# APPENDIX B

# CHEMICAL DATA

# APPENDIX B-1

# LABORATORY ANALYTICAL DATA

**Lab Sample Area Soil and Groundwater**
**Groundwater Results (September 1995)**
**Groundwater Data From New Wells/Points (November-December 1995)**
**Surface Water Results (November 1994 to November 1995)**
**Quarry Seep, Collection Pond and QA/QC and Outfall Results**
**Tentatively Identified Compounds**
**Validation Memoranda**
**Offsite Historical Results**

# APPENDIX B - 1
# ANALYTICAL PROGRAM

## OLIN PHASE II RI REPORT
## ROCHESTER, NEW YORK

| LOCATION | MEDIA | DATE | ANALYTICAL CLASS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Pyridines | SVOCs[3] | VOCs[4] | Inorganics[5] | Mercury[6] | Methanol[7] |
| QO-1 | SW | 25-Oct-95 | X[1] | | | | | |
| QP-1 | SW | 25-Oct-95 | X[1] | | | | | |
| QS-1 | GW | 6-Sep-95 | X[1] | | | | | |
| QS-2 | GW | 6-Sep-95 | X[1] | | | | | |
| QS-3 | GW | 6-Sep-95 | X[1] | | | | | |
| QS-4 | GW | 6-Sep-95 | X[1] | | | | | |
| QS-4(Duplicate) | GW | 25-Oct-95 | X[1] | | | | | |
| QS-4 | GW | 25-Oct-95 | X[1] | | | | | |
| SB-1 | GW | 19-Sep-95 | | | X | | | |
| SB-1 | SO | 17-Aug-95 | X[1] | X | X | X | | |
| SB-2 | GW | 19-Sep-95 | X[1] | X | X | X | | |
| SB-2 | SO | 17-Aug-95 | X[1] | X | X | X | | |
| SB-3 | GW | 19-Sep-95 | X[1] | X | X | | | |
| SB-3(Duplicate) | SO | 17-Aug-95 | X[1] | X | X | X | | |
| SB-3 | SO | 17-Aug-95 | X[1] | X | X | X | | |
| SS-116 | SS | 20-Sep-95 | | | | | X | |
| SS-117 | SS | 20-Sep-95 | | | | | X | |
| SW-1 | SW | 20-Nov-95 | X[1] | | | | | |
| SW-2(Duplicate) | SW | 20-Nov-95 | X[1] | | | | | |
| SW-2 | SW | 20-Nov-95 | X[1] | | | | | |
| SW-3 | SW | 20-Nov-95 | X[1] | | | | | |
| BR-111 | GW | 26-Oct-95 | | X | X | X | | |
| BR-111 | GW | 7-Dec-95 | X[1] | | | | | |
| BR-111D | GW | 26-Oct-95 | | X | X | X | | |
| BR-111D | GW | 7-Dec-95 | X[1] | | | | | |
| BR-112A | GW | 27-Oct-95 | | X | X | X | | |
| BR-112A | GW | 7-Dec-95 | X[1] | | | | | |
| BR-112D | GW | 27-Oct-95 | | X | X | X | | |
| BR-112D | GW | 7-Dec-95 | X[1] | | | | | |
| BR-113(Duplicate) | GW | 26-Oct-95 | | X | X | X | | |
| BR-113(Duplicate) | GW | 7-Dec-95 | X[1] | | | | | |
| BR-113 | GW | 26-Oct-95 | | X | X | X | | |
| BR-113 | GW | 7-Dec-95 | X[1] | | | | | |
| BR-113D | GW | 26-Oct-95 | | X | X | X | | |
| BR-113D | GW | 7-Dec-95 | X[1] | | | | | |
| BR-114 | GW | 27-Oct-95 | | X | X | X | | |
| BR-114 | GW | 7-Dec-95 | X[1] | | | | | |
| MW-114 | GW | 27-Oct-95 | | X | X | X | | |
| MW-114 | GW | 7-Dec-95 | X[1] | | | | | |
| NESS-E(Duplicate) | GW | 20-Nov-95 | | X | X | X | | |
| NESS-E | GW | 20-Nov-95 | | X | X | X | | |
| NESS-E | GW | 7-Dec-95 | X[1] | | | | | |
| NESS-W | GW | 20-Nov-95 | | X | X | X | | |
| NESS-W | GW | 7-Dec-95 | X[1] | | | | | |

## APPENDIX B - 1
## ANALYTICAL PROGRAM

## OLIN PHASE II RI REPORT
## ROCHESTER, NEW YORK

| LOCATION | MEDIA | DATE | ANALYTICAL CLASS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Pyridines | SVOCs[3] | VOCs[4] | Inorganics[5] | Mercury[6] | Methanol[7] |
| SEMIANNUAL GROUNDWATER MONITORING | | | | | | | | |
| B-1 | GW | 12-Sep-95 | X[2] | | X | | | X |
| B-17 | GW | 13-Sep-95 | X[2] | | X | | | X |
| B-6 | GW | 12-Sep-95 | X[2] | | X | | | X |
| BR-1 | GW | 12-Sep-95 | X[2] | | X | | | X |
| BR-101 | GW | 11-Sep-95 | X[2] | | X | | | X |
| BR-102 | GW | 12-Sep-95 | X[2] | | X | | | X |
| BR-103 | GW | 11-Sep-95 | X[2] | | X | | | X |
| BR-104 | GW | 11-Sep-95 | X[2] | | X | | | X |
| BR-105 | GW | 11-Sep-95 | X[2] | | X | | | X |
| BR-105D | GW | 11-Sep-95 | X[2] | | X | | | X |
| BR-106 | GW | 11-Sep-95 | X[2] | | X | | | X |
| BR-107 | GW | 11-Sep-95 | X[2] | | X | | | X |
| BR-2 | GW | 12-Sep-95 | X[2] | | X | | | X |
| BR-2D | GW | 14-Sep-95 | X[2] | | X | | | X |
| BR-3 | GW | 12-Sep-95 | X[2] | | X | | | X |
| BR-3D | GW | 14-Sep-95 | X[2] | | X | | | X |
| BR-4(Duplicate) | GW | 12-Sep-95 | X[2] | | X | | | X |
| BR-4 | GW | 12-Sep-95 | X[2] | | X | | | X |
| BR-5A | GW | 12-Sep-95 | X[2] | | X | | | X |
| BR-6 | GW | 12-Sep-95 | X[2] | | X | | | X |
| BR-8(Duplicate) | GW | 13-Sep-95 | X[2] | | X | | | X |
| BR-8 | GW | 13-Sep-95 | X[2] | | X | | | X |
| E-1 | GW | 12-Sep-95 | X[2] | | X | | | X |
| E-3 | GW | 12-Sep-95 | X[2] | | X | | | X |
| MW-103 | GW | 11-Sep-95 | X[2] | | X | | | X |
| MW-104 | GW | 11-Sep-95 | X[2] | | X | | | X |
| MW-106 | GW | 11-Sep-95 | X[2] | | X | | | X |
| MW-107 | GW | 11-Sep-95 | X[2] | | X | | | X |
| NESS-E | GW | 12-Sep-95 | X[2] | | X | | | X |
| NESS-W | GW | 12-Sep-95 | X[2] | | X | | | X |
| QUARTERLY SURFACE WATER MONITORING | | | | | | | | |
| SW-1 | SW | 2-Nov-94 | X[2] | | | | | |
| SW-1 | SW | 27-Mar-95 | X[2] | | | | | |
| SW-1 | SW | 17-May-95 | X[2] | | | | | |
| SW-1 | SW | 6-Sep-95 | X[1] | | | | | |
| SW-2(Duplicate) | SW | 2-Nov-94 | X[2] | | | | | |
| SW-2 | SW | 2-Nov-94 | X[2] | | | | | |
| SW-2(Duplicate) | SW | 27-Mar-95 | X[2] | | | | | |
| SW-2 | SW | 27-Mar-95 | X[2] | | | | | |
| SW-2(Duplicate) | SW | 17-May-95 | X[2] | | | | | |

# APPENDIX B - 1
# ANALYTICAL PROGRAM

## OLIN PHASE II RI REPORT
## ROCHESTER, NEW YORK

| LOCATION | MEDIA | DATE | ANALYTICAL CLASS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Pyridines | SVOCs[3] | VOCs[4] | Inorganics[5] | Mercury[6] | Methanol[7] |
| QUARTERLY SURFACE WATER MONITORING (Continued) | | | | | | | | |
| SW-2 | SW | 17-May-95 | X[2] | | | | | |
| SW-2 | SW | 6-Sep-95 | X[1] | | | | | |
| SW-3 | SW | 2-Nov-94 | X[2] | | | | | |
| SW-3 | SW | 27-Mar-95 | X[2] | | | | | |
| SW-3 | SW | 17-May-95 | X[2] | | | | | |
| SW-3(Duplicate) | SW | 6-Sep-95 | X[1] | | | | | |
| SW-3 | SW | 6-Sep-95 | X[1] | | | | | |

NOTES:

SO = Subsurface soil (0'-10')
SS = Surface soil
SW = Surface water sample ("SW"=Canal, "QP" and "QP" = Quarry water)
GW = Groundwater sample (Wells and quarry seeps "QS")

(1) Pyridines analyses for 2,6-dichloropyridine, 2-chloropyridine, 3-chloropyridine, 4-chloropyridine, p-fluoroaniline, and pyridine. Groundwater samples analyzed by USEPA SW-846 Method 8270; Surface waters analyzed by NYSDEC ASP methodology.

(2) Groundwater samples analyzed for 2,6-dichloropyridine, 2-chloropyridine, 3-chloropyridine, and p-fluoroaniline by USEPA SW-846 Method 8270; Quarterly surface water samples analyzed for compounds listed above plus pyridine by NYSDEC ASP Methodology.

(3) Target compound list (TCL) semivolatile organic compounds (SVOCs) by USEPA SW-846 Method 8270.

(4) TCL volatile organic compounds (VOCs) by USEPA SW-846 Method 8240/8260.

(5) Target Analyte List (TAL) inorganics analysis by USEPA SW-846 Method 6010/7000s

(6) Mercury analysis by USEPA SW-846 Method 7471.

(7) Methanol analysis by USEPA SW-846 Method 8015.

# LAB SAMPLE AREA SOIL AND GROUNDWATER

Table 1
Laboratory Report of Analysis

| | | | |
|---|---|---|---|
| | LOCATION: | SS-116 | SS-117 |
| | ISIS ID: | 01SS116000X1XX | 01SS117000X1XX |
| | LAB NUMBER: | A5503204 | A5503205 |
| | DATE SAMPLED: | 09/20/95 | 09/20/95 |
| ANALYTE | RL | | |
| Mercury | 0.1 | 0.15 | 7.2 |
| Percent Solids: | | 87 | 84 |
| Sample Volume\Weight (ml\g): | | .58 | .05 |
| Associated Method Blank: | | SS116 | SS116 |
| Associated Equipment Blank: | | - | - |
| Associated Field Blank: | | - | - |

Site: SURFACE SOILS

Table 1
Laboratory Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| LOCATION: | | BS-1 | BS-2 | BS-3 DUP | BS-3 |
| ISIS ID: | | 01BSXX1XX6X1XX | 01BSXX2XX5X1XX | 01BSXX3XX6X1DX | 01BSXX3XX6X1XX |
| LAB NUMBER: | | A5441001 | A5441002 | A5441003 FD | A5441003 |
| DATE SAMPLED: | | 08/17/95 | 08/17/95 | 08/17/95 | 08/17/95 |
| DATE EXTRACTED: | | 08/23/95 | 08/23/95 | 08/23/95 | 08/23/95 |
| DATE ANALYZED: | | 08/29/95 | 08/29/95 | 08/29/95 | 08/29/95 |
| ANALYTE | RL | | | | |
| Acenaphthene | 330 | 330 U | 240 J | 19 J | 22 J |
| Acenaphthylene | 330 | 330 U | 330 U | 330 U | 330 U |
| Anthracene | 330 | 330 U | 1100 | 150 J | 110 J |
| Benzo(a)Anthracene | 330 | 50 J | 5000 | 660 | 400 J |
| Benzo(b)Fluoranthene | 330 | 84 J | 7300 | 1000 | 570 J |
| Benzo(k)Fluoranthene | 330 | 20 J | 2300 | 370 J | 230 J |
| Benzo(g,h,i)perylene | 330 | 8 J | 2200 | 440 J | 230 J |
| Benzo(a)Pyrene | 330 | 44 J | 5100 | 710 | 410 J |
| Benzoic Acid | 1600 | 1600 U | 1600 U | 1600 U | 1600 U |
| Benzyl Alcohol | 330 | 330 U | 330 U | 330 U | 330 U |
| bis(2-Chloroethoxy)methane | 330 | 330 U | 330 U | 330 U | 330 U |
| bis(2-Chloroethyl)ether | 330 | 330 U | 330 U | 330 U | 330 U |
| bis(2-Chloroisopropyl)ether | 330 | 330 U | 330 U | 330 U | 330 U |
| bis(2-Ethylhexyl)phthalate | 330 | 140 BJ | 2600 B | 410 BJ | 310 BJ |
| 4-Bromophenyl-phenylether | 330 | 330 U | 330 U | 330 U | 330 U |
| Butylbenzylphthalate | 330 | 330 U | 330 U | 330 U | 330 U |
| 4-Chloroaniline | 330 | 330 U | 330 U | 330 U | 330 U |
| 4-Chloro-3-Methylphenol | 330 | 330 U | 330 U | 330 U | 330 U |
| 2-Chloronaphthalene | 330 | 330 U | 330 U | 330 U | 330 U |
| 2-Chlorophenol | 330 | 330 U | 330 U | 330 U | 330 U |
| 4-Chlorophenyl-phenylether | 330 | 330 U | 330 U | 330 U | 330 U |
| Chrysene | 330 | 65 J | 4900 | 790 | 570 J |
| Dibenzo(a,h)Anthracene | 330 | 330 U | 270 J | 41 J | 79 J |
| Dibenzofuran | 330 | 330 U | 120 J | 330 U | 12 J |
| Di-n-butylphthalate | 330 | 48 BJ | 850 B | 330 U | 330 U |
| 1,2-Dichlorobenzene | 330 | 330 U | 330 U | 330 U | 330 U |
| 1,3-Dichlorobenzene | 330 | 330 U | 330 U | 330 U | 330 U |
| 1,4-Dichlorobenzene | 330 | 330 U | 330 U | 330 U | 330 U |
| 3,3'-Dichlorobenzidine | 660 | 660 U | 600 U | 660 U | 660 U |
| 2,4-Dichlorophenol | 330 | 330 U | 330 U | 330 U | 330 U |
| Diethylphthalate | 330 | 330 U | 330 U | 330 U | 330 U |
| 2,4-Dimethylphenol | 330 | 330 U | 330 U | 330 U | 330 U |
| Dimethylphthalate | 330 | 330 U | 330 U | 330 U | 330 U |
| 4,6-Dinitro-2-methylphenol | 1600 | 1600 U | 1600 U | 1600 U | 1600 U |
| 2,4-Dinitrophenol | 1600 | 1600 U | 1600 U | 1600 U | 1600 U |
| 2,4-Dinitrotoluene | 330 | 330 U | 330 U | 330 U | 330 U |
| 2,6-Dinitrotoluene | 330 | 330 U | 330 U | 330 U | 330 U |
| Di-n-octylphthalate | 330 | 330 U | 330 U | 330 U | 330 U |
| Fluoranthene | 330 | 80 J | 9200 | 1400 | 800 |

