# APPENDIX B
# STL LABORATORY QUALITY CONTROL CRITERIA

## STL Seattle - Method QC Limits

Anion Scan - EPA Method 300.0
Matrix: Water

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Chloride | 90 | 110 | % | |
| Nitrate | 90 | 110 | % | |
| Sulfate | 90 | 110 | % | |
| *Duplicate RPD* | | | | |
| Chloride | | | % | 20 |
| Nitrate | | | % | 20 |
| Sulfate | | | % | 20 |
| *Matrix Spike Recovery* | | | | |
| Chloride | 80 | 120 | % | |
| Nitrate | 80 | 120 | % | |
| Sulfate | 80 | 120 | % | |

**STL Seattle - Method QC Limits**

Total Metals by ICP - USEPA Method 6010

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Sodium | 80 | 120 | % | 20 |
| *Duplicate RPD* | | | | |
| Sodium | | | | 20 |
| *Matrix Spike Recovery* | | | | |
| Sodium | 75 | 125 | % | |

## STL Seattle - Method QC Limits

Dissolved Metals by ICP-MS - USEPA Method 6020

Matrix: Water

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Arsenic | 80 | 120 | % | |
| Cadmium | 80 | 120 | % | |
| Chromium | 80 | 120 | % | |
| Copper | 80 | 120 | % | |
| Lead | 80 | 120 | % | |
| Nickel | 80 | 120 | % | |
| Zinc | 80 | 120 | % | |
| *Duplicate RPD* | | | | |
| Arsenic | | | % | 20 |
| Cadmium | | | % | 20 |
| Chromium | | | % | 20 |
| Copper | | | % | 20 |
| Lead | | | % | 20 |
| Nickel | | | % | 20 |
| Zinc | | | % | 20 |
| *Matrix Spike Recovery* | | | | |
| Arsenic | 75 | 125 | % | |
| Cadmium | 75 | 125 | % | |
| Chromium | 75 | 125 | % | |
| Copper | 75 | 125 | % | |
| Lead | 75 | 125 | % | |
| Nickel | 75 | 125 | % | |
| Sodium | 75 | 125 | % | |
| Zinc | 75 | 125 | % | |

## STL Seattle - Method QC Limits

Dissolved Mercury by CVAA - USEPA Method 7470

Matrix: Water

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Mercury | 75 | 125 | % | |
| *Duplicate RPD* | | | | |
| Mercury | | | % | 20 |
| *Matrix Spike Recovery* | | | | |
| Mercury | 75 | 125 | % | |

## STL Seattle - Method QC Limits

Volatile Petroleum Products by WSDOE Method NWTPH-Gx Modified

Matrix: Water

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Gasoline by NWTPH-G | 77 | 120 | % | 20 |
| *Duplicate RPD* | | | | |
| Gasoline by NWTPH-G | | | % | 35 |
| *Matrix Spike Recovery* | | | | |
| Gasoline by NWTPH-G | 50 | 150 | % | 35 |
| *Surrogate Recovery* | | | | |
| Trifluorotoluene | 50 | 150 | % | |
| Bromofluorobenzene | 50 | 150 | % | |

## STL Seattle - Method QC Limits

Diesel and Motor Oil by NWTPH-Dx Modified

Matrix: Water

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Motor Oil | 49 | 138 | % | 39 |
| #2 Diesel | 64 | 140 | % | 29 |
| *Duplicate RPD* | | | | |
| #2 Diesel | | | % | 35 |
| *Matrix Spike Recovery* | | | | |
| Motor Oil | 49 | 138 | % | 39 |
| #2 Diesel | 64 | 140 | % | 29 |
| *Surrogate Recovery* | | | | |
| o-terphenyl | 50 | 150 | % | |

## STL Seattle - Method QC Limits

Volatile Organics by USEPA Method 5030/8260B Modified
Analysis Method: 8260B
Matrix: Water
Preparation Method: SW5030 B

