

Data Path : Z:\VOASRV\HPCHEM1\MSVOA U\DATA\VU082819\  
 Data File : VU033982.D  
 Acq On : 27 Aug 2019 19:05  
 Operator : JC/SP  
 Sample : VU0828WBS01  
 Misc : 5.0mL/MSVOA U/WATER  
 ALS Vial : 14 Sample Multiplier: 1

Instrument :  
 MSVOA\_U  
 ClientSampleId :  
 VU0828WBS01

Manual Integrations  
 APPROVED

MMDadoda  
 8/28/2019 9:58:05 AM

Quant Time: Aug 28 04:28:34 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_U\METHOD\82U082819W.M  
 Quant Title : SW846 8260  
 QLast Update : Wed Aug 28 02:42:03 2019  
 Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|-------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 4.96  | 168  | 351029   | 50.00 | ug/l  | 0.00     |
| 34) 1,4-Difluorobenzene    | 5.86  | 114  | 521307   | 50.00 | ug/l  | 0.00     |
| 63) Chlorobenzene-d5       | 9.07  | 117  | 504501   | 50.00 | ug/l  | 0.00     |
| 72) 1,4-Dichlorobenzene-d4 | 11.47 | 152  | 266875   | 50.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |     |          |       |         |      |
|---------------------------|--------|-----|----------|-------|---------|------|
| 33) 1,2-Dichloroethane-d4 | 5.29   | 65  | 194890   | 49.97 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 99.94%  |      |
| 35) Dibromofluoromethane  | 4.86   | 113 | 175550   | 50.10 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 100.20% |      |
| 50) Toluene-d8            | 7.55   | 98  | 668567   | 51.73 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 103.46% |      |
| 62) 4-Bromofluorobenzene  | 10.29  | 95  | 239745   | 48.35 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 96.70%  |      |

## Target Compounds

|                               |      |     |        |         |        | Qvalue |
|-------------------------------|------|-----|--------|---------|--------|--------|
| 2) Dichlorodifluoromethane    | 1.20 | 85  | 71305  | 20.196  | ug/l   | 98     |
| 3) Chloromethane              | 1.32 | 50  | 78109  | 20.967  | ug/l   | 99     |
| 4) Vinyl Chloride             | 1.40 | 62  | 68014  | 19.296  | ug/l   | 99     |
| 5) Bromomethane               | 1.61 | 94  | 44485  | 20.765  | ug/l   | 98     |
| 6) Chloroethane               | 1.68 | 64  | 39415  | 18.781  | ug/l   | 100    |
| 7) Trichlorofluoromethane     | 1.87 | 101 | 92351  | 19.912  | ug/l   | 99     |
| 8) Diethyl Ether              | 2.09 | 74  | 34331  | 19.515  | ug/l   | 99     |
| 9) 1,1,2-Trichlorotrifluoroet | 2.27 | 101 | 60081  | 20.284  | ug/l   | 99     |
| 10) Methyl Iodide             | 2.40 | 142 | 86147  | 19.421  | ug/l   | 99     |
| 11) Tert butyl alcohol        | 2.81 | 59  | 94252  | 93.309  | ug/l # | 87     |
| 12) 1,1-Dichloroethene        | 2.27 | 96  | 62512  | 20.220  | ug/l   | 98     |
| 13) Acrolein                  | 2.18 | 56  | 29500  | 91.963  | ug/l   | 100    |
| 14) Allyl chloride            | 2.58 | 41  | 107067 | 19.559  | ug/l   | 99     |
| 15) Acrylonitrile             | 2.92 | 53  | 203844 | 99.827  | ug/l   | 98     |
| 16) Acetone                   | 2.31 | 43  | 162665 | 87.142  | ug/l   | 99     |
| 17) Carbon Disulfide          | 2.46 | 76  | 195201 | 19.228  | ug/l   | 99     |
| 18) Methyl Acetate            | 2.60 | 43  | 88969  | 19.351  | ug/l   | 99     |
| 19) Methyl tert-butyl Ether   | 2.98 | 73  | 211192 | 20.335  | ug/l   | 99     |
| 20) Methylene Chloride        | 2.68 | 84  | 76266  | 19.257  | ug/l   | 100    |
| 21) trans-1,2-Dichloroethene  | 2.96 | 96  | 69838  | 19.813  | ug/l   | 98     |
| 22) Diisopropyl ether         | 3.55 | 45  | 208305 | 20.711  | ug/l   | 100    |
| 23) Vinyl Acetate             | 3.50 | 43  | 864552 | 101.183 | ug/l   | 99     |
| 24) 1,1-Dichloroethane        | 3.42 | 63  | 126376 | 20.070  | ug/l   | 100    |
| 25) 2-Butanone                | 4.24 | 43  | 257772 | 96.335  | ug/l   | 99     |
| 26) 2,2-Dichloropropane       | 4.20 | 77  | 98449  | 18.490  | ug/l   | 100    |
| 27) cis-1,2-Dichloroethene    | 4.20 | 96  | 79235  | 20.081  | ug/l   | 98     |
| 28) Bromochloromethane        | 4.52 | 49  | 56906  | 19.642  | ug/l   | 99     |
| 29) Tetrahydrofuran           | 4.61 | 42  | 165646 | 98.974  | ug/l   | 100    |
| 30) Chloroform                | 4.65 | 83  | 126583 | 19.632  | ug/l   | 100    |
| 31) Cyclohexane               | 4.97 | 56  | 114915 | 19.985  | ug/l   | 96     |
| 32) 1,1,1-Trichloroethane     | 4.89 | 97  | 107491 | 19.802  | ug/l   | 99     |
| 36) 1,1-Dichloropropene       | 5.11 | 75  | 90947  | 19.048  | ug/l   | 98     |
| 37) Ethyl Acetate             | 4.36 | 43  | 94210  | 19.672  | ug/l   | 98     |
| 38) Carbon Tetrachloride      | 5.11 | 117 | 96468  | 19.825  | ug/l   | 99     |