Table 1
Laboratory Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| LOCATION: | | BS-1 | BS-2 | BS-3 DUP | BS-3 |
| ISIS ID: | | 01BSXX1XX6X1XX | 01BSXX2XX5X1XX | 01BSXX3XX6X1DX | 01BSXX3XX6X1XX |
| LAB NUMBER: | | A5441001 | A5441002 | A5441003 FD | A5441003 |
| DATE SAMPLED: | | 08/17/95 | 08/17/95 | 08/17/95 | 08/17/95 |
| DATE EXTRACTED: | | 08/23/95 | 08/23/95 | 08/23/95 | 08/23/95 |
| DATE ANALYZED: | | 08/29/95 | 08/29/95 | 08/29/95 | 08/29/95 |
| ANALYTE | RL | | | | |
| Fluorene | 330 | 330 U | 300 J | 30 J | 26 J |
| Hexachlorobenzene | 330 | 330 U | 330 U | 330 U | 330 U |
| Hexachlorobutadiene | 330 | 330 U | 330 U | 330 U | 330 U |
| Hexachlorocyclopentadiene | 330 | 330 U | 330 U | 330 U | 330 U |
| Hexachloroethane | 330 | 330 U | 330 U | 330 U | 330 U |
| Indeno(1,2,3-c,d)Pyrene | 330 | 20 J | 3300 | 490 J | 240 J |
| Isophorone | 330 | 330 U | 330 U | 330 U | 330 U |
| 2-Methylnaphthalene | 330 | 330 U | 330 U | 330 U | 330 U |
| 2-Methylphenol | 330 | 330 U | 330 U | 330 U | 330 U |
| 4-Methylphenol | 330 | 330 U | 330 U | 330 U | 330 U |
| Naphthalene | 330 | 330 U | 330 U | 330 U | 330 U |
| 2-Nitroaniline | 1600 | 1600 U | 1600 U | 1600 U | 1600 U |
| 3-Nitroaniline | 1600 | 1600 U | 1600 U | 1600 U | 1600 U |
| 4-Nitroaniline | 1600 | 1600 U | 1600 U | 1600 U | 1600 U |
| Nitrobenzene | 330 | 330 U | 330 U | 330 U | 330 U |
| 2-Nitrophenol | 330 | 330 U | 330 U | 330 U | 330 U |
| 4-Nitrophenol | 1600 | 1600 U | 1600 U | 1600 U | 1600 U |
| N-Nitroso-di-n-propylamine | 330 | 330 U | 330 U | 330 U | 330 U |
| N-Nitrosodiphenylamine | 330 | 330 U | 330 U | 330 U | 330 U |
| Pentachlorophenol | 1600 | 1600 U | 1600 U | 1600 U | 1600 U |
| Phenanthrene | 330 | 33 J | 4900 | 480 U | 390 J |
| Phenol | 330 | 330 U | 330 U | 330 U | 330 U |
| Pyrene | 330 | 110 J | 9200 | 1300 | 840 |
| 1,2,4-Trichlorobenzene | 330 | 330 U | 330 U | 330 U | 330 U |
| 2,4,5-Trichlorophenol | 800 | 800 U | 800 U | 800 U | 800 U |
| 2,4,6-Trichlorophenol | 330 | 330 U | 330 U | 330 U | 330 U |
| Dilution Factor: | | 1.0 | 1.0 | 1.0 | 1.0 |
| Percent Solids: | | 90 | 29 | 96 | 96 |
| Sample Volume\Weight (ml\g): | | 30.12 | 30.18 | 30.5 | 30.06 |
| Associated Method Blank: | | Z24115.RR | Z24115.RR | Z24115.RR | Z24115.RR |
| Associated Equipment Blank: | | 01QS201XXXX1XX | 01QS201XXXX1XX | 01QS201XXXX1XX | 01QS201XXXX1XX |
| Associated Field Blank: | | - | - | - | - |

Site: SOIL BORINGS

Table 1
Laboratory Report of Analysis

| LOCATION: | BS-1 | BS-2 | BS-3 DUP | BS-3 |
|---|---|---|---|---|
| ISIS ID: | 01BSXX1XX6X1XX | 01BSXX2XX5X1XX | 01BSXX3XX6X1DX | 01BSXX3XX6X1XX |
| LAB NUMBER: | A5441001 | A5441002 | A5441003FD | A5441003 |
| DATE SAMPLED: | 08/17/95 | 08/17/95 | 08/17/95 | 08/17/95 |
| DATE ANALYZED: | 08/21/95 | 08/21/95 | 08/21/95 | 08/21/95 |

| ANALYTE | RL | | | | |
|---|---|---|---|---|---|
| Acetone | 10 | 10 U | 10 U | 10 U | 10 U |
| Benzene | 5 | 5 U | 5 U | 5 U | 5 U |
| Bromodichloromethane | 5 | 5 U | 5 U | 5 U | 5 U |
| Bromoform | 5 | 5 U | 5 U | 5 U | 5 U |
| Bromomethane | 10 | 10 U | 10 U | 10 U | 10 U |
| 2-Butanone | 10 | 10 U | 10 U | 10 U | 10 U |
| Carbon Disulfide | 5 | 5 U | 5 U | 5 U | 5 U |
| Carbon Tetrachloride | 5 | 5 U | 4 J | 5 U | 5 U |
| Chlorobenzene | 5 | 5 U | 5 U | 5 U | 5 U |
| Chloroethane | 10 | 10 U | 10 U | 10 U | 10 U |
| Chloroform | 5 | 5 U | 5 U | 5 U | 5 U |
| Chloromethane | 10 | 10 U | 10 U | 10 U | 10 U |
| Dibromochloromethane | 5 | 5 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethane | 5 | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloroethane | 5 | 5 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | 5 | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloroethene (total) | 5 | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloropropane | 5 | 5 U | 5 U | 5 U | 5 U |
| cis-1,3-Dichloropropene | 5 | 5 U | 5 U | 5 U | 5 U |
| trans-1 | 5 | 5 U | 5 U | 5 U | 5 U |
| Ethylbenzene | 5 | 5 U | 5 U | 5 U | 5 U |
| 2-Hexanone | 10 | 10 U | 10 U | 10 U | 10 U |
| Methylene Chloride | 5 | 5 U | 5 U | 5 U | 5 U |
| 4-Methyl-2-Pentanone | 10 | 10 U | 10 U | 10 U | 10 U |
| Styrene | 5 | 5 U | 5 U | 5 U | 5 U |
| 1,1,2,2-Tetrachloroethane | 5 | 5 U | 5 U | 5 U | 5 U |
| Tetrachloroethene | 5 | 5 U | 5 U | 1 J | 5 U |
| Toluene | 5 | 5 U | 4 J | 5 U | 5 U |
| 1,1,1-Trichloroethane | 5 | 5 U | 5 U | 5 U | 5 U |
| 1,1,2-Trichloroethane | 5 | 5 U | 5 U | 5 U | 5 U |
| Trichloroethene | 5 | 5 U | 5 U | 5 U | 5 U |
| Vinyl Acetate | 10 | 10 U | 10 U | 10 U | 10 U |
| Vinyl Chloride | 10 | 10 U | 10 U | 10 U | 10 U |
| Total Xylenes | 5 | 5 U | 5 U | 5 U | 5 U |

| | | | | |
|---|---|---|---|---|
| Dilution Factor: | 1.0 | 1.0 | 1.0 | 1.0 |
| Sample Volume\Weight (ml\g): | 5.08 | 5.08 | 5.12 | 5.15 |
| % Moisture: | 89 | 85 | 94 | 94 |
| Associated Method Blank: | G3200.MSQ | G3200.MSQ | G3200.MSQ | G3200.MSQ |
| Associated Equipment Blank: | 01QS201XXXX1XX | 01QS201XXXX1XX | 01QS201XXXX1XX | 01QS201XXXX1XX |
| Associated Field Blank: | - | - | - | - |
| Associated Trip Blank: | 01QT201XXXX1XX | 01QT201XXXX1XX | 01QT201XXXX1XX | 01QT201XXXX1XX |

Site: SOIL BORINGS

Table 1
Laboratory Report of Analysis

| LOCATION: | BS-1 | BS-2 | BS-3 DUP | BS-3 |
|---|---|---|---|---|
| ISIS ID: | 01BSXX1XX6X1XX | 01BSXX2XX5X1XX | 01BSXX3XX6X1DX | 01BSXX3XX6X1XX |
| LAB NUMBER: | A5441001 | A5441002 | A5441003 FD | A5441003 |
| DATE SAMPLED: | 08/17/95 | 08/17/95 | 08/17/95 | 08/17/95 |
| DATE EXTRACTED: | 08/23/95 | 08/23/95 | 08/23/95 | 08/23/95 |
| DATE ANALYZED: | 08/29/95 | 08/29/95 | 08/29/95 | 08/29/95 |
| ANALYTE / RL | | | | |
| Pyridine / 330 | 330 U | 330 U | 330 U | 330 U |
| 2-Chloropyridine / 330 | 330 U | 330 U | 330 U | 330 U |
| 3-Chloropyridine / 330 | 330 U | 330 U | 330 U | 330 U |
| 4-Chlropyridine / 330 | 330 U | 330 U | 330 U | 330 U |
| 2,6-Dichloropyridine / 330 | 450 | 100 J | 330 U | 330 U |
| p-Fluoroaniline / 330 | 330 U | 330 U | 330 U | 330 U |
| Dilution Factor: | 1.0 | 1.0 | 1.0 | 1.0 |
| Percent Solids: | 90 | 29 | 96 | 96 |
| Sample Volume\Weight (ml\g): | 30.12 | 30.18 | 30.05 | 30.06 |
| Associated Method Blank: | Z24115.RR | Z24115.RR | Z24115.RR | Z24115.RR |
| Associated Equipment Blank: | - | - | - | - |
| Associated Field Blank: | - | - | - | - |

Site: SOIL BORINGS

Table 1
Laboratory Report of Analysis

| | LOCATION: | BS-1 | BS-2 | BS-3 DUP | BS-3 |
|---|---|---|---|---|---|
| | ISIS ID: | 01BSXX1XX6X1XX | 01BSXX2XX5X1XX | 01BSXX3XX6X1DX | 01BSXX3XX6X1XX |
| | LAB NUMBER: | A5441001 | A5441002 | A5441003FD | A5441003 |
| | DATE SAMPLED: | 08/17/95 | 08/17/95 | 08/17/95 | 08/17/95 |
| ANALYTE | RL | | | | |
| Aluminum | 90 | 3720 | 18600 | 4700 | 3850 |
| Antimony | 30 | 3.0 UN | 10.2 UN | 3.1 UN | 3.1 UN |
| Arsenic | 4 | 1.7 N | 11.3 N | 2.3 N | 2.4 N |
| Barium | 30 | 18.2 B | 92.3 | 24.3 | 19.2 B |
| Beryllium | 3 | 0.30 U | 1.0 U | 0.31 U | 0.31 U |
| Cadmium | 10 | 0.99 U | 3.4 U | 1.0 | 1.0 U |
| Calcium | 1000 | 38600 * | 97700 * | 42300 * | 54900 * |
| Chromium | 10 | 5.3 | 52.6 | 7.3 | 6.1 |
| Cobalt | 30 | 3.0 U | 16.6 B | 4.7 B | 4.4 B |
| Copper | 10 | 2.0 B* | 24.8 * | 24.0 * | 12.7 * |
| Iron | 40 | 7900 | 35800 | 11900 | 9710 |
| Lead | 30 | 6.8 * | 77.7 * | 4.9 * | 4.9 * |
| Magnesium | 400 | 15900 * | 58900 * | 9910 * | 12400 * |
| Manganese | 5 | 350 | 1300 | 593 | 548 |
| Mercury | 0.2 | 0.050 * | 0.42 * | 0.040 * | 0.040 U* |
| Nickel | 20 | 4.1 | 41.1 | 7.7 | 7.3 |
| Potassium | 400 | 642 | 1500 B | 611 | 613 |
| Selenium | 4 | 0.43 U | 1.4 U | 0.40 U | 0.42 U |
| Silver | 0.5 | 0.050 UN | 0.95 BN | 0.050 UN | 0.050 UN |
| Sodium | 1000 | 1110 | 604 B | 212 B | 231 B |
| Thallium | 4 | 0.43 U | 1.4 U | 0.40 U | 0.42 U |
| Vanadium | 10 | 3.3 B | 24.1 | 4.4 B | 3.8 B |
| Zinc | 10 | 24.1 | 272 | 37.1 | 30.4 |
| Cyanide | 10 | 0.86 U | 59.7 | 0.88 U | 0.88 U |
| Percent Solids: | | 90 | 29 | 96 | 96 |
| Associated Method Blank: | | 1BSXX1 | 1BSXX1 | 1BSXX1 | 1BSXX1 |
| Associated Equipment Blank: | | 01QS201XXXX1XX | 01QS201XXXX1XX | 01QS201XXXX1XX | 01QS201XXXX1XX |
| Associated Field Blank: | | - | - | - | - |

Site: SOIL BORINGS

Table 1
Laboratory Report of Analysis

| | LOCATION: | SB-1 | SB-2 | SB-3 |
|---|---|---|---|---|
| | ISIS ID: | 01BW001XXXX1XX | 01BW002XXXX1XX | 01BW003XXXX1XX |
| | LAB NUMBER: | A5503201 | A5503202 | A5503203 |
| | DATE SAMPLED: | 09/19/95 | 09/19/95 | 09/19/95 |
| | DATE ANALYZED: | 09/26/95 | 09/26/95 | 09/26/95 |
| ANALYTE | RL | | | |
| Acetone | 10 | 25 U | 25 U | 100000 U |
| Benzene | 5 | 1.2 U | 2.1 | 5000 U |
| Bromodichloromethane | 5 | 1.2 U | 1.2 U | 5000 U |
| Bromoform | 5 | 1.2 U | 1.2 U | 5000 U |
| Bromomethane | 10 | 2.5 U | 2.5 U | 10000 U |
| 2-Butanone | 10 | 2.5 U | 2.5 U | 10000 U |
| Carbon Disulfide | 5 | 1.2 U | 1.2 U | 5000 U |
| Carbon Tetrachloride | 5 | 3.4 | 1.2 U | 260000 |
| Chlorobenzene | 5 | 0.71 J | 85 | 5000 U |
| Chloroethane | 10 | 2.5 U | 2.5 U | 10000 U |
| Chloroform | 5 | 1.8 | 1.2 U | 80000 |
| Chloromethane | 10 | 2.5 U | 2.5 U | 10000 U |
| Dibromochloromethane | 5 | 1.2 U | 1.2 U | 5000 U |
| 1,1-Dichloroethane | 5 | 1.2 U | 1.2 U | 5000 U |
| 1,2-Dichloroethane | 5 | 35 | 1.2 U | 5000 U |
| 1,1-Dichloroethene | 5 | 1.2 U | 1.2 U | 5000 U |
| 1,2-Dichloroethene (total) | 5 | 44 | 1.2 U | 5000 U |
| 1,2-Dichloropropane | 5 | 1.2 U | 1.2 U | 5000 U |
| cis-1,3-Dichloropropene | 5 | 1.2 U | 1.2 U | 5000 U |
| trans-1,3-Dichloropropene | 5 | 1.2 U | 1.2 U | 5000 U |
| Ethylbenzene | 5 | 1.2 U | 1.7 | 5000 U |
| 2-Hexanone | 10 | 2.5 U | 2.5 U | 10000 U |
| Methylene Chloride | 5 | 7.5 U | 7.5 U | 30000 U |
| 4-Methyl-2-Pentanone | 10 | 2.5 U | 2.5 U | 10000 U |
| Styrene | 5 | 1.2 U | 1.2 U | 5000 U |
| 1,1,2,2-Tetrachloroethane | 5 | 1.2 U | 1.2 U | 5000 U |
| Tetrachloroethene | 5 | 1.3 | 1.2 U | 5000 U |
| Toluene | 5 | 0.71 J | 48 | 5000 U |
| 1,1,1-Trichloroethane | 5 | 1.2 U | 1.2 U | 5000 U |
| 1,1,2-Trichloroethane | 5 | 1.2 U | 1.2 U | 5000 U |
| Trichloroethene | 5 | 1.2 | 1.2 U | 5000 U |
| Vinyl Acetate | 10 | 12 U | 12 U | 50000 U |
| Vinyl Chloride | 10 | 89 | 2.5 U | 10000 U |
| Total Xylenes | 5 | 1.7 | 9.3 | 5000 U |
| Dilution Factor: | | 2.50 | 2.50 | 10000 |
| Sample Volume\Weight (ml\g): | | 25 | 25 | 25 |
| Associated Method Blank: | | L7411.RR | L7411.RR | L7411.RR |
| Associated Equipment Blank: | | - | - | - |
| Associated Field Blank: | | - | - | - |
| Associated Trip Blank: | | 01QT202XXXX1XX | 01QT202XXXX1XX | 01QT202XXXX1XX |

