                | 96.4          | 103            | 68.0-142         |               |                | 6.81     | 20              |
| Methyl tert-butyl ether        | 5.00                 | 4.78               | 4.95                | 95.6          | 99.0           | 68.0-125         |               |                | 3.49     | 20              |
| Naphthalene                    | 5.00                 | 4.83               | 5.16                | 96.6          | 103            | 54.0-135         |               |                | 6.61     | 20              |
| n-Propylbenzene                | 5.00                 | 4.90               | 5.17                | 98.0          | 103            | 77.0-124         |               |                | 5.36     | 20              |
| Styrene                        | 5.00                 | 5.02               | 5.04                | 100           | 101            | 73.0-130         |               |                | 0.398    | 20              |
| 1,1,1,2-Tetrachloroethane      | 5.00                 | 5.05               | 5.12                | 101           | 102            | 75.0-125         |               |                | 1.38     | 20              |
| 1,1,2,2-Tetrachloroethane      | 5.00                 | 4.79               | 5.19                | 95.8          | 104            | 65.0-130         |               |                | 8.02     | 20              |
| Tetrachloroethene              | 5.00                 | 5.05               | 5.28                | 101           | 106            | 72.0-132         |               |                | 4.45     | 20              |
| Tetrahydrofuran                | 5.00                 | 5.20               | 4.62                | 104           | 92.4           | 41.0-146         |               |                | 11.8     | 20              |
| Toluene                        | 5.00                 | 4.81               | 4.91                | 96.2          | 98.2           | 79.0-120         |               |                | 2.06     | 20              |
| 1,1,2-Trichlorotrifluoroethane | 5.00                 | 5.25               | 5.28                | 105           | 106            | 69.0-132         |               |                | 0.570    | 20              |
| 1,2,3-Trichlorobenzene         | 5.00                 | 5.05               | 5.25                | 101           | 105            | 50.0-138         |               |                | 3.88     | 20              |
| 1,2,4-Trichlorobenzene         | 5.00                 | 4.20               | 4.23                | 84.0          | 84.6           | 57.0-137         |               |                | 0.712    | 20              |
| 1,1,1-Trichloroethane          | 5.00                 | 5.09               | 5.22                | 102           | 104            | 73.0-124         |               |                | 2.52     | 20              |
| 1,1,2-Trichloroethane          | 5.00                 | 4.82               | 4.92                | 96.4          | 98.4           | 80.0-120         |               |                | 2.05     | 20              |
| Trichloroethene                | 5.00                 | 4.86               | 5.06                | 97.2          | 101            | 78.0-124         |               |                | 4.03     | 20              |
| Trichlorofluoromethane         | 5.00                 | 4.91               | 5.13                | 98.2          | 103            | 59.0-147         |               |                | 4.38     | 20              |
| 1,2,3-Trichloropropane         | 5.00                 | 4.80               | 5.46                | 96.0          | 109            | 73.0-130         |               |                | 12.9     | 20              |
| 1,2,3-Trimethylbenzene         | 5.00                 | 4.74               | 4.99                | 94.8          | 99.8           | 77.0-120         |               |                | 5.14     | 20              |
| 1,2,4-Trimethylbenzene         | 5.00                 | 4.71               | 4.97                | 94.2          | 99.4           | 76.0-121         |               |                | 5.37     | 20              |
| 1,3,5-Trimethylbenzene         | 5.00                 | 4.84               | 5.08                | 96.8          | 102            | 76.0-122         |               |                | 4.84     | 20              |
| Vinyl chloride                 | 5.00                 | 4.89               | 5.17                | 97.8          | 103            | 67.0-131         |               |                | 5.57     | 20              |
| Xylenes, Total                 | 15.0                 | 14.5               | 14.8                | 96.7          | 98.7           | 79.0-123         |               |                | 2.05     | 20              |
| Allyl chloride                 | 25.0                 | 25.8               | 26.8                | 103           | 107            | 72.0-128         |               |                | 3.80     | 20              |
| (S) Toluene-d8                 |                      |                    |                     | 100           | 98.2           | 80.0-120         |               |                |          |                 |
| (S) 4-Bromofluorobenzene       |                      |                    |                     | 99.2          | 99.2           | 77.0-126         |               |                |          |                 |
| (S) 1,2-Dichloroethane-d4      |                      |                    |                     | 101           | 103            | 70.0-130         |               |                |          |                 |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