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Dibromochloromethane | 80 | 120 | % | |
| 1,3-Dichlorobenzene | 80 | 120 | % | |
| Chloroethane | 80 | 120 | % | |
| 1,3,5-Trimethylbenzene | 80 | 120 | % | |
| Chloroform | 80 | 120 | % | |
| Chloromethane | 80 | 120 | % | |
| cis-1,2-Dichloroethene | 80 | 120 | % | |
| 1,2,4-Trimethylbenzene | 80 | 120 | % | |
| cis-1,3-Dichloropropene | 80 | 120 | % | |
| 1,3-Dichloropropane | 80 | 120 | % | |
| 1,2-Dichloroethane | 80 | 120 | % | |
| Dibromomethane | 80 | 120 | % | |
| 4-Chlorotoluene | 80 | 120 | % | |
| 1,2-Dichlorobenzene | 80 | 120 | % | |
| Bromomethane | 80 | 120 | % | |
| Ethylbenzene | 80 | 120 | % | |
| 1,2-Dibromo-3-chloropropane | 80 | 120 | % | |
| 1,2-Dichloropropane | 80 | 120 | % | |
| 2,2-Dichloropropane | 80 | 120 | % | |
| 2-Hexanone | 80 | 120 | % | |
| 4-Isopropyltoluene | 80 | 120 | % | |
| 4-Methyl-2-pentanone | 80 | 120 | % | |
| 2-Chlorotoluene | 80 | 120 | % | |
| Acetone | 80 | 120 | % | |
| Benzene | 81 | 124 | % | 16 |
| 2-Butanone | 80 | 120 | % | |
| Chlorobenzene | 85 | 126 | % | 16 |
| Bromochloromethane | 80 | 120 | % | |
| Carbon Tetrachloride | 80 | 120 | % | |
| Bromodichloromethane | 80 | 120 | % | |
| 1,4-Dichlorobenzene | 80 | 120 | % | |
| Bromoform | 80 | 120 | % | |
| 1,1,1,2-Tetrachloroethane | 80 | 120 | % | |
| Vinyl chloride | 80 | 120 | % | |
| Carbon disulfide | 80 | 120 | % | |
| Dichlorodifluoromethane | 80 | 120 | % | |
| Bromobenzene | 80 | 120 | % | |
| n-Propylbenzene | 80 | 120 | % | |
| Toluene | 85 | 120 | % | 14 |
| Tetrachloroethene | 80 | 120 | % | |
| 1,1,2-Trichloroethane | 80 | 120 | % | |
| trans-1,2-Dichloroethene | 80 | 120 | % | |
| 1,1-Dichloroethane | 80 | 120 | % | |
| t-Butylbenzene | 80 | 120 | % | |