Site: SOIL BORING WATERS

Table 1
Laboratory Report of Analysis

| | | | |
|---|---|---|---|
| | LOCATION: | SB-2 | SB-3 |
| | ISIS ID: | 01BW002XXXX1XX | 01BW003XXXX1XX |
| | LAB NUMBER: | A5503202 | A5503203 |
| | DATE SAMPLED: | 09/19/95 | 09/19/95 |
| | DATE EXTRACTED: | 09/25/95 | 09/25/95 |
| | DATE ANALYZED: | 10/06/95 | 10/11/95 |
| ANALYTE | RL | | |
| Acenaphthene | 10 | 10 U | 10 U |
| Acenaphthylene | 10 | 10 U | 10 U |
| Anthracene | 10 | 10 U | 10 U |
| Benzo(a)Anthracene | 10 | 10 U | 10 U |
| Benzo(b)Fluoranthene | 10 | 10 U | 10 U |
| Benzo(k)Fluoranthene | 10 | 10 U | 10 U |
| Benzo(g,h,i)perylene | 10 | 10 U | 10 U |
| Benzo(a)Pyrene | 10 | 10 U | 10 U |
| Benzoic Acid | 50 | 19 J | 50 U |
| Benzyl Alcohol | 10 | 10 U | 10 U |
| bis(2-Chloroethoxy)methane | 10 | 10 U | 10 U |
| bis(2-Chloroethyl)ether | 10 | 10 U | 10 U |
| bis(2-Chloroisopropyl)ether | 10 | 10 U | 15 |
| bis(2-Ethylhexyl)phthalate | 10 | 10 U | 2 J |
| 4-Bromophenyl-phenylether | 10 | 10 U | 10 U |
| Butylbenzylphthalate | 10 | 10 U | 10 U |
| 4-Chloroaniline | 10 | 23 | 10 U |
| 4-Chloro-3-Methylphenol | 10 | 10 U | 10 U |
| 2-Chloronaphthalene | 10 | 10 U | 10 U |
| 2-Chlorophenol | 10 | 5 J | 10 U |
| 4-Chlorophenyl-phenylether | 10 | 10 U | 10 U |
| Chrysene | 10 | 10 U | 10 U |
| Dibenzo(a,h)Anthracene | 10 | 10 U | 10 U |
| Dibenzofuran | 10 | 10 U | 10 U |
| Di-n-butylphthalate | 10 | 10 U | 10 U |
| 1,2-Dichlorobenzene | 10 | 23 | 10 U |
| 1,3-Dichlorobenzene | 10 | 10 U | 10 U |
| 1,4-Dichlorobenzene | 10 | 130 | 10 U |
| 3,3'-Dichlorobenzidine | 20 | 20 U | 10 U |
| 2,4-Dichlorophenol | 10 | 10 U | 10 U |
| Diethylphthalate | 10 | 10 U | 10 U |
| 2,4-Dimethylphenol | 10 | 10 U | 10 U |
| Dimethylphthalate | 10 | 10 U | 10 U |
| 4,6-Dinitro-2-methylphenol | 50 | 50 U | 50 U |
| 2,4-Dinitrophenol | 50 | 50 U | 50 U |
| 2,4-Dinitrotoluene | 10 | 10 U | 10 U |
| 2,6-Dinitrotoluene | 10 | 10 U | 10 U |
| Di-n-octylphthalate | 10 | 10 U | 10 U |
| Fluoranthene | 10 | 10 U | 10 U |

Table 1
Laboratory Report of Analysis

| | LOCATION: | SB-2 | SB-3 |
|---|---|---|---|
| | ISIS ID: | 01BW002XXXX1XX | 01BW003XXXX1XX |
| | LAB NUMBER: | A5503202 | A5503203 |
| | DATE SAMPLED: | 09/19/95 | 09/19/95 |
| | DATE EXTRACTED: | 09/25/95 | 09/25/95 |
| | DATE ANALYZED: | 10/06/95 | 10/11/95 |
| ANALYTE | RL | | |
| Fluorene | 10 | 10 U | 10 U |
| Hexachlorobenzene | 10 | 10 U | 10 U |
| Hexachlorobutadiene | 10 | 10 U | 10 U |
| Hexachlorocyclopentadiene | 10 | 10 U | 12 |
| Hexachloroethane | 10 | 10 U | 390 |
| Indeno(1,2,3-c,d)Pyrene | 10 | 10 U | 10 U |
| Isophorone | 10 | 10 U | 10 U |
| 2-Methylnaphthalene | 10 | 10 U | 10 U |
| 2-Methylphenol | 10 | 17 | 10 U |
| 4-Methylphenol | 10 | 12 | 10 U |
| Naphthalene | 10 | 10 U | 10 U |
| 2-Nitroaniline | 50 | 50 U | 50 U |
| 3-Nitroaniline | 50 | 50 U | 50 U |
| 4-Nitroaniline | 50 | 50 U | 50 U |
| Nitrobenzene | 10 | 10 U | 10 U |
| 2-Nitrophenol | 10 | 10 U | 10 U |
| 4-Nitrophenol | 50 | 50 U | 50 U |
| N-Nitroso-di-n-propylamine | 10 | 10 U | 10 U |
| N-Nitrosodiphenylamine | 10 | 10 U | 10 U |
| Pentachlorophenol | 50 | 50 U | 50 U |
| Phenanthrene | 10 | 10 U | 10 U |
| Phenol | 10 | 10 U | 10 U |
| Pyrene | 10 | 10 U | 10 U |
| 1,2,4-Trichlorobenzene | 10 | 10 U | 10 U |
| 2,4,5-Trichlorophenol | 25 | 25 U | 25 U |
| 2,4,6-Trichlorophenol | 10 | 10 U | 10 U |
| Dilution Factor: | | 1.00 | 1.00 |
| Sample Volume\Weight (ml\g): | | 980 | 540 |
| Associated Method Blank: | | 22328W.MSQ | 22328W.MSQ |
| Associated Equipment Blank: | | - | - |
| Associated Field Blank: | | - | - |

Site: SOIL BORING WATERS

Table 1
Laboratory Report of Analysis

| | LOCATION: | SB-2 | SB-3 |
|---|---|---|---|
| | ISIS ID: | 01BW002XXXX1XX | 01BW003XXXX1XX |
| | LAB NUMBER: | A5503202 | A5503203 |
| | DATE SAMPLED: | 09/19/95 | 09/19/95 |
| | DATE EXTRACTED: | 09/25/95 | 09/25/95 |
| | DATE ANALYZED: | 10/07/95 | 10/07/95 |
| ANALYTE | RL | | |
| Pyridine | 330 | 10 U | 18 U |
| 2-Chloropyridine | 330 | 840 | 15 J |
| 3-Chloropyridine | 330 | 77 | 18 U |
| 4-Chlropyridine | 330 | 10 U | 18 U |
| 2,6-Dichloropyridine | 330 | 460 | 17 J |
| p-Fluoroaniline | 330 | 78 | 18 U |
| Dilution Factor: | | 1.00 | 1.00 |
| Sample Volume\Weight (ml\g): | | 980 | 540 |
| Associated Method Blank: | | 22446W.MSQ | 22446W.MSQ |
| Associated Equipment Blank: | | - | - |
| Associated Field Blank: | | - | - |

Site: SOIL BORING WATERS

Table 1
Laboratory Report of Analysis

| | |
|---|---|
| LOCATION: | SB-2 |
| ISIS ID: | 01BW002XXXX1XX |
| LAB NUMBER: | A5503202 |
| DATE SAMPLED: | 09/19/95 |

| ANALYTE | RL | | |
|---|---|---|---|
| Aluminum | 200 | 14200 | |
| Antimony | 10 | 10.0 | U |
| Arsenic | 5 | 119 | |
| Barium | 20 | 2550 | |
| Beryllium | 3 | 8.3 | |
| Cadmium | 5 | 10.9 | |
| Calcium | 1000 | 2320000 | |
| Chromium | 10 | 364 | N |
| Cobalt | 10 | 129 | |
| Copper | 5 | 788 | |
| Iron | 30 | 417000 | N |
| Lead | 3 | 464 | |
| Magnesium | 300 | 326000 | |
| Manganese | 5 | 15100 | |
| Mercury | 0.2 | 1.7 | |
| Nickel | 10 | 1400 | |
| Potassium | 2000 | 32700 | |
| Selenium | 3 | 3.0 | U |
| Silver | 10 | 10.0 | UN |
| Sodium | 1000 | 177000 | |
| Thallium | 3 | 3.0 | U |
| Vanadium | 10 | 241 | |
| Zinc | 10 | 1330 | |
| Cyanide | 10 | 10.0 | U |

| | |
|---|---|
| Associated Method Blank: | SS116 |
| Associated Equipment Blank: | - |
| Associated Field Blank: | - |

Site: SOIL BORING WATERS

# GROUNDWATER RESULTS (SEPTEMBER 1995)

**OLIN ROCHESTER**
**SEMIANNUAL MONITORING - 2nd ROUND 1995**

| WELL: | B-1 | B-17 | B-6 | BR-1 | BR-101 | BR-102 | BR-103 | BR-104 |
|---|---|---|---|---|---|---|---|---|
| TYPE: | | | | | | | | |
| DATE: | 12-Sep-95 | 13-Sep-95 | 12-Sep-95 | 12-Sep-95 | 11-Sep-95 | 12-Sep-95 | 11-Sep-95 | 11-Sep-95 |
| **PARAMETER** | | | | | | | | |
| **VOCs (ug/l)** | | | | | | | | |
| 1,1,1-Trichloroethane | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| 1,1,2-Trichloroethane | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| 1,1-Dichloroethane | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| 1,1-Dichloroethene | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| 1,2-Dichloroethane | 10 U | 1000 U | 10 U | 10 U | 1700 J | 25 U | 10 U | 10 U |
| 1,2-Dichloroethene (Total) | 10 U | 1000 U | 2 J | 10 U | 2500 U | 25 U | 24 | 10 U |
| 1,2-Dichloropropane | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| 2-Butanone | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| 2-Hexanone | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| 4-Methyl-2-Pentanone | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| Acetone | 10 U | 1000 U | 62 | 10 U | 2500 U | 15 J | 10 U | 10 U |
| Benzene | 10 U | 1000 U | 30 | 10 U | 400 J | 30 | 2 J | 10 U |
| Bromodichloromethane | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| Bromoform | 10 U | 770 J | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| Bromomethane | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| Carbon Disulfide | 10 U | 1800 | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| Carbon Tetrachloride | 10 U | 100000 D | 10 U | 10 U | 2500 U | 19 J | 10 U | 10 U |
| Chlorobenzene | 10 U | 420 J | 210 D | 10 U | 13000 | 77 | 10 U | 10 U |
| Chloroethane | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| Chloroform | 10 U | 35000 D | 10 U | 10 U | 5400 | 340 | 10 U | 10 U |
| Chloromethane | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| Dibromochloromethane | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| Ethylbenzene | 10 U | 1000 U | 3 J | 10 U | 790 J | 25 U | 10 U | 10 U |
| Methylene Chloride | 10 U | 2800 | 10 U | 10 U | 31000 | 220 | 10 U | 10 U |
| Styrene | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| Tetrachloroethene | 10 U | 3100 | 10 U | 10 U | 2500 U | 17 J | 10 U | 10 U |
| Toluene | 10 U | 280 J | 70 | 10 U | 26000 | 21 J | 10 U | 10 U |
| Total Xylenes | 10 U | 1000 U | 2 J | 10 U | 3800 | 25 U | 10 U | 10 U |
| Trichloroethene | 10 U | 1000 U | 10 U | 10 U | 2500 U | 5 J | 10 U | 10 U |
| Vinyl Chloride | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 3 J | 10 U |
| Cis-1,3-Dichloropropene | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| Trans-1,3-Dichloropropene | 10 U | 1000 U | 10 U | 10 U | 2500 U | 25 U | 10 U | 10 U |
| **Chloropyridines (ug/l)** | | | | | | | | |
| 2,6-Dichloropyridine | 24 | 19000 DJ | 11000 D | 10 U | 2300 D | 110 D | 0.5 J | 59 |
| 2-Chloropyridine | 12 | 120000 D | 42000 D | 14 | 6700 D | 660 D | 15 | 140 D |
| 3-Chloropyridine | 10 U | 6200 D | 770 D | 10 U | 560 | 10 | 10 U | 10 U |
| p-Fluoroaniline | 10 U | 400 E | 180 DJ | 10 U | 200 U | 17 | 10 U | 10 U |
| **Misc. (ug/l)** | | | | | | | | |
| Methanol | 1000 U | 2900 | 1000 U | 1000 U | 1000 U | 1000 U | 1000 U | 1000 U |

**OLIN ROCHESTER**
**SEMIANNUAL MONITORING - 2n**

| WELL: | BR-105 | BR-105D | BR-106 | BR-107 | BR-2 | BR-2D | BR-3 | BR-3D |
|---|---|---|---|---|---|---|---|---|
| TYPE: | | | | | | | | |
| DATE: | 11-Sep-95 | 11-Sep-95 | 11-Sep-95 | 11-Sep-95 | 12-Sep-95 | 14-Sep-95 | 12-Sep-95 | 14-Sep-95 |
| **PARAMETER** | | | | | | | | |
| **VOCs (ug/l)** | | | | | | | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| 1,1,2-Trichloroethane | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| 1,1-Dichloroethane | 2 J | 6 J | 28 J | 6 J | 100 U | 10 U | 2000 U | 10 U |
| 1,1-Dichloroethene | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| 1,2-Dichloroethane | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| 1,2-Dichloroethene (Total) | 5 J | 59 | 490 | 360 D | 73 J | 1 J | 2000 U | 10 U |
| 1,2-Dichloropropane | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| 2-Butanone | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| 2-Hexanone | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| Acetone | 10 U | 10 U | 100 | 10 U | 100 U | 17 | 2000 U | 16 |
| Benzene | 10 | 10 | 86 | 110 | 28 J | 3 J | 2000 U | 5 J |
| Bromodichloromethane | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| Bromoform | 10 U | 10 U | 40 U | 10 U | 1900 D | 10 U | 690 J | 10 U |
| Bromomethane | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| Carbon Disulfide | 2 J | 36 | 40 U | 10 U | 3100 D | 10 U | 550 J | 10 U |
| Carbon Tetrachloride | 10 U | 10 U | 40 U | 10 U | 14000 D | 10 U | 1700 J | 10 U |
| Chlorobenzene | 21 | 10 U | 160 | 10 U | 100 U | 10 U | 2000 U | 10 U |
| Chloroethane | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| Chloroform | 10 U | 10 U | 7 J | 10 U | 14000 D | 5 J | 14000 | 10 U |
| Chloromethane | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| Dibromochloromethane | 10 U | 10 U | 40 U | 10 U | 160 | 10 U | 2000 U | 10 U |
| Ethylbenzene | 10 U | 10 U | 4 J | 10 U | 100 U | 10 U | 2000 U | 1 J |
| Methylene Chloride | 10 U | 10 U | 40 U | 10 U | 9000 D | 10 U | 24000 | 170 |
| Styrene | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| Tetrachloroethene | 2 J | 10 U | 40 U | 10 U | 180 | 10 U | 2000 U | 10 U |
| Toluene | 2 J | 6 J | 230 | 6 J | 84 J | 4 J | 310 J | 11 |
| Total Xylenes | 10 U | 2 J | 6 J | 6 J | 100 U | 7 J | 2000 U | 10 |
| Trichloroethene | 4 J | 10 U | 9 J | 10 U | 63 J | 10 U | 2000 U | 10 U |
| Vinyl Chloride | 2 J | 30 | 350 | 280 D | 17 J | 10 U | 2000 U | 10 U |
| Cis-1,3-Dichloropropene | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| Trans-1,3-Dichloropropene | 10 U | 10 U | 40 U | 10 U | 100 U | 10 U | 2000 U | 10 U |
| **Chloropyridines (ug/l)** | | | | | | | | |
| 2,6-Dichloropyridine | 750 D | 32 | 810 D | 10 U | 250 D | 4 J | 9000 D | 1 J |
| 2-Chloropyridine | 12000 D | 1300 D | 5800 D | 17 | 1600 D | 46 | 69000 D | 91 D |
| 3-Chloropyridine | 210 D | 15 | 250 D | 10 U | 38 | 3 J | 4600 D | 6 J |
| p-Fluoroaniline | 14 | 4 J | 24 | 10 U | 24 | 11 U | 250 | 10 U |
| **Misc. (ug/l)** | | | | | | | | |
| Methanol | 1000 U | 1000 U | 1000 U | 1000 U | 1000 U | 1000 U | 7900 | 1000 U |