L1165020-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1165020-01 12/04/19 19:06 • (MS) R3479180-4 12/05/19 01:21 • (MSD) R3479180-5 12/05/19 01:40

| Analyte                     | Spike Amount<br>ug/l | Original Result<br>ug/l | MS Result<br>ug/l | MSD Result<br>ug/l | MS Rec.<br>% | MSD Rec.<br>% | Dilution | Rec. Limits<br>% | MS Qualifier | MSD Qualifier | RPD<br>% | RPD Limits<br>% |
|-----------------------------|----------------------|-------------------------|-------------------|--------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| Acetone                     | 25.0                 | ND                      | ND                | 40.0               | 0.000        | 160           | 1        | 10.0-160         | <u>J6</u>    | <u>J3</u>     | 200      | 35              |
| Acrolein                    | 25.0                 | ND                      | 20.6              | 77.1               | 82.4         | 308           | 1        | 10.0-160         |              | <u>J3 J5</u>  | 116      | 39              |
| Acrylonitrile               | 25.0                 | ND                      | 11.5              | 23.4               | 46.0         | 93.6          | 1        | 21.0-160         |              | <u>J3</u>     | 68.2     | 32              |
| Benzene                     | 5.00                 | ND                      | 5.44              | 5.53               | 109          | 111           | 1        | 17.0-158         |              |               | 1.64     | 27              |
| Bromobenzene                | 5.00                 | ND                      | 4.35              | 4.71               | 87.0         | 94.2          | 1        | 30.0-149         |              |               | 7.95     | 28              |
| Bromodichloromethane        | 5.00                 | ND                      | 5.18              | 5.59               | 104          | 112           | 1        | 31.0-150         |              |               | 7.61     | 27              |
| Bromoform                   | 5.00                 | ND                      | 3.71              | 4.97               | 74.2         | 99.4          | 1        | 29.0-150         |              |               | 29.0     | 29              |
| Bromomethane                | 5.00                 | ND                      | 5.45              | 5.77               | 109          | 115           | 1        | 10.0-160         |              |               | 5.70     | 38              |
| n-Butylbenzene              | 5.00                 | ND                      | 5.40              | 5.17               | 108          | 103           | 1        | 31.0-150         |              |               | 4.35     | 30              |
| sec-Butylbenzene            | 5.00                 | ND                      | 5.12              | 5.18               | 102          | 104           | 1        | 33.0-155         |              |               | 1.17     | 29              |
| tert-Butylbenzene           | 5.00                 | ND                      | 4.83              | 4.85               | 96.6         | 97.0          | 1        | 34.0-153         |              |               | 0.413    | 28              |
| Carbon tetrachloride        | 5.00                 | ND                      | 6.68              | 6.24               | 134          | 125           | 1        | 23.0-159         |              |               | 6.81     | 28              |
| Chlorobenzene               | 5.00                 | ND                      | 4.70              | 4.78               | 94.0         | 95.6          | 1        | 33.0-152         |              |               | 1.69     | 27              |
| Chlorodibromomethane        | 5.00                 | ND                      | 4.52              | 5.25               | 90.4         | 105           | 1        | 37.0-149         |              |               | 14.9     | 27              |
| Chloroethane                | 5.00                 | ND                      | 5.96              | 6.17               | 119          | 123           | 1        | 10.0-160         |              |               | 3.46     | 30              |
| 2-Chloroethyl vinyl ether   | 25.0                 | ND                      | ND                | ND                 | 0.000        | 0.000         | 1        | 10.0-160         | <u>J6</u>    | <u>J6</u>     | 0.000    | 31              |
| Chloroform                  | 5.00                 | ND                      | 5.50              | 5.75               | 110          | 115           | 1        | 29.0-154         |              |               | 4.44     | 28              |
| Chloromethane               | 5.00                 | ND                      | 6.29              | 5.99               | 126          | 120           | 1        | 10.0-160         |              |               | 4.89     | 29              |
| 2-Chlorotoluene             | 5.00                 | ND                      | 4.42              | 4.67               | 88.4         | 93.4          | 1        | 32.0-153         |              |               | 5.50     | 28              |