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 Operator : JC/SP  
 Sample : VU0828WBS01  
 Misc : 5.0mL/MSVOA U/WATER  
 ALS Vial : 14 Sample Multiplier: 1

Instrument :  
 MSVOA\_U  
 ClientSampleId :  
 VU0828WBS01

Manual Integrations  
 APPROVED

MMDadoda  
 8/28/2019 9:58:05 AM

Quant Time: Aug 28 04:28:34 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_U\METHOD\82U082819W.M  
 Quant Title : SW846 8260  
 QLast Update : Wed Aug 28 02:42:03 2019  
 Response via : Initial Calibration

| Internal Standards             | R.T.  | QIon | Response | Conc    | Units  | Dev(Min) |
|--------------------------------|-------|------|----------|---------|--------|----------|
| 39) Methylcyclohexane          | 6.40  | 83   | 109807   | 19.436  | ug/l   | 96       |
| 40) Benzene                    | 5.37  | 78   | 286688   | 20.195  | ug/l   | 100      |
| 41) Methacrylonitrile          | 4.52  | 41   | 50667    | 20.417  | ug/l   | 99       |
| 42) 1,2-Dichloroethane         | 5.38  | 62   | 95988    | 19.995  | ug/l   | 98       |
| 43) Isopropyl Acetate          | 5.53  | 43   | 145362   | 19.796  | ug/l   | 99       |
| 44) Trichloroethene            | 6.17  | 130  | 80199    | 19.813  | ug/l   | 98       |
| 45) 1,2-Dichloropropane        | 6.41  | 63   | 75890    | 19.982  | ug/l   | 96       |
| 46) Dibromomethane             | 6.54  | 93   | 52050    | 20.151  | ug/l   | 98       |
| 47) Bromodichloromethane       | 6.74  | 83   | 98407    | 20.003  | ug/l   | 98       |
| 48) Methyl methacrylate        | 6.60  | 41   | 67665    | 19.381  | ug/l   | 98       |
| 49) 1,4-Dioxane                | 6.59  | 88   | 37635    | 392.791 | ug/l # | 99       |
| 51) 4-Methyl-2-Pentanone       | 7.44  | 43   | 491920   | 97.163  | ug/l   | 100      |
| 52) Toluene                    | 7.62  | 92   | 183234   | 20.470  | ug/l   | 99       |
| 53) t-1,3-Dichloropropene      | 7.86  | 75   | 103549   | 19.034  | ug/l   | 98       |
| 54) cis-1,3-Dichloropropene    | 7.25  | 75   | 114895   | 19.537  | ug/l   | 99       |
| 55) 1,1,2-Trichloroethane      | 8.05  | 97   | 73589    | 19.456  | ug/l   | 100      |
| 56) Ethyl methacrylate         | 8.00  | 69   | 107278   | 19.601  | ug/l   | 98       |
| 57) 1,3-Dichloropropane        | 8.22  | 76   | 122742   | 19.912  | ug/l   | 99       |
| 58) 2-Chloroethyl Vinyl ether  | 7.11  | 63   | 172896   | 89.121  | ug/l   | 100      |
| 59) 2-Hexanone                 | 8.34  | 43   | 375898   | 96.595  | ug/l   | 99       |
| 60) Dibromochloromethane       | 8.46  | 129  | 82825    | 19.473  | ug/l   | 99       |
| 61) 1,2-Dibromoethane          | 8.57  | 107  | 77868    | 19.493  | ug/l   | 99       |
| 64) Tetrachloroethene          | 8.21  | 164  | 83642    | 20.620  | ug/l   | 96       |
| 65) Chlorobenzene              | 9.10  | 112  | 204739   | 19.708  | ug/l   | 99       |
| 66) 1,1,1,2-Tetrachloroethane  | 9.19  | 131  | 74654    | 19.274  | ug/l   | 98       |
| 67) Ethyl Benzene              | 9.23  | 91   | 344883   | 19.911  | ug/l   | 99       |
| 68) m/p-Xylenes                | 9.36  | 106  | 268417   | 40.181  | ug/l   | 100      |