**OLIN ROCHESTER**
**SEMIANNUAL MONITORING - 2n**

| WELL: | BR-4 | BR-4 | BR-5A | BR-6 | BR-8 | BR-8 | E-1 | E-3 |
|---|---|---|---|---|---|---|---|---|
| TYPE: | | Duplicate | | | | Duplicate | | |
| DATE: | 12-Sep-95 | 12-Sep-95 | 12-Sep-95 | 12-Sep-95 | 13-Sep-95 | 13-Sep-95 | 12-Sep-95 | 12-Sep-95 |
| **PARAMETER** | | | | | | | | |
| **VOCs (ug/l)** | | | | | | | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| 1,1,2-Trichloroethane | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| 1,1-Dichloroethane | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| 1,1-Dichloroethene | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| 1,2-Dichloroethane | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| 1,2-Dichloroethene (Total) | 2 J | 2 J | 610 | 500 U | 17 J | 18 J | 10 J | 7 J |
| 1,2-Dichloropropane | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| 2-Butanone | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| 2-Hexanone | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| Acetone | 10 U | 10 U | 40 U | 370 J | 50 U | 50 U | 50 U | 10 U |
| Benzene | 10 U | 10 U | 82 | 500 U | 68 | 66 | 50 U | 44 |
| Bromodichloromethane | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| Bromoform | 10 U | 10 U | 40 U | 94 J | 50 U | 50 U | 50 U | 10 U |
| Bromomethane | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| Carbon Disulfide | 1 J | 10 U | 40 U | 280 J | 8 J | 7 J | 50 U | 10 U |
| Carbon Tetrachloride | 10 U | 10 U | 40 U | 750 | 50 U | 50 U | 420 | 10 U |
| Chlorobenzene | 2 J | 2 J | 40 U | 500 U | 1400 D | 1500 D | 50 U | 4 J |
| Chloroethane | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| Chloroform | 10 U | 10 U | 65 | 6700 | 50 U | 50 U | 680 | 10 U |
| Chloromethane | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| Dibromochloromethane | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| Ethylbenzene | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| Methylene Chloride | 3 J | 3 J | 40 U | 1400 | 50 U | 50 U | 33 J | 10 U |
| Styrene | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| Tetrachloroethene | 10 U | 10 U | 40 U | 190 J | 50 U | 50 U | 17 J | 10 U |
| Toluene | 10 U | 10 U | 26 J | 260 J | 43 J | 45 J | 12 J | 10 U |
| Total Xylenes | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 31 J | 10 U |
| Trichloroethene | 10 U | 10 U | 75 | 500 U | 50 U | 50 U | 50 U | 2 J |
| Vinyl Chloride | 18 | 17 | 47 | 500 U | 50 U | 50 U | 50 U | 10 U |
| Cis-1,3-Dichloropropene | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| Trans-1,3-Dichloropropene | 10 U | 10 U | 40 U | 500 U | 50 U | 50 U | 50 U | 10 U |
| **Chloropyridines (ug/l)** | | | | | | | | |
| 2,6-Dichloropyridine | 77 | 68 | 82 D | 8800 DJ | 1200 D | 1100 D | 350 D | 120 D |
| 2-Chloropyridine | 220 D | 190 D | 230 D | 74000 D | 4900 D | 4400 D | 1400 D | 82 D |
| 3-Chloropyridine | 8 J | 8 J | 2 J | 3300 D | 130 D | 72 DJ | 79 D | 10 U |
| p-Fluoroaniline | 10 U | 10 U | 37 | 25 J | 180 D | 210 D | 6 J | 29 |
| **Misc. (ug/l)** | | | | | | | | |
| Methanol | 1000 U | 1000 U | 1000 U | 1000 U | 1000 U | 1000 U | 1000 U | 1000 U |

**OLIN ROCHESTER**
**SEMIANNUAL MONITORING - 2n**

| WELL: | MW-103 | MW-104 | MW-106 | MW-107 | NESS-E | NESS-W |
|---|---|---|---|---|---|---|
| TYPE: | | | | | | |
| DATE: | 11-Sep-95 | 11-Sep-95 | 11-Sep-95 | 11-Sep-95 | 12-Sep-95 | 12-Sep-95 |
| **PARAMETER** | | | | | | |
| **VOCs (ug/l)** | | | | | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| 1,1,2-Trichloroethane | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| 1,1-Dichloroethane | 10 U | 10 U | 50 U | 2 J | 6 J | 7 J |
| 1,1-Dichloroethene | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| 1,2-Dichloroethane | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| 1,2-Dichloroethene (Total) | 10 U | 10 U | 9 J | 10 U | 4 J | 14 |
| 1,2-Dichloropropane | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| 2-Butanone | 10 U | 10 U | 50 U | 10 U | 10 U | 55 |
| 2-Hexanone | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| Acetone | 10 U | 10 U | 1200 D | 10 U | 10 U | 10 U |
| Benzene | 10 U | 10 U | 190 | 10 U | 4 J | 34 |
| Bromodichloromethane | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| Bromoform | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| Bromomethane | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| Carbon Disulfide | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| Carbon Tetrachloride | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| Chlorobenzene | 10 U | 10 U | 1400 D | 10 U | 5 J | 2 J |
| Chloroethane | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| Chloroform | 10 U | 10 U | 89 | 10 U | 10 U | 10 U |
| Chloromethane | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| Dibromochloromethane | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| Ethylbenzene | 10 U | 10 U | 8 J | 10 U | 10 U | 10 |
| Methylene Chloride | 10 U | 10 U | 50 U | 10 U | 10 U | 3 J |
| Styrene | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| Tetrachloroethene | 10 U | 10 U | 50 U | 10 U | 3 J | 2 J |
| Toluene | 10 U | 10 U | 2300 D | 10 U | 10 U | 4 J |
| Total Xylenes | 10 U | 10 U | 27 J | 10 U | 10 U | 5 J |
| Trichloroethene | 10 U | 1 J | 50 U | 10 U | 9 J | 2 J |
| Vinyl Chloride | 10 U | 10 U | 8 J | 10 U | 4 J | 9 J |
| Cis-1,3-Dichloropropene | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| Trans-1,3-Dichloropropene | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| **Chloropyridines (ug/l)** | | | | | | |
| 2,6-Dichloropyridine | 1 J | 51 | 15000 DJ | 1 J | 140 D | 12 |
| 2-Chloropyridine | 23 | 130 D | 84000 D | 14 | 2200 D | 600 D |
| 3-Chloropyridine | 10 U | 10 U | 4000 D | 10 U | 8 J | 14 |
| p-Fluoroaniline | 10 U | 10 U | 320 | 10 U | 2 J | 1 J |
| **Misc. (ug/l)** | | | | | | |
| Methanol | 1000 U | 1000 U | 1000 U | 1000 U | 1000 U | 980 J |

# GROUNDWATER DATA FROM NEW WELLS/POINTS (NOVEMBER-DECEMBER 1995)

Table 1
Laboratory Report of Analysis

| | LOCATION: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113 | BR-113D | BR-113 FD | BR-114 |
|---|---|---|---|---|---|---|---|---|---|
| | LAB NUMBER: | A5649106 | A5649107 | A5649108 | A5649109 | A5649110 | A5649111 | A5649110 FD | A5649104 |
| | DATE SAMPLED: | 12/07/95 | 12/07/95 | 12/07/95 | 12/07/95 | 12/07/95 | 12/07/95 | 12/07/95 | 12/07/95 |
| | DATE EXTRACTED: | 12/11/95 | 12/11/95 | 12/11/95 | 12/11/95 | 12/11/95 | 12/11/95 | 12/11/95 | 12/11/95 |
| | DATE ANALYZED: | 12/14/95 | 12/14/95 | 12/14/95 | 12/14/95 | 12/14/95 | 12/14/95 | 12/14/95 | 12/14/95 |
| ANALYTE | RL | | | | | | | | |
| Pyridine | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chloropyridine | 10 | 10 U | 10 U | 10 U | 4 J | 2 J | 76 | 2 J | 12 |
| 3-Chloropyridine | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 8 J |
| 4-Chlropyridine | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,6-Dichloropyridine | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 1 J | 10 U | 6 J |
| p-Fluoroaniline | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dilution Factor: | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Sample Volume\Weight (ml\g): | | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| Associated Method Blank: | | Z25621.RR | Z25621.RR | Z25621.RR | Z25621.RR | Z25621.RR | Z25621.RR | Z25621.RR | Z25621.RR |
| Associated Equipment Blank: | | FIELD RINSE | FIELD RINSE | FIELD RINSE | FIELD RINSE | FIELD RINSE | FIELD RINSE | FIELD RINSE | FIELD RINSE |
| Associated Field Blank: | | - | - | - | - | - | - | - | - |

Site: MONITORING WELLS

Table 1
Laboratory Report of Analysis

| | LOCATION: | MW-114 | NESS-E | NESS-W |
|---|---|---|---|---|
| | LAB NUMBER: | A5649105 | A5649102 | A5649103 |
| | DATE SAMPLED: | 12/07/95 | 12/07/95 | 12/07/95 |
| | DATE EXTRACTED: | 12/11/95 | 12/11/95 | 12/11/95 |
| | DATE ANALYZED: | 12/14/95 | 12/14/95 | 12/14/95 |
| ANALYTE | RL | | | |
| Pyridine | 10 | 10 U | 10 U | 10 U |
| 2-Chloropyridine | 10 | 10 U | 1300 | 150 |
| 3-Chloropyridine | 10 | 10 U | 10 U | 6 J |
| 4-Chlropyridine | 10 | 10 U | 10 U | 10 U |
| 2,6-Dichloropyridine | 10 | 10 U | 97 | 11 |
| p-Fluoroaniline | 10 | 10 U | 6 J | 10 U |
| Dilution Factor: | | 1.0 | 1.0 | 1.00 |
| Sample Volume\Weight (ml\g): | | 1000 | 1000 | 1000 |
| Associated Method Blank: | | Z25621.RR | Z25621.RR | Z25621.RR |
| Associated Equipment Blank: | | FIELD RINSE | FIELD RINSE | FIELD RINSE |
| Associated Field Blank: | | - | - | - |

Site: MONITORING WELLS

Table 1
Laboratory Report of Analysis

| SAMPLE LOCATION: | | BR-111 | BR-111D | BR-112A | BR-112D | BR-113 | BR-113 FD | BR-113D | BR-114 |
|---|---|---|---|---|---|---|---|---|---|
| LAB NUMBER: | | A5576405 | A5576406 | A5579706 | A5579705 | A5576402 | A5576402 FD | A5576403 | A5579703 |
| DATE SAMPLED: | | 10/26/95 | 10/26/95 | 10/27/95 | 10/27/95 | 10/26/95 | 10/26/95 | 10/26/95 | 10/27/95 |
| DATE ANALYZED: | | 10/31/95 | 10/31/95 | 10/31/95 | 10/31/95 | 10/31/95 | 10/31/95 | 10/31/95 | 10/31/95 |
| ANALYTE | RL | | | | | | | | |
| Acetone | 10 | 21 | 100 U | 10 U | 10 U | 50 U | 50 U | 10 U | 10 U |
| Benzene | 0.50 | 1.6 | 240 | 0.50 U | 22 | 31 | 30 | 24 | 0.58 |
| Bromodichloromethane | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| Bromoform | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| Bromomethane | 1.0 | 1.0 U | 10 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 1.0 U | 1.0 U |
| 2-Butanone | 1.0 | 1.0 U | 10 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 1.0 U | 1.0 U |
| Carbon Disulfide | 0.50 | 0.69 | 5.5 | 0.60 | 3.7 | 2.5 U | 2.5 U | 1.7 | 0.34 J |
| Carbon Tetrachloride | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| Chlorobenzene | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| Chloroethane | 1.0 | 1.0 U | 10 U | 1.0 U | 3.0 | 5.0 U | 5.0 U | 1.0 U | 1.0 U |
| Chloroform | 0.50 | 0.50 U | 5.0 U | 0.41 J | 0.50 U | 2.5 U | 2.5 U | 1.0 | 0.50 U |
| Chloromethane | 1.0 | 1.0 U | 10 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 1.0 U | 1.0 U |
| Dibromochloromethane | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| 1,1-Dichloroethane | 0.50 | 0.50 U | 5.0 U | 0.50 U | 35 | 2.5 U | 2.5 U | 35 | 0.95 |
| 1,2-Dichloroethane | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| 1,1-Dichloroethene | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| 1,2-Dichloroethene (total) | 0.50 | 0.50 U | 5.0 U | 0.50 U | 48 | 2.5 U | 2.5 U | 36 | 0.50 U |
| 1,2-Dichloropropane | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| cis-1,3-Dichloropropene | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| trans-1,3-Dichloropropene | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| Ethylbenzene | 0.50 | 1.1 | 38 | 0.50 U | 3.2 | 61 | 62 | 1.3 | 1.1 |
| 2-Hexanone | 1.0 | 1.0 U | 10 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 1.0 U | 1.0 U |
| Methylene Chloride | 3.0 | 3.0 U | 30 U | 3.0 U | 3.0 U | 15 U | 15 U | 3.0 U | 3.0 U |
| 4-Methyl-2-Pentanone | 1.0 | 1.0 U | 10 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 1.0 U | 1.0 U |
| Styrene | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| 1,1,2,2-Tetrachloroethane | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| Tetrachloroethene | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| Toluene | 0.50 | 0.59 | 14 | 0.24 J | 0.54 | 130 | 140 | 1.1 | 0.25 J |
| 1,1,1-Trichloroethane | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.89 | 2.5 U | 2.5 U | 0.85 | 0.50 U |
| 1,1,2-Trichloroethane | 0.50 | 0.50 U | 5.0 U | 0.50 U | 0.50 U | 2.5 U | 2.5 U | 0.50 U | 0.50 U |
| Trichloroethene | 0.50 | 0.50 U | 5.0 U | 0.50 U | 2.4 | 2.5 U | 2.5 U | 1.6 | 0.50 U |
| Vinyl Acetate | 5.0 | 5.0 U | 50 U | 5.0 U | 5.0 U | 25 U | 25 | 5.0 U | 5.0 U |
| Vinyl Chloride | 1.0 | 1.0 U | 10 U | 1.0 U | 67 | 5.0 U | 5.0 U | 33 | 1.0 U |
| Total Xylenes | 0.50 | 2.8 | 41 | 0.28 J | 1.8 | 340 | 340 | 2.0 | 2.1 |
| Dilution Factor: | | 1.00 | 10.0 | 1.00 | 1.00 | 5.00 | 5.00 | 1.00 | 1.00 |
| Sample Volume\Weight (ml\g): | | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Associated Method Blank: | | L8060.RR | L8060.RR | L8060.RR | L8060.RR | L8060.RR | L8060.RR | L8060.RR | L8060.RR |
| Associated Equipment Blank: | | RINSE BLANK | RINSE BLANK | FIELD RINSE | FIELD RINSE | RINSE BLANK | RINSE BLANK | RINSE BLANK | FIELD RINSE |
| Associated Field Blank: | | - | - | - | - | - | - | - | - |
| Associated Trip Blank: | | TRIPBLANK10/26 | TRIPBLANK10/26 | TRIPBLANK10/27 | TRIPBLANK10/27 | TRIPBLANK10/26 | TRIPBLANK10/26 | TRIPBLANK10/26 | TRIPBLANK10/27 |

Site: MONITORING WELLS

Table 1
Laboratory Report of Analysis

| | SAMPLE LOCATION: | MW-114 | NESS-E | NESS-E FD | NESS-W |
|---|---|---|---|---|---|
| | LAB NUMBER: | A5579704 | A5621202 | A5621202FD | A5621203 |
| | DATE SAMPLED: | 10/27/95 | 11/20/95 | 11/20/95 | 11/20/95 |
| | DATE ANALYZED: | 10/31/95 | 11/21/95 | 11/21/95 | 11/21/95 |
| ANALYTE | RL | | | | |
| Acetone | 10 | 14 | 14 | 16 | 10 U |
| Benzene | 0.50 | 0.64 | 2.3 | 2.8 | 35 |
| Bromodichloromethane | 0.50 | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| Bromoform | 0.50 | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| Bromomethane | 1.0 | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Butanone | 1.0 | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Carbon Disulfide | 0.50 | 0.50 U | 0.39 J | 0.35 J | 0.50 U |
| Carbon Tetrachloride | 0.50 | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| Chlorobenzene | 0.50 | 0.50 U | 4.4 | 4.7 | 1.4 |
| Chloroethane | 1.0 | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Chloroform | 0.50 | 1.8 | 1.2 | 1.0 | 1.4 |
| Chloromethane | 1.0 | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Dibromochloromethane | 0.50 | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| 1,1-Dichloroethane | 0.50 | 0.85 | 4.5 | 4.8 | 6.3 |
| 1,2-Dichloroethane | 0.50 | 0.94 | 0.50 U | 0.50 U | 0.50 U |
| 1,1-Dichloroethene | 0.50 | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| 1,2-Dichloroethene (total) | 0.50 | 0.50 U | 4.9 | 4.9 | 46 |
| 1,2-Dichloropropane | 0.50 | 0.38 J | 0.50 U | 0.50 U | 0.50 U |
| cis-1,3-Dichloropropene | 0.50 | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| trans-1,3-Dichloropropene | 0.50 | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| Ethylbenzene | 0.50 | 0.50 U | 0.27 J | 0.26 J | 7.3 |
| 2-Hexanone | 1.0 | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Methylene Chloride | 3.0 | 3.0 U | 3.0 U | 3.0 U | 2.8 J |
| 4-Methyl-2-Pentanone | 1.0 | 2.0 | 1.0 U | 1.0 U | 1.0 U |
| Styrene | 0.50 | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| 1,1,2,2-Tetrachloroethane | 0.50 | 0.50 U | 1.1 | 0.91 | 0.50 U |
| Tetrachloroethene | 0.50 | 3.1 | 3.8 | 3.9 | 1.3 |
| Toluene | 0.50 | 0.55 | 0.32 J | 0.32 J | 3.1 |
| 1,1,1-Trichloroethane | 0.50 | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| 1,1,2-Trichloroethane | 0.50 | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| Trichloroethene | 0.50 | 5.1 | 12 | 11 | 1.5 |
| Vinyl Acetate | 5.0 | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Vinyl Chloride | 1.0 | 1.0 U | 4.3 | 4.9 | 60 |
| Total Xylenes | 0.50 | 0.59 | 0.23 J | 0.25 J | 5.2 |
| Dilution Factor: | | 1.00 | 1.0 | 1.0 | 1.0 |
| Sample Volume\Weight (ml\g): | | 25 | 25.0 | 25.0 | 25.0 |
| Associated Method Blank: | | L8060.RR | L8499.RR | L8499.RR | L8499.RR |
| Associated Equipment Blank: | | FIELD RINSE | RINSE BLANK | RINSE BLANK | RINSE BLANK |
| Associated Field Blank: | | - | - | - | - |
| Associated Trip Blank: | | TRIPBLANK10/27 | TRIP BLANK | TRIP BLANK | TRIP BLANK |