| 4-Chlorotoluene             | 5.00                 | ND                      | 4.43              | 4.55               | 88.6         | 91.0          | 1        | 32.0-150         |              |               | 2.67     | 28              |
| 1,2-Dibromo-3-Chloropropane | 5.00                 | ND                      | 3.79              | 5.37               | 75.8         | 107           | 1        | 22.0-151         |              | <u>J3</u>     | 34.5     | 34              |
| 1,2-Dibromoethane           | 5.00                 | ND                      | 3.91              | 4.93               | 78.2         | 98.6          | 1        | 34.0-147         |              |               | 23.1     | 27              |
| Dibromomethane              | 5.00                 | ND                      | 4.39              | 5.57               | 87.8         | 111           | 1        | 30.0-151         |              |               | 23.7     | 27              |
| 1,2-Dichlorobenzene         | 5.00                 | ND                      | 4.41              | 4.66               | 88.2         | 93.2          | 1        | 34.0-149         |              |               | 5.51     | 28              |
| 1,3-Dichlorobenzene         | 5.00                 | ND                      | 4.55              | 4.73               | 91.0         | 94.6          | 1        | 36.0-146         |              |               | 3.88     | 27              |
| 1,4-Dichlorobenzene         | 5.00                 | ND                      | 4.56              | 4.77               | 91.2         | 95.4          | 1        | 35.0-142         |              |               | 4.50     | 27              |
| Dichlorodifluoromethane     | 5.00                 | ND                      | 7.99              | 8.18               | 160          | 164           | 1        | 10.0-160         |              | <u>J5</u>     | 2.35     | 29              |
| Dichlorofluoromethane       | 5.00                 | ND                      | 6.96              | 7.09               | 139          | 142           | 1        | 59.0-143         |              |               | 1.85     | 33              |
| 1,1-Dichloroethane          | 5.00                 | ND                      | 5.65              | 5.86               | 113          | 117           | 1        | 25.0-158         |              |               | 3.65     | 27              |
| 1,2-Dichloroethane          | 5.00                 | ND                      | 4.79              | 5.87               | 95.8         | 117           | 1        | 29.0-151         |              |               | 20.3     | 27              |
| 1,1-Dichloroethene          | 5.00                 | ND                      | 6.32              | 6.34               | 126          | 127           | 1        | 11.0-160         |              |               | 0.316    | 29              |
| cis-1,2-Dichloroethene      | 5.00                 | ND                      | 5.17              | 5.63               | 103          | 113           | 1        | 10.0-160         |              |               | 8.52     | 27              |
| trans-1,2-Dichloroethene    | 5.00                 | ND                      | 5.88              | 6.13               | 118          | 123           | 1        | 17.0-153         |              |               | 4.16     | 27              |
| 1,2-Dichloropropane         | 5.00                 | ND                      | 5.29              | 5.71               | 106          | 114           | 1        | 30.0-156         |              |               | 7.64     | 27              |
| 1,1-Dichloropropene         | 5.00                 | ND                      | 6.29              | 6.04               | 126          | 121           | 1        | 25.0-158         |              |               | 4.06     | 27              |
| 1,3-Dichloropropane         | 5.00                 | ND                      | 4.18              | 5.10               | 83.6         | 102           | 1        | 38.0-147         |              |               | 19.8     | 27              |
| cis-1,3-Dichloropropene     | 5.00                 | ND                      | 4.71              | 5.34               | 94.2         | 107           | 1        | 34.0-149         |              |               | 12.5     | 28              |
| trans-1,3-Dichloropropene   | 5.00                 | ND                      | 4.25              | 5.00               | 85.0         | 100           | 1        | 32.0-149         |              |               | 16.2     | 28              |
| 2,2-Dichloropropane         | 5.00                 | ND                      | 6.30              | 6.23               | 126          | 125           | 1        | 24.0-152         |              |               | 1.12     | 29              |
| Di-isopropyl ether          | 5.00                 | ND                      | 5.50              | 5.73               | 110          | 115           | 1        | 21.0-160         |              |               | 4.10     | 28              |