| | | | | |
|---|---|---|---|---|
| Hexachlorobutadiene | 80 | 120 | % | |
| 1,1-Dichloroethene | 77 | 124 | % | 19 |
| sec-Butylbenzene | 80 | 120 | % | |
| 1,1-Dichloropropene | 80 | 120 | % | |
| trans-1,3-Dichloropropene | 80 | 120 | % | |
| o-Xylene | 80 | 120 | % | |
| 1,1,2,2-Tetrachloroethane | 80 | 120 | % | |
| Styrene | 80 | 120 | % | |
| Methylene chloride | 80 | 120 | % | |
| n-Butylbenzene | 80 | 120 | % | |
| Trichloroethene | 82 | 119 | % | 16 |
| 1,1,1-Trichloroethane | 80 | 120 | % | |
| Naphthalene | 80 | 120 | % | |
| 1,2,3-Trichloropropane | 80 | 120 | % | |
| Trichlorofluoromethane | 80 | 120 | % | |
| 1,2,3-Trichlorobenzene | 80 | 120 | % | |
| Isopropylbenzene | 80 | 120 | % | |
| 1,2,4-Trichlorobenzene | 80 | 120 | % | |
| m,p-Xylene | 80 | 120 | % | |
| *Matrix Spike Recovery* | | | | |
| 1,1,1,2-Tetrachloroethane | 70 | 130 | % | 30 |
| 2-Chlorotoluene | 70 | 130 | % | 30 |
| 2-Butanone | 70 | 130 | % | 30 |
| 1,1,2,2-Tetrachloroethane | 70 | 130 | % | 30 |
| 1,1,1-Trichloroethane | 70 | 130 | % | 30 |
| 1,1,2-Trichloroethane | 70 | 130 | % | 30 |
| 2,2-Dichloropropane | 70 | 130 | % | 30 |
| 1,4-Dichlorobenzene | 70 | 130 | % | 30 |
| 1,1-Dichloroethane | 70 | 130 | % | 30 |
| 1,3-Dichloropropane | 70 | 130 | % | 30 |
| 1,2-Dibromo-3-chloropropane | 70 | 130 | % | 30 |
| 1,3-Dichlorobenzene | 70 | 130 | % | 30 |
| 1,3,5-Trimethylbenzene | 70 | 130 | % | 30 |
| 1,1-Dichloropropene | 70 | 130 | % | 30 |
| 1,2-Dichloropropane | 70 | 130 | % | 30 |
| 1,2,3-Trichlorobenzene | 70 | 130 | % | 30 |
| 1,2-Dichloroethane | 70 | 130 | % | 30 |
| 1,2-Dichlorobenzene | 70 | 130 | % | 30 |
| 1,2,3-Trichloropropane | 70 | 130 | % | 30 |
| 1,2,4-Trichlorobenzene | 70 | 130 | % | 30 |
| 1,2,4-Trimethylbenzene | 70 | 130 | % | 30 |
| 1,1-Dichloroethene | 77 | 124 | % | 19 |
| sec-Butylbenzene | 70 | 130 | % | 30 |
| Ethylbenzene | 70 | 130 | % | 30 |
| Bromoform | 70 | 130 | % | 30 |
| Hexachlorobutadiene | 70 | 130 | % | 30 |
| Isopropylbenzene | 70 | 130 | % | 30 |
| m,p-Xylene | 70 | 130 | % | 30 |
| Methylene chloride | 70 | 130 | % | 30 |
| Naphthalene | 70 | 130 | % | 30 |
| n-Butylbenzene | 70 | 130 | % | 30 |
| 2-Hexanone | 70 | 130 | % | 30 |

| | | | | |
|---|---|---|---|---|
| o-Xylene | 70 | 130 | % | 30 |
| Dichlorodifluoromethane | 70 | 130 | % | 30 |
| Styrene | 70 | 130 | % | 30 |
| t-Butylbenzene | 70 | 130 | % | 30 |
| Tetrachloroethene | 70 | 130 | % | 30 |
| Toluene | 85 | 120 | % | 14 |
| trans-1,2-Dichloroethene | 70 | 130 | % | 30 |
| trans-1,3-Dichloropropene | 70 | 130 | % | 30 |
| Trichloroethene | 82 | 119 | % | 16 |
| Trichlorofluoromethane | 70 | 130 | % | 30 |
| Vinyl chloride | 70 | 130 | % | 30 |
| n-Propylbenzene | 70 | 130 | % | 30 |
| Carbon disulfide | 70 | 130 | % | 30 |
| 4-Chlorotoluene | 70 | 130 | % | 30 |
| 4-Isopropyltoluene | 70 | 130 | % | 30 |
| 4-Methyl-2-pentanone | 70 | 130 | % | 30 |
| Acetone | 70 | 130 | % | 30 |
| Benzene | 81 | 124 | % | 16 |
| Bromobenzene | 70 | 130 | % | 30 |
| Bromochloromethane | 70 | 130 | % | 30 |
| Bromodichloromethane | 70 | 130 | % | 30 |
| Bromomethane | 70 | 130 | % | 30 |
| Dibromomethane | 70 | 130 | % | 30 |
| Carbon Tetrachloride | 70 | 130 | % | 30 |
| Chlorobenzene | 85 | 126 | % | 16 |
| Chloroethane | 70 | 130 | % | 30 |
| Chloroform | 70 | 130 | % | 30 |
| Chloromethane | 70 | 130 | % | 30 |
| cis-1,2-Dichloroethene | 70 | 130 | % | 30 |
| cis-1,3-Dichloropropene | 70 | 130 | % | 30 |
| Dibromochloromethane | 70 | 130 | % | 30 |
| *Surrogate Recovery* | | | | |
| Ethylbenzene-d10 | 80 | 120 | % | |
| Toluene-D8 | 80 | 120 | % | |
| Fluorobenzene | 80 | 120 | % | |
| Dibromofluoromethane | 80 | 120 | % | |
| Bromofluorobenzene | 80 | 120 | % | |