Site: MONITORING WELLS

Table 1
Laboratory Report of Analysis

| SAMPLE LOCATION: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113 | BR-113 FD | BR-113D | BR-114 |
|---|---|---|---|---|---|---|---|---|
| LAB NUMBER: | A5576405 | A5576406 | A5579706 | A5579705 | A5576402 | A5576402FD | A5576403 | A5579703 |
| DATE SAMPLED: | 10/26/95 | 10/26/95 | 10/27/95 | 10/27/95 | 10/26/95 | 10/26/95 | 10/26/95 | 10/27/95 |
| DATE EXTRACTED: | 11/01/95 | 11/01/95 | 11/02/95 | 11/02/95 | 11/01/95 | 11/01/95 | 11/01/95 | 11/02/95 |
| DATE ANALYZED: | 11/19/95 | 11/19/95 | 11/06/95 | 11/06/95 | 11/19/95 | 11/19/95 | 11/19/95 | 11/06/95 |

| ANALYTE | RL | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Acenaphthylene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Anthracene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)Anthracene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(b)Fluoranthene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(k)Fluoranthene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(g,h,i)perylene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)Pyrene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzoic Acid | 50 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Benzyl Alcohol | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| bis(2-Chloroethoxy)methane | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| bis(2-Chloroethyl)ether | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| bis(2-Chloroisopropyl)ether | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| bis(2-Ethylhexyl)phthalate | 10 | 10 U | 5 J | 10 U | 4 J | 1 J | 2 J | 2 J | 10 U |
| 4-Bromophenyl-phenylether | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Butylbenzylphthalate | 10 | 0.7 J | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloroaniline | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloro-3-Methylphenol | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chloronaphthalene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chlorophenol | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chlorophenyl-phenylether | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chrysene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dibenzo(a,h)Anthracene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dibenzofuran | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Di-n-butylphthalate | 10 | 10 U | 0.8 J | 10 U | 10 U | 10 U | 10 U | 2 J | 10 U |
| 1,2-Dichlorobenzene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,3-Dichlorobenzene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,4-Dichlorobenzene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 3,3'-Dichlorobenzidine | 20 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dichlorophenol | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Diethylphthalate | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dimethylphenol | 10 | 10 U | 2 J | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dimethylphthalate | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4,6-Dinitro-2-methylphenol | 50 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| 2,4-Dinitrophenol | 50 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| 2,4-Dinitrotoluene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,6-Dinitrotoluene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Di-n-octylphthalate | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Fluoranthene | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |

Table 1
Laboratory Report of Analysis

| SAMPLE LOCATION: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113 | BR-113 FD | BR-113D | BR-114 |
|---|---|---|---|---|---|---|---|---|
| LAB NUMBER: | A5576405 | A5576406 | A5579706 | A5579705 | A5576402 | A5576402FD | A5576403 | A5579703 |
| DATE SAMPLED: | 10/26/95 | 10/26/95 | 10/27/95 | 10/27/95 | 10/26/95 | 10/26/95 | 10/26/95 | 10/27/95 |
| DATE EXTRACTED: | 11/01/95 | 11/01/95 | 11/02/95 | 11/02/95 | 11/01/95 | 11/01/95 | 11/01/95 | 11/02/95 |
| DATE ANALYZED: | 11/19/95 | 11/19/95 | 11/06/95 | 11/06/95 | 11/19/95 | 11/19/95 | 11/19/95 | 11/06/95 |
| ANALYTE RL | | | | | | | | |
| Fluorene 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobenzene 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobutadiene 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorocyclopentadiene 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachloroethane 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Indeno(1,2,3-c,d)Pyrene 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Isophorone 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Methylnaphthalene 10 | 10 U | 2 J | 10 U | 10 U | 10 | 14 | 10 U | 10 U |
| 2-Methylphenol 10 | 10 U | 0.9 J | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Methylphenol 10 | 1 J | 2 J | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Naphthalene 10 | 10 U | 1 J | 10 U | 10 U | 11 | 16 | 10 U | 10 U |
| 2-Nitroaniline 50 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| 3-Nitroaniline 50 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| 4-Nitroaniline 50 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Nitrobenzene 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Nitrophenol 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Nitrophenol 50 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| N-Nitroso-di-n-propylamine 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| N-Nitrosodiphenylamine 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Pentachlorophenol 50 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Phenanthrene 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Phenol 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Pyrene 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2,4-Trichlorobenzene 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4,5-Trichlorophenol 25 | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| 2,4,6-Trichlorophenol 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dilution Factor: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Sample Volume\Weight (ml\g): | 1000 | 1000 | 1000 | 970 | 960 | 960 | 960 | 1000 |
| Associated Method Blank: | Z25223.RR | Z25223.RR | 22341Y.MSQ | 22341Y.MSQ | Z25223.RR | Z25223.RR | Z25223.RR | 22341Y.MSQ |
| Associated Equipment Blank: | RINSE BLANK | RINSE BLANK | FIELD RINSE | FIELD RINSE | RINSE BLANK | RINSE BLANK | RINSE BLANK | FIELD RINSE |
| Associated Field Blank: | - | - | - | - | - | - | - | - |

Site: MONITORING WELLS

Table 1
Laboratory Report of Analysis

| SAMPLE LOCATION: | MW-114 | NESS-E | NESS-E FD | NESS-W |
|---|---|---|---|---|
| LAB NUMBER: | A5579704 | A5621202 | A5621202FD | A5621203 |
| DATE SAMPLED: | 10/27/95 | 11/20/95 | 11/20/95 | 11/20/95 |
| DATE EXTRACTED: | 11/02/95 | 11/21/95 | 11/21/95 | 11/21/95 |
| DATE ANALYZED: | 11/06/95 | 11/27/95 | 11/27/95 | 11/27/95 |

| ANALYTE | RL | | | | |
|---|---|---|---|---|---|
| Acenaphthene | 10 | 10 U | 10 U | 10 U | 10 U |
| Acenaphthylene | 10 | 10 U | 10 U | 10 U | 10 U |
| Anthracene | 10 | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)Anthracene | 10 | 10 U | 10 U | 10 U | 10 U |
| Benzo(b)Fluoranthene | 10 | 10 U | 10 U | 10 U | 10 U |
| Benzo(k)Fluoranthene | 10 | 10 U | 10 U | 10 U | 10 U |
| Benzo(g,h,i)perylene | 10 | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)Pyrene | 10 | 10 U | 10 U | 10 U | 10 U |
| Benzoic Acid | 50 | 50 U | 50 U | 50 U | 50 U |
| Benzyl Alcohol | 10 | 10 U | 10 U | 10 U | 10 U |
| bis(2-Chloroethoxy)methane | 10 | 10 U | 10 U | 10 U | 10 U |
| bis(2-Chloroethyl)ether | 10 | 10 U | 9 J | 6 J | 10 U |
| bis(2-Chloroisopropyl)ether | 10 | 10 U | 10 U | 10 U | 10 U |
| bis(2-Ethylhexyl)phthalate | 10 | 4 J | 5 J | 2 J | 16 |
| 4-Bromophenyl-phenylether | 10 | 10 U | 10 U | 10 U | 10 U |
| Butylbenzylphthalate | 10 | 10 U | 10 U | 10 U | 10 U |
| 4-Chloroaniline | 10 | 10 U | 10 U | 10 U | 10 U |
| 4-Chloro-3-Methylphenol | 10 | 10 U | 10 U | 10 U | 10 U |
| 2-Chloronaphthalene | 10 | 10 U | 10 U | 10 U | 10 U |
| 2-Chlorophenol | 10 | 10 U | 10 U | 10 U | 10 U |
| 4-Chlorophenyl-phenylether | 10 | 10 U | 10 U | 10 U | 10 U |
| Chrysene | 10 | 10 U | 10 U | 10 U | 10 U |
| Dibenzo(a,h)Anthracene | 10 | 10 U | 10 U | 10 U | 10 U |
| Dibenzofuran | 10 | 10 U | 10 U | 10 U | 10 U |
| Di-n-butylphthalate | 10 | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichlorobenzene | 10 | 10 U | 4 J | 3 J | 10 U |
| 1,3-Dichlorobenzene | 10 | 10 U | 10 U | 10 U | 10 U |
| 1,4-Dichlorobenzene | 10 | 10 U | 10 U | 10 U | 10 U |
| 3,3'-Dichlorobenzidine | 20 | 10 U | 20 U | 20 U | 20 U |
| 2,4-Dichlorophenol | 10 | 10 U | 10 U | 10 U | 10 U |
| Diethylphthalate | 10 | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dimethylphenol | 10 | 10 U | 10 U | 10 U | 10 U |
| Dimethylphthalate | 10 | 10 U | 10 U | 10 U | 10 U |
| 4,6-Dinitro-2-methylphenol | 50 | 50 U | 50 U | 50 U | 50 U |
| 2,4-Dinitrophenol | 50 | 50 U | 50 U | 50 U | 50 U |
| 2,4-Dinitrotoluene | 10 | 10 U | 10 U | 10 U | 10 U |
| 2,6-Dinitrotoluene | 10 | 10 U | 10 U | 10 U | 10 U |
| Di-n-octylphthalate | 10 | 10 U | 10 U | 10 U | 10 U |
| Fluoranthene | 10 | 10 U | 10 U | 10 U | 10 U |

Table 1
Laboratory Report of Analysis

| SAMPLE LOCATION: | MW-114 | NESS-E | NESS-E FD | NESS-W |
|---|---|---|---|---|
| LAB NUMBER: | A5579704 | A5621202 | A5621202FD | A5621203 |
| DATE SAMPLED: | 10/27/95 | 11/20/95 | 11/20/95 | 11/20/95 |
| DATE EXTRACTED: | 11/02/95 | 11/21/95 | 11/21/95 | 11/21/95 |
| DATE ANALYZED: | 11/06/95 | 11/27/95 | 11/27/95 | 11/27/95 |

| ANALYTE | RL | | | | |
|---|---|---|---|---|---|
| Fluorene | 10 | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobenzene | 10 | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobutadiene | 10 | 10 U | 10 U | 10 U | 10 U |
| Hexachlorocyclopentadiene | 10 | 10 U | 10 U | 10 U | 10 U |
| Hexachloroethane | 10 | 10 U | 10 U | 10 U | 10 U |
| Indeno(1,2,3-c,d)Pyrene | 10 | 10 U | 10 U | 10 U | 10 U |
| Isophorone | 10 | 10 U | 10 U | 10 U | 10 U |
| 2-Methylnaphthalene | 10 | 10 U | 10 U | 10 U | 10 U |
| 2-Methylphenol | 10 | 10 U | 10 U | 10 U | 10 U |
| 4-Methylphenol | 10 | 10 U | 10 U | 10 U | 8 J |
| Naphthalene | 10 | 10 U | 10 U | 10 U | 2 J |
| 2-Nitroaniline | 50 | 50 U | 50 U | 50 U | 50 U |
| 3-Nitroaniline | 50 | 50 U | 50 U | 50 U | 50 U |
| 4-Nitroaniline | 50 | 50 U | 50 U | 50 U | 50 U |
| Nitrobenzene | 10 | 10 U | 10 U | 10 U | 10 U |
| 2-Nitrophenol | 10 | 10 U | 10 U | 10 U | 10 U |
| 4-Nitrophenol | 50 | 50 U | 50 U | 50 U | 50 U |
| N-Nitroso-di-n-propylamine | 10 | 10 U | 10 U | 10 U | 10 U |
| N-Nitrosodiphenylamine | 10 | 10 U | 10 U | 10 U | 10 U |
| Pentachlorophenol | 50 | 50 U | 50 U | 50 U | 50 U |
| Phenanthrene | 10 | 10 U | 10 U | 10 U | 10 U |
| Phenol | 10 | 10 U | 10 U | 10 U | 10 U |
| Pyrene | 10 | 10 U | 10 U | 10 U | 10 U |
| 1,2,4-Trichlorobenzene | 10 | 10 U | 10 U | 10 U | 10 U |
| 2,4,5-Trichlorophenol | 25 | 25 U | 25 U | 25 U | 25 U |
| 2,4,6-Trichlorophenol | 10 | 10 U | 10 U | 10 U | 10 U |

| | | | | |
|---|---|---|---|---|
| Dilution Factor: | 1.00 | 1.00 | 1.00 | 1.00 |
| Sample Volume\Weight (ml\g): | 940 | 1000.0 | 1000.0 | 1000.0 |
| Associated Method Blank: | 22341Y.MSQ | Z25391.RR | Z25391.RR | Z25391.RR |
| Associated Equipment Blank: | FIELD RINSE | RINSE BLANK | RINSE BLANK | RINSE BLANK |
| Associated Field Blank: | - | - | - | - |

Site: MONITORING WELLS

Table 1
Laboratory Report of Analysis

| ANALYTE | RL | SAMPLE LOCATION: BR-111<br>LAB NUMBER: A5576405<br>DATE SAMPLED: 10/26/95 | BR-111D<br>A5576406<br>10/26/95 | BR-112A<br>A5579706<br>10/27/95 | BR-112D<br>A5579705<br>10/27/95 | BR-113<br>A5576402<br>10/26/95 | BR-113 FD<br>A5576402 FD<br>10/26/95 | BR-113D<br>A5576403<br>10/26/95 | BR-114<br>A5579703<br>10/27/95 |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 90 | 16600 E | 4660 E | 240 | 3090 | 7950 E | 7760 E | 1940 E | 235 |
| Antimony | 30 | 5.1 U | 5.1 U | 5.1 U | 5.1 U | 5.1 U | 5.1 U | 5.4 B | 5.1 U |
| Arsenic | 4 | 16.1 | 54.8 | 5.3 U | 5.3 U | 9 B | 6.2 B | 5.3 U | 5.3 U |
| Barium | 30 | 102 B | 81 B | 36.7 B | 99 B | 174 B | 163 B | 60 B | 279 |
| Beryllium | 3 | 0.82 B | 0.2 U | 0.2 U | 0.3 B | 0.65 B | 0.6 B | 0.2 U | 0.2 U |
| Cadmium | 10 | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| Calcium | 1000 | 316000 | 1220000 | 193000 | 234000 | 191000 | 193000 | 177000 | 135000 |
| Chromium | 10 | 27.4 | 2 B | 1 U | 9.5 B | 13 | 10.8 | 1 U | 1 U |
| Cobalt | 30 | 7.1 B | 1.7 B | 1.6 U | 1.6 U | 5.7 B | 5.2 B | 1.6 U | 1.6 U |
| Copper | 10 | 26.5 | 9.1 B | 1.1 U | 3.9 B | 20.4 B | 20.7 B | 4.8 B | 1.6 B |
| Iron | 40 | 25200 N | 5520 N | 2830 N | 9400 N | 18500 N | 18100 N | 3870 N | 2540 N |
| Lead | 30 | 47.4 | 13.1 | 2.3 B | 9 | 49 | 40 | 9 | 1.4 U |
| Magnesium | 400 | 151000 | 305000 | 58900 | 82000 | 81300 | 81200 | 54200 | 28800 |
| Manganese | 5 | 695 | 128 | 54.1 | 412 | 925 | 920 | 221 | 119 |
| Mercury | 0.2 | 0.2 U | 0.2 U | 7.7 | 0.54 | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| Nickel | 20 | 28.3 B | 2.3 B | 1.4 U | 9.5 B | 13.7 B | 12.9 B | 1.6 B | 1.4 U |
| Potassium | 400 | 24600 E | 171000 E | 4040 BE | 9310 E | 18800 E | 17000 E | 9220 E | 4880 BE |
| Selenium | 4 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Silver | 0.5 | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| Sodium | 1000 | 23900 | 6490000 | 12200 | 161000 | 60700 | 61700 | 151000 | 97200 |
| Thallium | 4 | 3 U | 3 U | 7.1 U | 7.1 U | 3 U | 3 U | 3 U | 7.1 U |
| Vanadium | 10 | 21.3 B | 5.2 B | 1.6 U | 4.2 B | 14.7 B | 13.5 B | 3.9 B | 1.6 U |
| Zinc | 10 | 93.7 | 51.8 | 18 B | 38 | 153 | 127 | 58.3 | 17.6 B |
| Cyanide | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Associated Method Blank: | | BR111 | BR111 | BR111 | BR111 | BR111 | BR111 | BR111 | BR111 |
| Associated Equipment Blank: | | RINSE BLANK | RINSE BLANK | FIELD RINSE | FIELD RINSE | RINSE BLANK | RINSE BLANK | RINSE BLANK | FIELD RINSE |
| Associated Field Blank: | | - | - | - | - | - | - | - | - |