1 Cp

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6 Qc

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L1165020-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1165020-01 12/04/19 19:06 • (MS) R3479180-4 12/05/19 01:21 • (MSD) R3479180-5 12/05/19 01:40

| Analyte                        | Spike Amount<br>ug/l | Original Result<br>ug/l | MS Result<br>ug/l | MSD Result<br>ug/l | MS Rec.<br>% | MSD Rec.<br>% | Dilution | Rec. Limits<br>% | MS Qualifier | MSD Qualifier | RPD<br>% | RPD Limits<br>% |
|--------------------------------|----------------------|-------------------------|-------------------|--------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| Ethylbenzene                   | 5.00                 | ND                      | 4.78              | 4.59               | 95.6         | 91.8          | 1        | 30.0-155         |              |               | 4.06     | 27              |
| Ethyl ether                    | 5.00                 | ND                      | 4.81              | 5.81               | 96.2         | 116           | 1        | 45.0-135         |              |               | 18.8     | 23              |
| Hexachloro-1,3-butadiene       | 5.00                 | ND                      | 4.88              | 4.40               | 97.6         | 88.0          | 1        | 20.0-154         |              |               | 10.3     | 34              |
| 2-Hexanone                     | 25.0                 | ND                      | 12.7              | 26.9               | 50.8         | 108           | 1        | 21.0-160         |              | J3            | 71.7     | 29              |
| Isopropylbenzene               | 5.00                 | ND                      | 5.09              | 4.69               | 102          | 93.8          | 1        | 28.0-157         |              |               | 8.18     | 27              |
| p-Isopropyltoluene             | 5.00                 | ND                      | 4.92              | 4.93               | 98.4         | 98.6          | 1        | 30.0-154         |              |               | 0.203    | 29              |
| 2-Butanone (MEK)               | 25.0                 | ND                      | 10.3              | 30.1               | 41.2         | 120           | 1        | 10.0-160         |              | J3            | 98.0     | 32              |
| Methylene Chloride             | 5.00                 | ND                      | 5.26              | 5.85               | 105          | 117           | 1        | 23.0-144         |              |               | 10.6     | 28              |
| 4-Methyl-2-pentanone (MIBK)    | 25.0                 | ND                      | 15.6              | 27.6               | 62.4         | 110           | 1        | 29.0-160         |              | J3            | 55.6     | 29              |
| Methyl tert-butyl ether        | 5.00                 | ND                      | 5.02              | 5.57               | 100          | 111           | 1        | 28.0-150         |              |               | 10.4     | 29              |
| Naphthalene                    | 5.00                 | ND                      | 4.57              | 5.20               | 91.4         | 104           | 1        | 12.0-156         |              |               | 12.9     | 35              |
| n-Propylbenzene                | 5.00                 | ND                      | 4.91              | 4.90               | 98.2         | 98.0          | 1        | 31.0-154         |              |               | 0.204    | 28              |
| Styrene                        | 5.00                 | ND                      | 4.68              | 4.73               | 93.6         | 94.6          | 1        | 33.0-155         |              |               | 1.06     | 28              |
| 1,1,1,2-Tetrachloroethane      | 5.00                 | ND                      | 5.09              | 5.00               | 102          | 100           | 1        | 36.0-151         |              |               | 1.78     | 29              |
| 1,1,2,2-Tetrachloroethane      | 5.00                 | ND                      | 3.66              | 5.11               | 73.2         | 102           | 1        | 33.0-150         |              | J3            | 33.1     | 28              |
| Tetrachloroethene              | 5.00                 | ND                      | 5.80              | 5.03               | 116          | 101           | 1        | 10.0-160         |              |               | 14.2     | 27              |
| Tetrahydrofuran                | 5.00                 | ND                      | 2.12              | 6.13               | 42.4         | 123           | 1        | 12.0-156         |              | J3            | 97.2     | 27              |
| Toluene                        | 5.00                 | ND                      | 5.60              | 5.44               | 112          | 109           | 1        | 26.0-154         |              |               | 2.90     | 28              |
| 1,1,2-Trichlorotrifluoroethane | 5.00                 | ND                      | 6.69              | 6.62               | 134          | 132           | 1        | 23.0-160         |              |               | 1.05     | 30              |
| 1,2,3-Trichlorobenzene         | 5.00                 | ND                      | 4.95              | 4.75               | 99.0         | 95.0          | 1        | 17.0-150         |              |               | 4.12     | 36              |
| 1,2,4-Trichlorobenzene         | 5.00                 | ND                      | 4.16              | 3.74               | 83.2         | 74.8          | 1        | 24.0-150         |              |               | 10.6     | 33              |
| 1,1,1-Trichloroethane          | 5.00                 | ND                      | 6.19              | 5.90               | 124          | 118           | 1        | 23.0-160         |              |               | 4.80     | 28              |
| 1,1,2-Trichloroethane          | 5.00                 | ND                      | 4.22              | 5.19               | 84.4         | 104           | 1        | 35.0-147         |              |               | 20.6     | 27              |
| Trichloroethene                | 5.00                 | ND                      | 5.15              | 4.91               | 103          | 98.2          | 1        | 10.0-160         |              |               | 4.77     | 25              |
| Trichlorofluoromethane         | 5.00                 | ND                      | 6.95              | 6.87               | 139          | 137           | 1        | 17.0-160         |              |               | 1.16     | 31              |
| 1,2,3-Trichloropropane         | 5.00                 | ND                      | 3.38              | 5.02               | 67.6         | 100           | 1        | 34.0-151         |              | J3            | 39.0     | 29              |
| 1,2,3-Trimethylbenzene         | 5.00                 | ND                      | 5.80              | 5.85               | 116          | 117           | 1        | 32.0-149         |              |               | 0.858    | 28              |
| 1,2,4-Trimethylbenzene         | 5.00                 | ND                      | 4.63              | 4.60               | 92.6         | 92.0          | 1        | 26.0-154         |              |               | 0.650    | 27              |
| 1,3,5-Trimethylbenzene         | 5.00                 | ND                      | 4.55              | 4.63               | 91.0         | 92.6          | 1        | 28.0-153         |              |               | 1.74     | 27              |
| Vinyl chloride                 | 5.00                 | ND                      | 6.50              | 6.62               | 130          | 132           | 1        | 10.0-160         |              |               | 1.83     | 27              |
| Xylenes, Total                 | 15.0                 | ND                      | 14.6              | 13.8               | 97.3         | 92.0          | 1        | 29.0-154         |              |               | 5.63     | 28              |
| Allyl chloride                 | 25.0                 | ND                      | 29.3              | 31.1               | 117          | 124           | 1        | 39.0-145         |              |               | 5.96     | 30              |
| (S) Toluene-d8                 |                      |                         |                   |                    | 99.7         | 97.9          |          | 80.0-120         |              |               |          |                 |
| (S) 4-Bromofluorobenzene       |                      |                         |                   |                    | 95.1         | 95.7          |          | 77.0-126         |              |               |          |                 |
| (S) 1,2-Dichloroethane-d4      |                      |                         |                   |                    | 92.3         | 109           |          | 70.0-130         |              |               |          |                 |