| 69) o-Xylene                   | 9.76  | 106  | 128933   | 20.188  | ug/l   | 97       |
| 70) Styrene                    | 9.77  | 104  | 221428   | 20.258  | ug/l   | 99       |
| 71) Bromoform                  | 9.94  | 173  | 65124    | 18.994  | ug/l # | 99       |
| 73) Isopropylbenzene           | 10.15 | 105  | 349250   | 20.334  | ug/l   | 99       |
| 74) N-amyl acetate             | 10.00 | 43   | 125529   | 19.470  | ug/l   | 98       |
| 75) 1,1,2,2-Tetrachloroethane  | 10.44 | 83   | 118648   | 19.179  | ug/l   | 100      |
| 76) 1,2,3-Trichloropropane     | 10.48 | 75   | 103231m  | 19.414  | ug/l   |          |
| 77) Bromobenzene               | 10.43 | 156  | 96232    | 19.827  | ug/l   | 99       |
| 78) n-propylbenzene            | 10.57 | 91   | 392278   | 20.139  | ug/l   | 100      |
| 79) 2-Chlorotoluene            | 10.64 | 91   | 237713   | 20.225  | ug/l   | 100      |
| 80) 1,3,5-Trimethylbenzene     | 10.76 | 105  | 302978   | 20.596  | ug/l   | 99       |
| 81) trans-1,4-Dichloro-2-buten | 10.49 | 75   | 35626m   | 19.190  | ug/l   |          |
| 82) 4-Chlorotoluene            | 10.75 | 91   | 267182   | 19.637  | ug/l   | 100      |
| 83) tert-Butylbenzene          | 11.08 | 119  | 283886   | 19.880  | ug/l   | 100      |
| 84) 1,2,4-Trimethylbenzene     | 11.13 | 105  | 298533   | 20.671  | ug/l   | 100      |
| 85) sec-Butylbenzene           | 11.31 | 105  | 339876   | 19.943  | ug/l   | 100      |
| 86) p-Isopropyltoluene         | 11.46 | 119  | 322991   | 20.248  | ug/l   | 99       |
| 87) 1,3-Dichlorobenzene        | 11.40 | 146  | 166914   | 19.385  | ug/l   | 100      |
| 88) 1,4-Dichlorobenzene        | 11.49 | 146  | 165171   | 19.007  | ug/l   | 99       |
| 89) n-Butylbenzene             | 11.87 | 91   | 259810   | 19.487  | ug/l   | 98       |
| 90) Hexachloroethane           | 12.13 | 117  | 49233    | 18.660  | ug/l   | 98       |
| 91) 1,2-Dichlorobenzene        | 11.86 | 146  | 164295   | 19.384  | ug/l   | 100      |
| 92) 1,2-Dibromo-3-Chloropropan | 12.64 | 75   | 24437    | 19.721  | ug/l   | 98       |

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Acq On : 27 Aug 2019 19:05  
Operator : JC/SP  
Sample : VU0828WBS01  
Misc : 5.0mL/MSVOA U/WATER  
ALS Vial : 14 Sample Multiplier: 1

Instrument :  
MSVOA\_U  
ClientSampleId :  
VU0828WBS01

Manual Integrations  
APPROVED

MMDadoda  
8/28/2019 9:58:05 AM

Quant Time: Aug 28 04:28:34 2019  
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA\_U\METHOD\82U082819W.M  
Quant Title : SW846 8260  
QLast Update : Wed Aug 28 02:42:03 2019  
Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc   | Units | Dev(Min) |
|----------------------------|-------|------|----------|--------|-------|----------|
| 93) 1,2,4-Trichlorobenzene | 13.49 | 180  | 99562    | 17.861 | ug/l  | 98       |
| 94) Hexachlorobutadiene    | 13.68 | 225  | 64706    | 18.622 | ug/l  | 100      |
| 95) Naphthalene            | 13.73 | 128  | 260884   | 17.259 | ug/l  | 100      |
| 96) 1,2,3-Trichlorobenzene | 13.97 | 180  | 104189   | 19.237 | ug/l  | 98       |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