Site: MONITORING WELLS

Table 1
Laboratory Report of Analysis

| SAMPLE LOCATION: | | MW-114 | | NESS-E | | NESS-E FD | | NESS-W | |
|---|---|---|---|---|---|---|---|---|---|
| LAB NUMBER: | | A5579704 | | A5621202 | | A5621202FD | | A5621203 | |
| DATE SAMPLED: | | 10/27/95 | | 11/20/95 | | 11/20/95 | | 11/20/95 | |
| ANALYTE | RL | | | | | | | | |
| Aluminum | 90 | 2490 | | 2270 | | 378 | | 86.6 | B |
| Antimony | 30 | 5.1 | U | 57.6 | B | 5.1 | U | 5.1 | U |
| Arsenic | 4 | 6.9 | B | 371 | | 29.3 | | 9.2 | B |
| Barium | 30 | 1020 | | 1540 | | 290 | | 88.1 | B |
| Beryllium | 3 | 0.21 | B | 2.1 | B | 0.2 | U | 0.20 | U |
| Cadmium | 10 | 0.72 | B | 98.4 | | 8.8 | | 1.2 | B |
| Calcium | 1000 | 1130000 | | 277000 | | 175000 | | 212000 | |
| Chromium | 10 | 1 | U | 102 | * | 1.0 | U* | 12.0 | * |
| Cobalt | 30 | 34.2 | B | 34.6 | B | 4.0 | B | 5.0 | B |
| Copper | 10 | 3.7 | B | 70700 | EN* | 8460 | EN* | 470 | EN* |
| Iron | 40 | 29100 | N | 864000 | * | 117000 | * | 433000 | * |
| Lead | 30 | 4.6 | | 4750 | * | 598 | * | 22.0 | * |
| Magnesium | 400 | 74500 | | 41100 | | 357000 | | 44100 | |
| Manganese | 5 | 8640 | | 5970 | N* | 1790 | N* | 1660 | N* |
| Mercury | 0.2 | 0.72 | | 0.20 | U | 0.20 | U | 0.20 | U |
| Nickel | 20 | 20.2 | B | 514 | | 58.0 | | 24.0 | B |
| Potassium | 400 | 12400 | E | 13200 | EN | 11300 | EN | 14400 | EN |
| Selenium | 4 | 5 | U | 17.7 | * | 5.0 | U* | 7.1 | * |
| Silver | 0.5 | 1.2 | B | 33.4 | N | 4.5 | BN | 1.1 | BN |
| Sodium | 1000 | 64900 | | 185000 | | 193000 | | 676000 | |
| Thallium | 4 | 7.1 | U | 3.0 | U | 3.0 | U | 3.0 | U |
| Vanadium | 10 | 4 | B | 74.8 | | 8.9 | B | 7.4 | B |
| Zinc | 10 | 132 | | 2780000 | E* | 351000 | E* | 4710 | E* |
| Cyanide | 10 | 10 | U | 10.0 | U | 10.0 | U | 10.0 | U |
| Associated Method Blank: | | BR111 | | 6212 | | 6212 | | 6212 | |
| Associated Equipment Blank: | | FIELD RINSE | | RINSE BLANK | | RINSE BLANK | | RINSE BLANK | |
| Associated Field Blank: | | - | | - | | - | | - | |

Site: MONITORING WELLS

# SURFACE WATER RESULTS (NOVEMBER 1994 TO NOVEMBER 1995)

OLIN ROCHESTER
QUARTERLY SURFACE WATER MONITORING RESULTS = NOVEMBER 1994 - MAY 1995

| LOCATION: | SW-1 | SW-1 | SW-1 | SW-2 | SW-2 Duplicate | SW-2 | SW-2 Duplicate |
|---|---|---|---|---|---|---|---|
| TYPE: | | | | | | | |
| DATE SAMPLED: | 2-Nov-94 | 27-Mar-95 | 17-May-95 | 2-Nov-94 | 2-Nov-94 | 27-Mar-95 | 27-Mar-95 |
| **ANALYTE (ug/l)** | | | | | | | |
| 2,6-Dichloropyridine | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chloropyridine | 10 U | 5 J | 10 U | 10 U | 10 U | 4 J | 5 J |
| 3-Chloropyridine | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| p-Fluoroaniline | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Pyridine | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |

**OLIN ROCHESTER**
**QUARTERLY SURFACE WA**

| LOCATION: | SW-2 | SW-2 | SW-3 | SW-3 | SW-3 |
|---|---|---|---|---|---|
| TYPE: | | Duplicate | | | |
| DATE SAMPLED: | 17-May-95 | 17-May-95 | 2-Nov-94 | 27-Mar-95 | 17-May-95 |
| **ANALYTE (ug/l)** | | | | | |
| 2,6-Dichloropyridine | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chloropyridine | 10 U | 10 U | 10 U | 6 J | 10 U |
| 3-Chloropyridine | 10 U | 10 U | 10 U | 10 U | 10 U |
| p-Fluoroaniline | 10 U | 10 U | 10 U | 10 U | 10 U |
| Pyridine | 10 U | 10 U | 10 U | 10 U | 10 U |

Table 2
Validation / Summary Table

| LOCATION: | SW-1 | SW-2 | SW-3 | SW-3 Field Duplicate |
|---|---|---|---|---|
| ISIS ID: | SW-1 | SW-2 | SW-3 | SW-3 FD |
| LAB NUMBER: | A5472205 | A5472206 | A5472207 | A5472207 FD |
| DATE SAMPLED: | 09/06/95 | 09/06/95 | 09/06/95 | 09/06/95 |
| DATE EXTRACTED: | 09/08/95 | 09/08/95 | 09/08/95 | 09/08/95 |
| DATE ANALYZED: | 09/13/95 | 09/13/95 | 09/13/95 | 09/13/95 |

| ANALYTE | RL | | | | |
|---|---|---|---|---|---|
| Pyridine | 10 | 10 U | 10 U | 10 U | 10 U |
| 2-Chloropyridine | 10 | 10 U | 10 U | 10 U | 10 U |
| 3-Chloropyridine | 10 | 10 U | 10 U | 10 U | 10 U |
| 4-Chlropyridine | 10 | 10 U | 10 U | 10 U | 10 U |
| 2,6-Dichloropyridine | 10 | 10 U | 10 UJ | 10 U | 10 U |
| p-Fluoroaniline | 10 | 10 U | 10 UJ | 10 U | 10 U |
| Dilution Factor: | | 1.00 | 1.00 | 1.00 | 1.00 |
| Sample Volume\Weight (ml\g): | | 1000 | 1000 | 1000 | 1000 |
| Associated Method Blank: | | Z24261.RR | Z24261.RR | Z24261.RR | Z24261.RR |
| Associated Equipment Blank: | | FIELD BLANK | FIELD BLANK | FIELD BLANK | FIELD BLANK |
| Associated Field Blank: | | - | - | - | - |

Site: BARGE CANAL SURFACE WATER

Table 1
Laboratory Report of Analysis

| SAMPLE LOCATION: | | SW-1 | SW-2 | SW-2 FD | SW-3 |
|---|---|---|---|---|---|
| LAB NUMBER: | | A5621302 | A5621303 | A5621303FD | A5621304 |
| DATE SAMPLED: | | 11/20/95 | 11/20/95 | 11/20/95 | 11/20/95 |
| DATE EXTRACTED: | | 11/21/95 | 11/21/95 | 11/21/95 | 11/21/95 |
| DATE ANALYZED: | | 11/25/95 | 11/25/95 | 11/25/95 | 11/25/95 |
| ANALYTE | RL | | | | |
| Pyridine | 10 | 10 U | 10 U | 10 U | 10 U |
| 2-Chloropyridine | 10 | 1 J | 2 J | 3 J | 1 J |
| 3-Chloropyridine | 10 | 10 U | 10 U | 10 U | 10 U |
| 4-Chloropyridine | 10 | 10 U | 10 U | 10 U | 10 U |
| 2,6-Dichloropyridine | 10 | 0.2 J | 0.3 J | 0.3 J | 0.2 J |
| p-Fluoroaniline | 10 | 10 U | 10 U | 10 U | 10 U |
| Dilution Factor: | | 1.00 | 1.00 | 1.00 | 1.00 |
| Sample Volume\Weight (ml\g): | | 1000.0 | 1000.0 | 1000.0 | 1000 |
| Associated Method Blank: | | Z25371.RR | Z25371.RR | Z25371.RR | Z25371.RR |
| Associated Equipment Blank: | | RINSE BLANK | RINSE BLANK | RINSE BLANK | RINSE BLANK |
| Associated Field Blank: | | - | - | - | - |

Site: BARGE CANAL SURFACE WATER

Table 2
Validation / Summary Table

| | LOCATION: | SW-1 | SW-2 | SW-2 FD | SW-3 |
|---|---|---|---|---|---|
| | LAB NUMBER: | A5621302 | A5621303 | A5621303FD | A5621304 |
| | DATE SAMPLED: | 11/20/95 | 11/20/95 | 11/20/95 | 11/20/95 |
| | DATE EXTRACTED: | 11/21/95 | 11/21/95 | 11/21/95 | 11/21/95 |
| | DATE ANALYZED: | 11/25/95 | 11/25/95 | 11/25/95 | 11/25/95 |
| ANALYTE | RL | | | | |
| Pyridine | 10 | 10 UJ | 10 UJ | 10 UJ | 10 UJ |
| 2-Chloropyridine | 10 | 1 J | 2 J | 3 J | 1 J |
| 3-Chloropyridine | 10 | 10 U | 10 U | 10 U | 10 U |
| 4-Chloropyridine | 10 | 10 U | 10 U | 10 U | 10 U |
| 2,6-Dichloropyridine | 10 | 0.2 J | 0.3 J | 0.3 J | 0.2 J |
| p-Fluoroaniline | 10 | 10 U | 10 U | 10 U | 10 U |
| Dilution Factor: | | 1.00 | 1.00 | 1.00 | 1.00 |
| Sample Volume\Weight (ml\g): | | 1000.0 | 1000.0 | 1000.0 | 1000 |
| Associated Method Blank: | | Z25371.RR | Z25371.RR | Z25371.RR | Z25371.RR |
| Associated Equipment Blank: | | RINSE BLANK | RINSE BLANK | RINSE BLANK | RINSE BLANK |
| Associated Field Blank: | | - | - | - | - |

Site: BARGE CANAL SURFACE WATER

# QUARRY SEEP, COLLECTION POND AND OUTFALL RESULTS

Table 2
Validation / Summary Table

| | | | | | |
|---|---|---|---|---|---|
| | LOCATION: | QS-1 | QS-2 | QS-3 | QS-4 |
| | ISIS ID: | QS-1 | QS-2 | QS-3 | QS-4 |
| | LAB NUMBER: | A5472201 | A5472202 | A5472203 | A5472204 |
| | DATE SAMPLED: | 09/06/95 | 09/06/95 | 09/06/95 | 09/06/95 |
| | DATE EXTRACTED: | 09/08/95 | 09/08/95 | 09/08/95 | 09/11/95 |
| | DATE ANALYZED: | 09/13/95 | 09/13/95 | 09/13/95 | 09/13/95 |
| ANALYTE | RL | | | | |
| Pyridine | 10 | 10 U | 10 U | 10 U | 10 U |
| 2-Chloropyridine | 10 | 10 U | 4 J | 40 | 1300 |
| 3-Chloropyridine | 10 | 10 U | 10 U | 10 U | 7 J |
| 4-Chlropyridine | 10 | 10 U | 10 U | 10 U | 10 U |
| 2,6-Dichloropyridine | 10 | 10 U | 10 U | 4 J | 140 J |
| p-Fluoroaniline | 10 | 10 U | 10 U | 10 U | 2 J |
| Dilution Factor: | | 1.00 | 1.00 | 1.00 | 1.00 |
| Sample Volume\Weight (ml\g): | | 1000 | 1000 | 1000 | 1000 |
| Associated Method Blank: | | Z24261.RR | Z24261.RR | Z24261.RR | Z24245.RR |
| Associated Equipment Blank: | | FIELD BLANK | FIELD BLANK | FIELD BLANK | FIELD BLANK |
| Associated Field Blank: | | - | - | - | - |

Site: QUARRY SEEPS

Table 1
Laboratory Report of Analysis

| | SAMPLE LOCATION: | QO-1 | QP-1 |
|---|---|---|---|
| | LAB NUMBER: | A5573904 | A5573903 |
| | DATE SAMPLED: | 10/25/95 | 10/25/95 |
| | DATE EXTRACTED: | 10/27/95 | 10/27/95 |
| | DATE ANALYZED: | 11/17/95 | 11/17/95 |
| ANALYTE | RL | | |
| Pyridine | 10 | 11 U | 10 U |
| 2-Chloropyridine | 10 | 11 U | 19 |
| 3-Chloropyridine | 10 | 11 U | 10 U |
| 4-Chlropyridine | 10 | 11 U | 10 U |
| 2,6-Dichloropyridine | 10 | 11 U | 3 J |
| p-Fluoroaniline | 10 | 11 U | 10 U |
| Dilution Factor: | | 1.00 | 1.00 |
| Sample Volume\Weight (ml\g): | | 940 | 1000 |
| Associated Method Blank: | | Z25208.RR | Z25208.RR |
| Associated Equipment Blank: | | RINSE BLANK | RINSE BLANK |
| Associated Field Blank: | | - | - |

Site: DOLOMITE QUARRY

Table 1
Laboratory Report of Analysis

| | SAMPLE LOCATION: | QS-4 | QS-4 FD |
|---|---|---|---|
| | LAB NUMBER: | A5573902 | A5573902 FD |
| | DATE SAMPLED: | 10/25/95 | 10/25/95 |
| | DATE EXTRACTED: | 10/27/95 | 10/27/95 |
| | DATE ANALYZED: | 11/17/95 | 11/17/95 |
| ANALYTE | RL | | |
| Pyridine | 10 | 10 U | 10 U |
| 2-Chloropyridine | 10 | 550 | 610 |
| 3-Chloropyridine | 10 | 7 J | 7 J |
| 4-Chlropyridine | 10 | 10 U | 10 U |
| 2,6-Dichloropyridine | 10 | 55 | 58 |
| p-Fluoroaniline | 10 | 5 J | 5 J |
| Dilution Factor: | | 1.00 | 1.00 |
| Sample Volume\Weight (ml\g): | | 1000 | 1000 |
| Associated Method Blank: | | Z25208.RR | Z25208.RR |
| Associated Equipment Blank: | | RINSE BLANK | RINSE BLANK |
| Associated Field Blank: | | - | - |

Site: QUARRY SEEPS

# TENTATIVELY IDENTIFIED COMPOUNDS

TENTATIVELY IDENTIFIED COMPOUND (TIC) SUMMARY
FOR Olin Rochester - Phase II RI/FS; FILE: 7311-05
AQUEOUS (ug/L)

VOLATILE

| | BR-111 | BR-111D | BR-112D | BR-113 | BR-113D |
|---|---|---|---|---|---|
| Unknown | 20 J(4) | 2600 J(4) | 6 J(2) | 250 J(2) | 74 J(2) |
| Pentane | 3 JN | | | 62 JN | 14 JN |
| Hexane | 1 JN | | | | 3 JN |
| Saturated Hydrocarbon | 3 J | 78 J | | 140 J | |
| Unsaturated Hydrocarbon | 5 J(2) | 240 J(2) | 10 J(3) | 67 J | 44 J(4) |
| Trimethylbenzene Isomer | 1 J | | | 260 J(2) | |
| Dimethyl Sulfide | | 60 JN | | | |
| 2-(Methylthio)-Propane | | 190 JN | | | |
| Alkyl Substituted Compound | | 68 J | | | |
| Methylcyclobutane | | | 5 JN | | |
| Aromatic Derivative | | | 2 J | | |
| 1,2-Dichloro-1,1,2-Trifluoroethane | | | 6 JN | | 9 JN |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | | | 10 JN | | 16 JN |
| 2-Methyl Butane | | | 5 JN | | |
| Ethylmethylbenzene Isomer | | | | 160 J | |
| Benzene Derivative | | | | 54 J | |
| Alkyl Benzene Derivative | | | | 58 J | |

| | BR-114 | FIELD RINSE | MW-114 | BR-112A | BR-113FD |
|---|---|---|---|---|---|
| Unknown | 1 J | | 4 J | 20 J(4) | 230 J(2) |
| Unsaturated Hydrocarbon | 1 J | | 2 J | 2 J(2) | 80 J |
| 2-Methly Butane | 2 JN | | | | |
| Ethylmethylbenzene Isomer | 2 J | | | | 170 J |
| Trimethlybenzene Isomer | 4 J(2) | | | | 250 J(2) |
| Aromatic Derivative | 5 J(2) | | | | |
| Alkyl Substituted Compound | 4 J | | | 3 J(2) | 110 J(2) |
| Benzene Derivative | 4 J | | | | |
| Trichlorofluoromethane | | 1 JN | | | |
| Pentane | | | | 4 JN | |
| Saturated Hydrocarbon | | | | 8 J | 130 J |
| Diethylbenzene Isomer | | | | | 60 J |