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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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

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.  |
| Original Sample              | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.  |
| 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. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma.   |
| 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

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3 Ss

4 Cn

5 Sr

6 Qc

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8 Al

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Qualifier Description

|    |  |
|----|--|
| J3 | The associated batch QC was outside the established quality control range for precision.               |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| J6 | The sample matrix interfered with the ability to make any accurate determination; spike value is low.  |



# ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.



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.

<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

## 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                       | T104704245-18-15 |
| 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             |

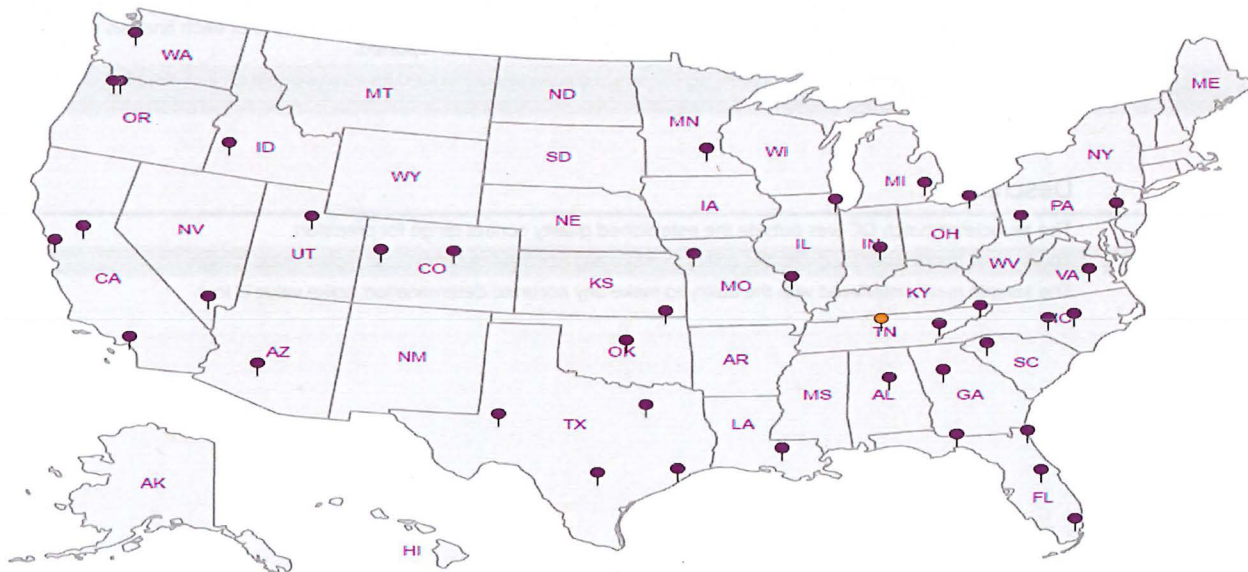
## Third Party Federal Accreditations

|                               |         |                     |               |
|-------------------------------|---------|---------------------|---------------|
| 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.



ACCOUNT:

MSA Professional Services

PROJECT:

17644000

SDG:

L1165020

DATE/TIME:

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