## STL Seattle - Method QC Limits

Semivolatile Organics by USEPA Method 8270C
Matrix: Water
Preparation Method: 3510C

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Benzo(g,h,i)perylene | 52 | 160 | % | |
| Dibenz(a,h)anthracene | 49 | 169 | % | |
| 4-Chlorophenylphenylether | 45 | 135 | % | |
| 4-Nitroaniline | 45 | 135 | % | |
| 4-Nitrophenol | D | 87 | % | |
| Acenaphthene | 47 | 135 | % | |
| Acenaphthylene | 33 | 136 | % | |
| Aniline | 20 | 150 | % | |
| Anthracene | 53 | 141 | % | |
| Benzidine | 20 | 150 | % | |
| Benzo(a)anthracene | 59 | 132 | % | |
| 4-Chloro-3-methylphenol | 35 | 144 | % | |
| Benzo(a)pyrene | 53 | 142 | % | |
| 4-Bromophenylphenylether | 45 | 135 | % | |
| Benzoic Acid | 20 | 150 | % | |
| Benzyl Alcohol | 20 | 150 | % | |
| bis(2-Chloroethoxy)methane | 45 | 135 | % | |
| bis(2-Chloroethyl)ether | 45 | 135 | % | |
| bis(2-Chloroisopropyl)ether | 45 | 135 | % | |
| bis(2-Ethylhexyl)phthalate | 45 | 135 | % | |
| Butylbenzylphthalate | 45 | 135 | % | |
| Carbazole | 45 | 135 | % | |
| Chrysene | 53 | 145 | % | |
| Cyclohexanone | 20 | 150 | % | |
| 1,2,4-Trichlorobenzene | 35 | 133 | % | |
| 2-Chlorophenol | 41 | 125 | % | |
| 1,2-Dichlorobenzene | 45 | 135 | % | |
| 1,2-Diphenylhydrazine | 20 | 150 | % | |
| 1,3-Dichlorobenzene | 45 | 135 | % | |
| 1,4-Dichlorobenzene | 36 | 123 | % | |
| 2,4,5-Trichlorophenol | 20 | 150 | % | |
| 2,4,6-Trichlorophenol | 20 | 150 | % | |
| 2,4-Dichlorophenol | 20 | 150 | % | |
| 2,4-Dimethylphenol | 20 | 150 | % | |
| 2,4-Dinitrophenol | 20 | 150 | % | |
| 2,4-Dinitrotoluene | 39 | 149 | % | |
| 4-Chloroaniline | 45 | 135 | % | |
| 2-Chloronaphthalene | 60 | 120 | % | |
| Benzofluoranthenes | 41 | 165 | % | |
| 2-Ethoxyethanol | 20 | 150 | % | |
| 2-Methylnaphthalene | 33 | 135 | % | |
| 2-Methylphenol | 20 | 150 | % | |
| 2-Nitroaniline | 45 | 135 | % | |
| 2-Nitrophenol | 20 | 150 | % | |
| 2-Nitropropane | 20 | 150 | % | |