No volatile TIC's were identified in the following samples:

RINSE BLANK
TRIP BLANK 10/26
TRIP BLANK 10/27

TENTATIVELY IDENTIFIED COMPOUND (TIC) SUMMARY
FOR Olin Rochester - Phase II RI/FS; FILE: 7311-05
AQUEOUS (ug/L)

SEMIVOLATILE

| | BR-111 | BR-111D | BR-112D | BR-113 | BR-113D |
|---|---|---|---|---|---|
| Unknown | 6 J | 35 J(6) | | 12 J(2) | |
| Unknown Acid | 7 J | 5 J | | 5 J | |
| Trimethlybenzene Isomer | | 8 J | | 150 J(4) | |
| Cyclohexane Derivative | | 5 J | | | |
| Dimethly Tetrasulphide | | 17 JN | | | |
| Lenthionine | | 8 JN | | | |
| Hexthiepane | | 44 JN | | | |
| Sulfur (S8) | | 1600 JN | 16 JN | | |
| Unknown Hydrocarbon | | 16 J | | | |
| Unknown Benzene Derivative | | | | 64 J(5) | |
| Propyl Benzene | | | | 10 JN | |
| Ethyldimethyl Benzene Isomer | | | | 16 J | |
| Tetramethyl Benzene Isomer | | | | 11 J | |
| Methlynaphthalene Isomer | | | | 4 J | |
| Chloropyridine Isomer | | | | | 11 J |

| | BR-113FD |
|---|---|
| Unknown | 14 J(2) |
| Unknown Alkane | 4 J |
| Unknown Benzene Derivative | 97 J(6) |
| Trimethyl Benzene Isomer | 210 J(5) |
| Tetramethyl Benzene Isomer | 13 J |
| Methyl Naphthalene Isomer | 6 J |
| Propylbenzene | 14 JN |

No Semivolatile TIC's were identified in the following samples:

BR-112A
BR-114
FIELD RINSE
MW-114
RINSE BLANK

TENTATIVELY IDENTIFIED COMPOUND (TIC) SUMMARY
FOR Olin Rochester - Phase II RI/FS; FILE: 7311-07
AQUEOUS (ug/L)

VOLATILE

| | NESS-E | NESS-E FD | NESS-W |
|---|---|---|---|
| Unknown Hydrocarbon | 6 J(2) | 6 J(2) | 62 J |
| Dichloropyridine Isomer | 4 J(2) | 5 J(2) | |
| 2-Methyl Butane | 2 JN | 2 JN | 94 JN |
| Hexane | 2 JN | 2 JN | |
| Cycloalkyl Compound | 3 J | 3 J | 11 J |
| Chloropyridine Isomer | 24 J | 28 J | |
| Fluorobenzene | 3 JN | 3 JN | |
| 1,2-Dichlorobenzene | 10 JN | 11 JN | |
| Isobutane | | | 10 JN |
| Isopropylbenzene | | | 9 JN |
| N-Propylbenzene | | | 16 JN |
| Methly Ethyl Benzene Isomer | | | 10 J |
| Tetramethylbenzene Isomer | | | 11 J |
| 1,2,4-Trimethylbenzene | | | 15 JN |
| 1,2-Dichloro-1,1,2-Trifluoro-Ethane | | | 13 JN |

No volatile TIC's were identified in the following samples:

RINSE BLANK
TRIP BLANK

SEMIVOLATILE

| | NESS-E | NESS-E FD | NESS-W |
|---|---|---|---|
| Unknown | 11 J(2) | 10 J(2) | 30 J(4) |
| Unknown Acid | 60 J(2) | 44 J | 15 J |
| Dichloropyridine Isomer | 94 J(2) | 85 J(2) | 9 J |
| Chloropyridine Isomer | 730 J | 620 J | 240 J |
| Trimethlybenzene Isomer | | | 4 J |
| Tetramethylbenzene Isomer | | | 8 J |
| p-Fluoroaniline | | | 6 JN |

No Semivolatile TIC's were identified in the following samples:

RINSE BLANK

# QA/QC RESULTS OCTOBER/NOVEMBER 1995

Table 1
Laboratory Report of Analysis

| SAMPLE LOCATION: | TRIP BLANK | TRIP BLANK 10/26 | TRIP BLANK 10/27 |
|---|---|---|---|
| LAB NUMBER: | A5621201 | A5576401 | A5579705 |
| DATE SAMPLED: | 11/20/95 | 10/26/95 | 10/27/95 |
| DATE ANALYZED: | 11/21/95 | 10/31/95 | 10/31/95 |

| ANALYTE | RL | | | |
|---|---|---|---|---|
| Acetone | 10 | 10 | 10 U | 10 U |
| Benzene | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Bromodichloromethane | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Bromoform | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Bromomethane | 1.0 | 1.0 | 1.0 U | 1.0 U |
| 2-Butanone | 1.0 | 1.0 | 1.0 U | 1.0 U |
| Carbon Disulfide | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Carbon Tetrachloride | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Chlorobenzene | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Chloroethane | 1.0 | 1.0 | 1.0 U | 1.0 U |
| Chloroform | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Chloromethane | 1.0 | 1.0 | 1.0 U | 1.0 U |
| Dibromochloromethane | 0.50 | 0.50 | 0.50 U | 0.50 U |
| 1,1-Dichloroethane | 0.50 | 0.50 | 0.50 U | 0.50 U |
| 1,2-Dichloroethane | 0.50 | 0.50 | 0.50 U | 0.50 U |
| 1,1-Dichloroethene | 0.50 | 0.50 | 0.50 U | 0.50 U |
| 1,2-Dichloroethene (total) | 0.50 | 0.50 | 0.50 U | 0.50 U |
| 1,2-Dichloropropane | 0.50 | 0.50 | 0.50 U | 0.50 U |
| cis-1,3-Dichloropropene | 0.50 | 0.50 | 0.50 U | 0.50 U |
| trans-1,3-Dichloropropene | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Ethylbenzene | 0.50 | 0.50 | 0.50 U | 0.50 U |
| 2-Hexanone | 1.0 | 1.0 | 1.0 U | 1.0 U |
| Methylene Chloride | 3.0 | 3.0 | 3.0 U | 3.0 U |
| 4-Methyl-2-Pentanone | 1.0 | 1.0 | 1.0 U | 1.0 U |
| Styrene | 0.50 | 0.50 | 0.50 U | 0.50 U |
| 1,1,2,2-Tetrachloroethane | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Tetrachloroethene | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Toluene | 0.50 | 0.50 | 0.50 U | 0.50 U |
| 1,1,1-Trichloroethane | 0.50 | 0.50 | 0.50 U | 0.50 U |
| 1,1,2-Trichloroethane | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Trichloroethene | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Vinyl Acetate | 5.0 | 5.0 | 5.0 U | 5.0 U |
| Vinyl Chloride | 1.0 | 1.0 | 1.0 U | 1.0 U |
| Total Xylenes | 0.50 | 0.50 | 0.50 U | 0.50 U |
| Dilution Factor: | | 1.0 | 1.0 | 1.0 |
| Sample Volume\Weight (ml\g): | | 25.0 | 25 | 25 |
| Associated Method Blank: | | L8499.RR | L8060.RR | L8060.RR |
| Associated Equipment Blank: | | - | - | - |
| Associated Field Blank: | | - | - | - |
| Associated Trip Blank: | | - | - | - |

TRIP BLANKS

Table 1
Laboratory Report of Analysis

| SAMPLE LOCATION: | FIELD RINSE | RINSE BLANK | RINSE BLANK |
|---|---|---|---|
| LAB NUMBER: | A5579702 | A5576404 | A5621204 |
| DATE SAMPLED: | 10/27/95 | 10/26/95 | 11/20/95 |
| DATE ANALYZED: | 10/31/95 | 10/31/95 | 11/21/95 |

| ANALYTE | RL | | | |
|---|---|---|---|---|
| Acetone | 10 | 10 U | 10 U | 10 U |
| Benzene | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| Bromodichloromethane | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| Bromoform | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| Bromomethane | 1.0 | 1.0 U | 1.0 U | 1.0 U |
| 2-Butanone | 1.0 | 1.0 U | 1.0 U | 1.0 U |
| Carbon Disulfide | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| Carbon Tetrachloride | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| Chlorobenzene | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| Chloroethane | 1.0 | 1.0 U | 1.0 U | 1.0 U |
| Chloroform | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| Chloromethane | 1.0 | 1.0 U | 1.0 U | 1.0 U |
| Dibromochloromethane | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| 1,1-Dichloroethane | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| 1,2-Dichloroethane | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| 1,1-Dichloroethene | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| 1,2-Dichloroethene (total) | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| 1,2-Dichloropropane | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| cis-1,3-Dichloropropene | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| trans-1,3-Dichloropropene | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| Ethylbenzene | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| 2-Hexanone | 1.0 | 1.0 U | 1.0 U | 1.0 U |
| Methylene Chloride | 3.0 | 3.0 U | 3.0 U | 3.0 U |
| 4-Methyl-2-Pentanone | 1.0 | 1.0 U | 1.0 U | 1.0 U |
| Styrene | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| 1,1,2,2-Tetrachloroethane | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| Tetrachloroethene | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| Toluene | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| 1,1,1-Trichloroethane | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| 1,1,2-Trichloroethane | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| Trichloroethene | 0.50 | 0.50 U | 0.50 U | 0.50 U |
| Vinyl Acetate | 5.0 | 5.0 U | 5.0 U | 5.0 U |
| Vinyl Chloride | 1.0 | 1.0 U | 1.0 U | 1.0 U |
| Total Xylenes | 0.50 | 0.50 U | 0.50 U | 0.50 U |

| | | | |
|---|---|---|---|
| Dilution Factor: | 1.0 | 1.0 | 1.00 |
| Sample Volume\Weight (ml\g): | 25 | 25 | 25.0 |
| Associated Method Blank: | L8060.RR | L8060.RR | L8499.RR |
| Associated Equipment Blank: | - | - | - |
| Associated Field Blank: | - | - | - |
| Associated Trip Blank: | - | - | - |

EQUIPMENT RINSATE

Table 1
Laboratory Report of Analysis

| SAMPLE LOCATION: | FIELD RINSE | RINSE BLANK | RINSE BLANK |
|---|---|---|---|
| LAB NUMBER: | A5579702 | A5576404 | A5621204 |
| DATE SAMPLED: | 10/27/95 | 10/26/95 | 11/20/95 |
| DATE EXTRACTED: | 11/02/95 | 11/01/95 | 11/21/95 |
| DATE ANALYZED: | 11/04/95 | 11/19/95 | 11/27/95 |

| ANALYTE | RL | | | |
|---|---|---|---|---|
| Acenaphthene | 10 | 10 U | 10 U | 10 U |
| Acenaphthylene | 10 | 10 U | 10 U | 10 U |
| Anthracene | 10 | 10 U | 10 U | 10 U |
| Benzo(a)Anthracene | 10 | 10 U | 10 U | 10 U |
| Benzo(b)Fluoranthene | 10 | 10 U | 10 U | 10 U |
| Benzo(k)Fluoranthene | 10 | 10 U | 10 U | 10 U |
| Benzo(g,h,i)perylene | 10 | 10 U | 10 U | 10 U |
| Benzo(a)Pyrene | 10 | 10 U | 10 U | 10 U |
| Benzoic Acid | 50 | 50 U | 50 U | 50 U |
| Benzyl Alcohol | 10 | 10 U | 10 U | 10 U |
| bis(2-Chloroethoxy)methane | 10 | 10 U | 10 U | 10 U |
| bis(2-Chloroethyl)ether | 10 | 10 U | 10 U | 10 U |
| bis(2-Chloroisopropyl)ether | 10 | 10 U | 10 U | 10 U |
| bis(2-Ethylhexyl)phthalate | 10 | 10 U | 10 U | 10 U |
| 4-Bromophenyl-phenylether | 10 | 10 U | 10 U | 10 U |
| Butylbenzylphthalate | 10 | 10 U | 10 U | 10 U |
| 4-Chloroaniline | 10 | 10 U | 10 U | 10 U |
| 4-Chloro-3-Methylphenol | 10 | 10 U | 10 U | 10 U |
| 2-Chloronaphthalene | 10 | 10 U | 10 U | 10 U |
| 2-Chlorophenol | 10 | 10 U | 10 U | 10 U |
| 4-Chlorophenyl-phenylether | 10 | 10 U | 10 U | 10 U |
| Chrysene | 10 | 10 U | 10 U | 10 U |
| Dibenzo(a,h)Anthracene | 10 | 10 U | 10 U | 10 U |
| Dibenzofuran | 10 | 10 U | 10 U | 10 U |
| Di-n-butylphthalate | 10 | 10 U | 10 U | 10 U |
| 1,2-Dichlorobenzene | 10 | 10 U | 10 U | 10 U |
| 1,3-Dichlorobenzene | 10 | 10 U | 10 U | 10 U |
| 1,4-Dichlorobenzene | 10 | 10 U | 10 U | 10 U |
| 3,3'-Dichlorobenzidine | 20 | 20 U | 20 U | 20 U |
| 2,4-Dichlorophenol | 10 | 10 U | 10 U | 10 U |
| Diethylphthalate | 10 | 10 U | 10 U | 10 U |
| 2,4-Dimethylphenol | 10 | 10 U | 10 U | 10 U |
| Dimethylphthalate | 10 | 10 U | 10 U | 10 U |
| 4,6-Dinitro-2-methylphenol | 50 | 50 U | 50 U | 50 U |
| 2,4-Dinitrophenol | 50 | 50 U | 50 U | 50 U |
| 2,4-Dinitrotoluene | 10 | 10 U | 10 U | 10 U |
| 2,6-Dinitrotoluene | 10 | 10 U | 10 U | 10 U |
| Di-n-octylphthalate | 10 | 10 U | 10 U | 10 U |
| Fluoranthene | 10 | 10 U | 10 U | 10 U |

Table 1
Laboratory Report of Analysis

| | SAMPLE LOCATION: | FIELD RINSE | RINSE BLANK | RINSE BLANK |
|---|---|---|---|---|
| | LAB NUMBER: | A5579702 | A5576404 | A5621204 |
| | DATE SAMPLED: | 10/27/95 | 10/26/95 | 11/20/95 |
| | DATE EXTRACTED: | 11/02/95 | 11/01/95 | 11/21/95 |
| | DATE ANALYZED: | 11/04/95 | 11/19/95 | 11/27/95 |
| ANALYTE | RL | | | |
| Fluorene | 10 | 10 U | 10 U | 10 U |
| Hexachlorobenzene | 10 | 10 U | 10 U | 10 U |
| Hexachlorobutadiene | 10 | 10 U | 10 U | 10 U |
| Hexachlorocyclopentadiene | 10 | 10 U | 10 U | 10 U |
| Hexachloroethane | 10 | 10 U | 10 U | 10 U |
| Indeno(1,2,3-c,d)Pyrene | 10 | 10 U | 10 U | 10 U |
| Isophorone | 10 | 10 U | 10 U | 10 U |
| 2-Methylnaphthalene | 10 | 10 U | 10 U | 10 U |
| 2-Methylphenol | 10 | 10 U | 10 U | 10 U |
| 4-Methylphenol | 10 | 10 U | 10 U | 10 U |
| Naphthalene | 10 | 10 U | 10 U | 10 U |
| 2-Nitroaniline | 50 | 50 U | 50 U | 50 U |
| 3-Nitroaniline | 50 | 50 U | 50 U | 50 U |
| 4-Nitroaniline | 50 | 50 U | 50 U | 50 U |
| Nitrobenzene | 10 | 10 U | 10 U | 10 U |
| 2-Nitrophenol | 10 | 10 U | 10 U | 10 U |
| 4-Nitrophenol | 50 | 50 U | 50 U | 50 U |
| N-Nitroso-di-n-propylamine | 10 | 10 U | 10 U | 10 U |
| N-Nitrosodiphenylamine | 10 | 10 U | 10 U | 10 U |
| Pentachlorophenol | 50 | 50 U | 50 U | 50 U |
| Phenanthrene | 10 | 10 U | 10 U | 10 U |
| Phenol | 10 | 10 U | 10 U | 10 U |
| Pyrene | 10 | 10 U | 10 U | 10 U |
| 1,2,4-Trichlorobenzene | 10 | 10 U | 10 U | 10 U |
| 2,4,5-Trichlorophenol | 25 | 25 U | 25 U | 25 U |
| 2,4,6-Trichlorophenol | 10 | 10 U | 10 U | 10 U |
| Dilution Factor: | | 1.0 | 1.0 | 1.00 |
| Sample Volume\Weight (ml\g): | | 1000 | 1000 | 1000.0 |
| Associated Method Blank: | | 22341Y.MSQ | Z25223.RR | Z25391.RR |
| Associated Equipment Blank: | | - | - | - |
| Associated Field Blank: | | - | - | - |