| | | | | |
|---|---|---|---|---|
| 3- & 4-Methylphenol | 20 | 150 | % | |
| 3,3'-Dichlorobenzidine | 45 | 135 | % | |
| 3-Nitroaniline | 45 | 135 | % | |
| 4,6-Dinitro-2-methylphenol | 45 | 135 | % | |
| 2,6-Dinitrotoluene | 45 | 135 | % | |
| Di-n-octylphthalate | 45 | 135 | % | |
| Hexachlorocyclopentadiene | 45 | 135 | % | |
| Hexachlorobutadiene | 45 | 135 | % | |
| N-Nitrosodiphenylamine | 45 | 135 | % | |
| Pentachlorophenol | D | 163 | % | |
| Nitrobenzene | 45 | 135 | % | |
| Naphthalene | 44 | 123 | % | |
| Phenanthrene | 51 | 130 | % | |
| Fluorene | 43 | 137 | % | |
| Hexachloroethane | 45 | 135 | % | |
| N-nitroso-di-n-propylamine | 45 | 129 | % | |
| Fluoranthene | 54 | 140 | % | |
| Phenol | D | 76 | % | |
| Indeno(1,2,3-cd)pyrene | 53 | 155 | % | |
| Hexachlorobenzene | 45 | 135 | % | |
| Dimethylphthalate | 45 | 135 | % | |
| Tetrachlorophenols | 20 | 150 | % | |
| Diethylphthalate | 45 | 135 | % | |
| Dibenzofuran | 60 | 120 | % | |
| Pyridine | 20 | 150 | % | |
| Isophorone | 45 | 135 | % | |
| N-nitrosodimethylamine | 45 | 135 | % | |
| Di-n-butylphthalate | 45 | 135 | % | |
| Pyrene | 46 | 150 | % | |
| *Matrix Spike Recovery* | | | | |
| 2-Methylphenol | 45 | 135 | % | 50 |
| 2-Nitropropane | 45 | 135 | % | 50 |
| N-nitrosodimethylamine | 45 | 135 | % | 50 |
| 2-Nitroaniline | 45 | 135 | % | 50 |
| N-nitroso-di-n-propylamine | 45 | 129 | % | 47 |
| 2-Ethoxyethanol | 45 | 135 | % | 50 |
| 2-Methylnaphthalene | 33 | 135 | % | 60 |
| Nitrobenzene | 45 | 135 | % | 50 |
| 2-Nitrophenol | 45 | 135 | % | 50 |
| 3,3'-Dichlorobenzidine | 45 | 135 | % | 50 |
| 3- & 4-Methylphenol | 45 | 135 | % | 50 |
| Phenol | D | 76 | % | 64 |
| 1,2,4-Trichlorobenzene | 35 | 133 | % | 43 |
| 1,2-Dichlorobenzene | 45 | 135 | % | 50 |
| Pyridine | 45 | 135 | % | 50 |
| 1,2-Diphenylhydrazine | 45 | 135 | % | 50 |
| 1,3-Dichlorobenzene | 45 | 135 | % | 50 |
| Pyrene | 46 | 150 | % | 37 |
| 1,4-Dichlorobenzene | 36 | 123 | % | 53 |
| Pentachlorophenol | D | 163 | % | 60 |
| 2,4,6-Trichlorophenol | 45 | 135 | % | 50 |
| N-Nitrosodiphenylamine | 45 | 135 | % | 50 |

| | | | | |
|---|---|---|---|---|
| 2,4-Dichlorophenol | 45 | 135 | % | 50 |
| 2,4-Dimethylphenol | 45 | 135 | % | 50 |
| Phenanthrene | 51 | 130 | % | 30 |
| 2,4-Dinitrophenol | 45 | 135 | % | 50 |
| 2,4-Dinitrotoluene | 39 | 149 | % | 56 |
| 2,6-Dinitrotoluene | 45 | 135 | % | 50 |
| 2-Chloronaphthalene | 45 | 135 | % | 50 |
| 2-Chlorophenol | 41 | 125 | % | 49 |
| 2,4,5-Trichlorophenol | 45 | 135 | % | 50 |
| bis(2-Chloroisopropyl)ether | 45 | 135 | % | 50 |
| Tetrachlorophenols | 45 | 135 | % | 50 |
| 4,6-Dinitro-2-methylphenol | 45 | 135 | % | 50 |
| Benzo(g,h,i)perylene | 52 | 160 | % | 29 |
| Fluoranthene | 54 | 140 | % | 30 |
| Benzoic Acid | 45 | 135 | % | 50 |
| Benzyl Alcohol | 45 | 135 | % | 50 |
| Di-n-octylphthalate | 45 | 135 | % | 50 |
| bis(2-Chloroethoxy)methane | 45 | 135 | % | 50 |
| 3-Nitroaniline | 45 | 135 | % | 50 |
| Di-n-butylphthalate | 45 | 135 | % | 50 |
| Fluorene | 43 | 137 | % | 43 |
| bis(2-Ethylhexyl)phthalate | 45 | 135 | % | 50 |
| Dimethylphthalate | 45 | 135 | % | 50 |
| Butylbenzylphthalate | 45 | 135 | % | 50 |
| Carbazole | 45 | 135 | % | 50 |
| Diethylphthalate | 45 | 135 | % | 50 |
| Chrysene | 53 | 145 | % | 44 |
| Cyclohexanone | 45 | 135 | % | 50 |
| Dibenzofuran | 45 | 135 | % | 50 |
| Dibenz(a,h)anthracene | 49 | 169 | % | 39 |
| bis(2-Chloroethyl)ether | 45 | 135 | % | 50 |
| Hexachloroethane | 45 | 135 | % | 50 |
| Naphthalene | 44 | 123 | % | 31 |
| Benzo(a)pyrene | 53 | 142 | % | 34 |
| 4-Bromophenylphenylether | 45 | 135 | % | 50 |
| Isophorone | 45 | 135 | % | 50 |
| 4-Chloro-3-methylphenol | 35 | 144 | % | 48 |
| 4-Chloroaniline | 45 | 135 | % | 50 |
| Indeno(1,2,3-cd)pyrene | 53 | 155 | % | 38 |
| 4-Chlorophenylphenylether | 45 | 135 | % | 50 |
| Benzofluoranthenes | 41 | 165 | % | 42 |
| 4-Nitroaniline | 45 | 135 | % | 50 |
| Benzo(a)anthracene | 59 | 132 | % | 47 |
| 4-Nitrophenol | D | 87 | % | 60 |
| Acenaphthene | 47 | 135 | % | 43 |
| Hexachlorocyclopentadiene | 45 | 135 | % | 50 |
| Acenaphthylene | 33 | 136 | % | 36 |
| Aniline | 45 | 135 | % | 50 |
| Hexachlorobutadiene | 45 | 135 | % | 50 |
| Anthracene | 53 | 141 | % | 35 |
| Benzidine | 45 | 135 | % | 50 |
| Hexachlorobenzene | 45 | 135 | % | 50 |

*Surrogate Recovery*

| | | | |
|---|---|---|---|
| Phenol - d5 | D | 85 | % |
| 2 - Fluorophenol | 8 | 112 | % |
| 2 - Fluorobiphenyl | 34 | 148 | % |
| Nitrobenzene - d5 | 41 | 155 | % |
| p - Terphenyl - d14 | 33 | 172 | % |
| 2,4,6 - Tribromophenol | 29 | 159 | % |

## STL Seattle - Method QC Limits

Nitroamine & Nitroaromatic Compounds by USEPA Method 8330
Matrix: Water
Preparation Method: SPE

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Matrix Spike Recovery* | | | | |
| Nitroglycerin | 84 | 114 | % | 15 |
| HMX | 86 | 120 | % | 19 |
| 1,3,5-Trinitrobenzene | 83 | 114 | % | 26 |
| RDX | 83 | 113 | % | 15 |
| 1,3-Dinitrobenzene | 86 | 116 | % | 17 |
| Nitrobenzene | 83 | 116 | % | 26 |
| 2,4,6-Trinitrotoluene | 78 | 119 | % | 24 |
| Tetryl | 83 | 113 | % | 17 |
| 2,4-Dinitrotoluene | 84 | 114 | % | 21 |
| 2,6-Dinitrotoluene | 84 | 114 | % | 17 |
| 2-Aminodinitrotoluene | 84 | 114 | % | 17 |
| 4-Aminodinitrotoluene | 85 | 115 | % | 16 |
| 2-Nitrotoluene | 80 | 113 | % | 31 |
| 3-Nitrotoluene | 78 | 116 | % | 29 |
| 4-Nitrotoluene | 80 | 115 | % | 30 |
| *Surrogate Recovery* | | | | |
| 3,4-Dinitrotoluene | 81 | 111 | % | |

## STL Seattle - Method QC Limits

Glycols by USEPA Method 8015m
Matrix: Water

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Propylene Glycol | 68 | 118 | % | 26 |
| Ethylene Glycol | 68 | 129 | % | 26 |
| *Surrogate Recovery* | | | | |
| 1-propanol | 42 | 145 | % | |

## STL Seattle - Method QC Limits

Perchlorate by USEPA Method 314
Matrix: Water

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Matrix Spike Recovery* | | | | |
| Perchlorate | 80 | 120 | % | 20 |
| *Laboratory Control Sample Recovery* | | | | |
| Perchlorate | 85 | 115 | % | 15 |

## STL Seattle - Method QC Limits

Total Metals by ICP - USEPA Method 6010

Matrix: Soil

| *Blank Spike Recovery* | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| Arsenic | 80 | 120 | % | |
| Cadmium | 80 | 120 | % | |
| Chromium | 80 | 120 | % | |
| Copper | 80 | 120 | % | |
| Lead | 80 | 120 | % | |
| Nickel | 80 | 120 | % | |
| Sodium | 80 | 120 | % | |
| Zinc | 80 | 120 | % | |
| *Duplicate RPD* | | | | |
| Arsenic | | | % | 35 |
| Cadmium | | | % | 35 |
| Chromium | | | % | 35 |
| Copper | | | % | 35 |
| Lead | | | % | 35 |
| Nickel | | | % | 35 |
| Sodium | | | % | 35 |
| Zinc | | | % | 35 |
| *Matrix Spike Recovery* | | | | |
| Arsenic | 75 | 125 | % | |
| Cadmium | 75 | 125 | % | |
| Chromium | 75 | 125 | % | |
| Copper | 75 | 125 | % | |
| Lead | 75 | 125 | % | |
| Nickel | 75 | 125 | % | |
| Sodium | 75 | 125 | % | |
| Zinc | 75 | 125 | % | |

## STL Seattle - Method QC Limits

Mercury by CVAA - USEPA Method 7471

Matrix: Soil

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Mercury | 75 | 125 | % | 25 |
| *Duplicate RPD* | | | | |
| Mercury | | | % | 35 |
| *Matrix Spike Recovery* | | | | |
| Mercury | 75 | 125 | % | |

## STL Seattle - Method QC Limits

Diesel and Motor Oil by NWTPH-Dx Modified

Matrix: Soil

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Motor Oil | 70 | 118 | % | 23 |
| #2 Diesel | 78 | 130 | % | 17 |
| *Duplicate RPD* | | | | |
| #2 Diesel | | | % | 35 |
| *Matrix Spike Recovery* | | | | |
| Motor Oil | 70 | 118 | % | 23 |
| #2 Diesel | 78 | 130 | % | 17 |
| *Surrogate Recovery* | | | | |
| o-terphenyl | 50 | 150 | % | |

## STL Seattle - Method QC Limits

Nitroamine & Nitroaromatic Compounds by USEPA Method 8330

Matrix: Soil

Preparation Method: SPE

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Matrix Spike Recovery* | | | | |
| Nitroglycerin | 79 | 125 | % | 50 |
| HMX | 86 | 122 | % | 20 |
| 1,3,5-Trinitrobenzene | 80 | 116 | % | 20 |
| RDX | 79 | 109 | % | 29 |
| 1,3-Dinitrobenzene | 80 | 113 | % | 20 |
| Nitrobenzene | 81 | 111 | % | 20 |
| 2,4,6-Trinitrotoluene | 82 | 114 | % | 22 |
| Tetryl | 79 | 113 | % | 20 |
| 2,4-Dinitrotoluene | 81 | 116 | % | 22 |
| 2,6-Dinitrotoluene | 80 | 116 | % | 31 |
| 2-Aminodinitrotoluene | 81 | 115 | % | 25 |
| 4-Aminodinitrotoluene | 82 | 115 | % | 20 |
| 2-Nitrotoluene | 81 | 112 | % | 46 |
| 3-Nitrotoluene | 83 | 113 | % | 39 |
| 4-Nitrotoluene | 81 | 112 | % | 20 |
| *Surrogate Recovery* | | | | |
| 3,4-Dinitrotoluene | 79 | 125 | % | |

## STL Seattle - Method QC Limits

Chlorinated Herbicides by USEPA Method 8151 GC/MS Modified

Matrix: Soil

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Picloram | 50 | 150 | % | 30 |
| MCPA | 50 | 150 | % | 30 |
| 4-Nitrophenol | 50 | 150 | % | 30 |
| Dichloroprop | 75 | 140 | % | 30 |
| 2,4,5-Trichlorophenol | 45 | 135 | % | 30 |
| 2,4-DB | 50 | 155 | % | 30 |
| Silvex (2,4,5-TP) | 67 | 131 | % | 30 |
| Pentachlorophenol | 62 | 132 | % | 30 |
| MCPP | 68 | 133 | % | 30 |
| Dinoseb | 55 | 132 | % | 30 |
| Dicamba | 47 | 134 | % | 30 |
| Dalapon | 22 | 67 | % | 30 |
| 2,4-Dichlorophenoxyacetic acid | 58 | 121 | % | 30 |
| *Surrogate Recovery* | | | | |
| 2,4-Dichlorophenylacetic acid | 53 | 135 | % | |

## STL Seattle - Method QC Limits

PCBs by USEPA Method 8082

Matrix: Soil

Preparation Method: SW3550 B Mod.

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Aroclor-1242 | 59 | 125 | % | 8 |
| Aroclor-1260 | 64 | 126 | % | 9 |
| *Matrix Spike Recovery* | | | | |
| Aroclor-1242 | 59 | 125 | % | 8 |
| Aroclor-1260 | 64 | 126 | % | 9 |
| *Surrogate Recovery* | | | | |
| TCMX | 57 | 125 | % | |
| Decachlorobiphenyl | 63 | 126 | % | |

## STL Seattle - Method QC Limits

PAHs by USEPA Method 8270C

Matrix: Soil

Preparation Method: 3550B Modified

| | Low Limit | High Limit | Limit Units | RPD Limit |
|---|---|---|---|---|
| *Blank Spike Recovery* | | | | |
| Chrysene | 52 | 143 | % | |
| 2-Methylnaphthalene | 50 | 142 | % | |
| Acenaphthene | 59 | 137 | % | |
| Acenaphthylene | 44 | 141 | % | |
| Anthracene | 62 | 137 | % | |
| Benzo(a)anthracene | 57 | 132 | % | |
| Benzo(a)pyrene | 53 | 141 | % | |
| Benzofluoranthenes | 32 | 178 | % | |
| Benzo(g,h,i)perylene | 39 | 173 | % | |
| Dibenz(a,h)anthracene | 42 | 173 | % | |
| Fluoranthene | 52 | 146 | % | |
| Fluorene | 49 | 129 | % | |
| Pyrene | 50 | 148 | % | |
| Indeno(1,2,3-cd)pyrene | 42 | 169 | % | |
| Phenanthrene | 56 | 133 | % | |
| Naphthalene | 56 | 139 | % | |
| *Matrix Spike Recovery* | | | | |
| Naphthalene | 56 | 139 | % | 25 |
| Acenaphthene | 59 | 137 | % | 29 |
| Phenanthrene | 56 | 133 | % | 30 |
| Acenaphthylene | 44 | 141 | % | 34 |
| Anthracene | 62 | 137 | % | 27 |
| Benzo(g,h,i)perylene | 39 | 173 | % | 28 |
| 2-Methylnaphthalene | 50 | 142 | % | 29 |
| Benzo(a)pyrene | 53 | 141 | % | 30 |
| Benzo(a)anthracene | 57 | 132 | % | 27 |
| Benzofluoranthenes | 32 | 178 | % | 29 |
| Pyrene | 50 | 148 | % | 38 |
| Chrysene | 52 | 143 | % | 41 |
| Indeno(1,2,3-cd)pyrene | 42 | 169 | % | 34 |
| Dibenz(a,h)anthracene | 42 | 173 | % | 30 |
| Fluoranthene | 52 | 146 | % | 31 |
| Fluorene | 49 | 129 | % | 39 |
| *Surrogate Recovery* | | | | |
| 2,4,6 - Tribromophenol | 25 | 148 | % | |
| 2 - Fluorophenol | 35 | 144 | % | |
| Phenol - d5 | 39 | 140 | % | |
| Nitrobenzene - d5 | 37 | 156 | % | |
| 2 - Fluorobiphenyl | 39 | 145 | % | |
| p - Terphenyl - d14 | 39 | 158 | % | |