EQUIPMENT RINSATE

Table 1
Laboratory Report of Analysis

| | | | |
|---|---|---|---|
| SAMPLE LOCATION: | | RINSE BLANK | RINSE BLANK |
| LAB NUMBER: | | A5573901 | A5621301 |
| DATE SAMPLED: | | 10/25/95 | 11/20/95 |
| DATE EXTRACTED: | | 10/27/95 | 11/21/95 |
| DATE ANALYZED: | | 11/17/95 | 11/25/95 |
| ANALYTE | RL | | |
| Pyridine | 10 | 10 U | 10 U |
| 2-Chloropyridine | 10 | 10 U | 10 U |
| 3-Chloropyridine | 10 | 10 U | 10 U |
| 4-Chlropyridine | 10 | 10 U | 10 U |
| 2,6-Dichloropyridine | 10 | 10 U | 10 U |
| p-Fluoroaniline | 10 | 10 U | 10 U |
| Dilution Factor: | | 1.00 | 1.00 |
| Sample Volume\Weight (ml\g): | | 1000 | 1000.0 |
| Associated Method Blank: | | Z25208.RR | Z25371.RR |
| Associated Equipment Blank: | | - | - |
| Associated Field Blank: | | - | - |

EQUIPMENT RINSATE

Table 1
Laboratory Report of Analysis

| | |
|---|---|
| LOCATION: | FIELD RINSE |
| LAB NUMBER: | A5649101 |
| DATE SAMPLED: | 12/07/95 |
| DATE EXTRACTED: | 12/11/95 |
| DATE ANALYZED: | 12/14/95 |

| ANALYTE | RL | |
|---|---|---|
| Pyridine | 10 | 10 U |
| 2-Chloropyridine | 10 | 10 U |
| 3-Chloropyridine | 10 | 10 U |
| 4-Chlropyridine | 10 | 10 U |
| 2,6-Dichloropyridine | 10 | 10 U |
| p-Fluoroaniline | 10 | 10 U |

| | |
|---|---|
| Dilution Factor: | 1.0 |
| Sample Volume\Weight (ml\g): | 1000 |
| Associated Method Blank: | Z25621.RR |
| Associated Equipment Blank: | - |
| Associated Field Blank: | - |

EQUIPMENT RINSATE

Table 1
Laboratory Report of Analysis

| | SAMPLE LOCATION: | FIELD RINSE | RINSE BLANK | RINSE BLANK |
|---|---|---|---|---|
| | LAB NUMBER: | A5579702 | A5576404 | A5621204 |
| | DATE SAMPLED: | 10/27/95 | 10/26/95 | 11/20/95 |
| ANALYTE | RL | | | |
| Aluminum | 90 | 95.6 B | 90 UE | 72.2 B |
| Antimony | 30 | 5.1 U | 5.1 U | 9.2 B |
| Arsenic | 4 | 5.3 U | 5.3 U | 5.3 U |
| Barium | 30 | 29.3 B | 4.8 U | 10.4 B |
| Beryllium | 3 | 0.2 U | 0.2 U | 0.20 U |
| Cadmium | 10 | 0.4 U | 0.4 U | 0.40 U |
| Calcium | 1000 | 8170 | 8660 | 1040 B |
| Chromium | 10 | 1 U | 1 U | 1.0 U* |
| Cobalt | 30 | 1.6 U | 1.6 U | 2.3 B |
| Copper | 10 | 1.1 U | 1.1 U | 4.0 BEN* |
| Iron | 40 | 402 N | 16.2 UN | 1830 * |
| Lead | 30 | 1.4 U | 1.4 U | 4.2 * |
| Magnesium | 400 | 804 B | 43.4 B | 204 B |
| Manganese | 5 | 38.7 | 0.4 U | 8.7 BN* |
| Mercury | 0.2 | 0.2 U | 0.2 U | 0.20 U |
| Nickel | 20 | 1.4 U | 1.4 U | 1.4 U |
| Potassium | 400 | 194 BE | 57 BE | 168 BEN |
| Selenium | 4 | 5 U | 5 U | 7.9 * |
| Silver | 0.5 | 1.1 U | 1.1 U | 1.2 BN |
| Sodium | 1000 | 3500 B | 1380 B | 512000 |
| Thallium | 4 | 7.1 U | 3 U | 3.0 U |
| Vanadium | 10 | 1.6 U | 1.6 U | 2.7 B |
| Zinc | 10 | 13.4 B | 6.6 B | 40.8 E* |
| Cyanide | 10 | 10 U | 10 U | 10.0 U |
| Associated Method Blank: | | BR111 | BR111 | 6212 |
| Associated Equipment Blank: | | - | - | - |
| Associated Field Blank: | | - | - | - |

EQUIPMENT RINSATE

# VALIDATION MEMORANDA

# MEMORANDUM

To: Tom Eschner

From: Paul C. Smith PCS

Date: October 23, 1995

Subject: Validation: Olin - Rochester Phase II RI/FS
Project No.: 07311-33
Sampling Date: September 6th, 1995

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Review is complete for the data package generated by RECRA Environmental, Inc. concerning the quarry seep and surface water samples collected during the Phase II RI/FS field program. Review was performed following USEPA-CLP National Functional Guidelines. Samples were evaluated for holding time, surrogate recovery, field and laboratory blank contamination, duplicate results, internal standards, instrument performance check, initial and continuing calibrations, and matrix spike results. Samples were analyzed for selected pyridines in accordance with 1991 New York Analytical Services Protocol. The data tables referred to in this memo consist of the following:

Table 1: Laboratory Report of Analysis
Table 2: Validation / Summary Table

The following subsection summarize the qualifications/edits that have been detected by validation. For organic analyses, compound results below the reprting limit (RL) were flagged with a (J) by the laboratory on Table 1. These results were considered estimated and qualified (J) on Table 2.

## Selected Pyridine Analyses - Qualifications/Edits

1. Due to results of 2-chloropyridine and 2,6-dichloropyridine exceeding the calibration range in quarry seep (QS-4) the sample was reanalyzed at a dilution of 20:1. At the 20:1 dilution 2-chloropyridine still exceeded the calibration range and was subsequently reanalyzed at a 80:1 dilution. The diluted results that were within the calibration range were replaced into the original sample (undiluted) along with any required qualifiers. The diluted sample results have been deleted from Table 2 for clarification.

2. The matrix spike/matrix spike duplicate (MS/MSD) recovery criteria were not met for 2,6-dichloropyridine and p-fluoroaniline resulting in sample SW-2 to be qualified as estimated (J) for those compounds.

SDG NARRATIVE

Laboratory Name: Recra Environmental, Inc.

Laboratory Code: RECNY

Contract Number: NY95-155

SDG Number: SW1

Sample Identifications:
QS-1
QS-2
QS-3
QS-4
SW-1
SW-2
SW-2 MATRIX SPIKE
SW-2 MATRIX SPIKE DUPLICATE
SW-3
SW-3 FD
FIELD BLANK

METHODOLOGIES

Analyses were performed in accordance with 1991 New York Analytical Services Protocol.

COMMENTS

Comments pertain to data on one or all pages of this report.

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Organic Data Comment Page.

SEMIVOLATILE DATA - CHLOROPYRIDINES

Semivolatile sample and standard areas are listed on the corresponding data system printouts.

Semivolatile data was processed utilizing Teknivant Datasystem and Recra Environmental's Inc.'s Analytical Information Management Systems (AIMS). All compounds determined to be present by the computer-generated auto quantitation were subjected to a manual ion search for secondary and tertiary ions. If contract laboratory protocol spectral identification criteria were not met, those compounds were deleted from the quantitation report.

Sample QS-4 required a dilution of 20 due to the high concentrations of 2-Chloropyridine and 2,6-Dichloropyridine. A further dilution of 80 was required.

The MSB exhibits the spike recoveries for spiking compounds 2,6-Dichloropyridine and p-Fluoroaniline that were below Recra QAP limits.

Samples SW-2 MS and SW-2 MSD exhibits the spike recoveries of 2,6-Dichloropyridine and p-Fluoroaniline as below Recra QAP limits. .

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

for K.E.K.

Kenneth E. Kasperek
Laboratory Director

# MEMORANDUM

To: Tom Eschner

From: Paul C. Smith PCS

Date: December 5, 1995

Subject: Validation: Olin - Rochester Phase II RI/FS
Project No.: 07311-33
Sampling Date: September 17th, 1995

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Review is complete for the data package generated by RECRA Environmental, Inc. concerning the soil boring samples collected during the Phase II RI/FS field program. Sample results were evaluated to determine if multiple analyses were conducted on any samples. If multiple sample analyses were observed (i.e.,dilutions) results were composited to reflect results generated within calibration ranges. Sample results were tabulated by parameter group (e.g. volatiles, semivolatiles). Samples were analyzed for selected volatiles (8240), semivolatiles (8270), inorganics (6010/7000), and selected pyridines (8270). The data tables referred to in this memo consist of the following:

Table 1: Laboratory Report of Analysis

No compositing of volatile, semivolatile, inorganic or pyridine sample results were required for the soil boring samples.

# MEMORANDUM

To: Tom Eschner

From: Paul C. Smith

Date: December 5, 1995

Subject: Validation: Olin - Rochester Phase II RI/FS
Project No.: 07311-33
Sampling Date: September 19th, 1995

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Review is complete for the data package generated by RECRA Environmental, Inc. concerning the soil boring water samples collected during the Phase II RI/FS field program. Samples were evaluated to determine if multiple analyses (i.e.,dilutions) were conducted on any samples. If dilution's were performed, results from the multiple analyses were composited so that one analysis appears on the data table. Samples were analyzed for volatiles (8240), semivolatiles (8270), and selected pyridines (8270). The data tables referred to in this memo consist of the following:

Table 1: Laboratory Report of Analysis

No dilution's were performed during the volatile analyses, therefore no compositing of sample results was required.

The hexachloroethane result for sample 01BW003XXXX1XX exceeded the calibration range in the original analysis. The result from the diluted (2:1) analysis was within the calibration range and replaced the original sample results.

For selected pyridine analysis, results for 2-chloropyridine and 2,6-dichloropyridine for sample 01BW002XXXX1XX were above the calibration range. The results from the diluted (10:1) sample were used to replace the results outside the calibration range in the original analysis.

# MEMORANDUM

To: Tom Eschner

From: Paul C. Smith

Date: December 5, 1995

Subject: Validation: Olin - Rochester Phase II RI/FS
Project No.: 07311-33
Sampling Date: September 20th, 1995

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Two surface soil samples were collected during the Phase II RI/FS field program. Samples were analyzed for mercury (7471) by SW-846 3rd Edition . Results were tabulated and are shown on the following:

Table 1: Laboratory Report of Analysis

No review was performed for these mercury results.

# MEMORANDUM

To: Tom Eschner

From: Paul C. Smith PCS

Date: December 28, 1995

Subject: Validation: Olin - Rochester Phase II RI/FS
Project No.: 07311-33
Sampling Date: October 25th, 1995

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Review is complete for the data package generated by RECRA Environmental, Inc. concerning the Dolomite Products Quarry aqueous samples collected during the Phase II RI/FS field program. Samples were evaluated to determine if multiple analyses (i.e.,dilutions, reanalysis) were conducted on any samples. If dilution's or reanalyses were performed, results from the multiple analyses were composited so that one analysis appears on the data table. Samples were analyzed for selected pyridines (8270). The data tables referred to in this memo consist of the following:

Table 1: Laboratory Report of Analysis

Samples QS-4 and QS-4 FD in their original analysis contained 2-chloropyridine above the calibration range. The diluted (10:1) sample results of 2-chloropyridine were incorporated into the original results.

Re: QO - 1
QP - 1
QS-4
QS-4 FD

cc: J. Connolly
N. Breton
J. Frank (file)

1/4/96

olnroch5

# MEMORANDUM

To: Tom Eschner

From: Paul C. Smith PCS

Date: January 4, 1996

Subject: Validation: Olin - Rochester Phase II RI/FS
Project No.: 07311-33
Sampling Date: October 26th, 27th, and November 20th, 1995

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Review is complete for the data package generated by RECRA Environmental, Inc. concerning the monitoring well samples collected during the Phase II RI/FS field program. Samples were evaluated to determine if multiple analyses (i.e.,dilutions, reanalysis) were conducted on any samples. If dilution's or reanalyses were performed, results from the multiple analyses were composited so that one analysis appears on the data table. Samples were analyzed for volatiles (8240), semivolatiles (8270), and inorganics (6010/7000). The data tables referred to in this memo consist of the following:

Table 1: Laboratory Report of Analysis

**volatiles**

Samples BR-112D and NESS-W were composited due to 1,2-dichloroethene (total) and vinyl chloride exceeding the calibration range. Results from the diluted sample were incorporated into the original sample.

**semivolatiles**

Three samples, BR-112D, BR-114, and MW-114 were reanalyzed due to surrogate recoveries being out of criteria. The samples were re-extracted out of hold time, therefore the original sample results were retained. Samples BR-111, BR-111D, BR-113, BR-113D, BR-113 FD, and Rinse Blank were re-extracted due to the associated method blank not meeting surrogate recovery criteria. These samples were re-extracted outside of acceptable hold time, so the original results were used.

**inorganics**

No compositing of inorganic results were required.



cc. J. Connolly
N Breton
J. Frank

**MEMORANDUM**

To: Tom Eschner

From: Paul C. Smith PCS

Date: January 4, 1996

Subject: Validation: Olin - Rochester Phase II RI/FS
Project No.: 07311-33
Sampling Date: November 20th, 1995

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Review is complete for the data package generated by RECRA Environmental, Inc. concerning the surface water samples collected during the Phase II RI/FS field program. Review was performed following USEPA-CLP National Functional Guidelines. Samples were evaluated for holding time, surrogate recovery, field and laboratory blank contamination, duplicate results, internal standards, instrument performance check, initial and continuing calibrations, and matrix spike results. Samples were analyzed for selected pyridines in accordance with 1991 New York Analytical Services Protocol. The data tables referred to in this memo consist of the following:

Table 1: Laboratory Report of Analysis

The following subsection summarizes the qualifications/edits that have been detected by validation. For organic analyses, compound results below the reporting limit (RL) were flagged with a (J) by the laboratory on Table 1. These results were considered estimated and qualified (J) on Table 2.

**Selected Pyridine Analyses - Qualifications/Edits**

1. The matrix spike/matrix spike duplicate/matrix spike blank (MS/MSD/MSB) percent recovery criteria were not met for the laboratory reported limit of 75-125%. These limits do not accurately represent the analyzed fraction. A method study by the laboratory should be run to provided limits for the specific analytes of concern. No qualification was performed based on the MS/MSD/MSB results.

2. The percent relative standard deviation (%RSD) for pyridine in the initial calibration was above the acceptable limit. Since the %RSD was out of criteria, all sample results were qualified as estimated (J).

Re: Surface Waters collected 11/20/95.



cc: J. Connolly
N. Breton
J. Frank (file)

# MEMORANDUM

To: Tom Eschner

From: Paul C. Smith PCS

Date: January 8, 1996

Subject: Validation: Olin - Rochester Phase II RI/FS
Project No.: 07311-33
Sampling Date: December 7th, 1995

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Review is complete for the data package generated by RECRA Environmental, Inc. concerning the groundwater samples collected during the Phase II RI/FS field program. Samples were evaluated to determine if multiple analyses (i.e.,dilutions, reanalysis) were conducted on any samples. If dilution's or reanalyses were performed, results from the multiple analyses were composited so that one analysis appears on the data table. Samples were analyzed for selected pyridines (8270). The data tables referred to in this memo consist of the following:

Table 1: Laboratory Report of Analysis

Sample NESS-E in the original analysis contained 2-chloropyridine above the calibration range. The diluted (10:1) sample result of 2-chloropyridine was incorporated into the original result.

Re: Groundwater Pyridines (re-collected samples)



cc: J. Connolly
N. Breton
J. Frank (File)

**Attachment I - Definition of Laboratory Qualifiers**
**(for Table 1 - Laboratory Report of Analysis)**

Organic Data Qualifiers

J - Indicates an estimated concentration below the contract required detection level (CRQL) but greater than 0 or when estimating a concentration for TICs.

U - Indicates that compound was analyzed but not detected. The sample quantitation limit is adjusted for dilution and percent moisture.

B - Indicates analyte was detected in both the sample and the associated laboratory method blank for all analyses except inorganics. The B qualifier for inorganics data indicates that the result was between the IDL and the CRDL. The B qualifier is removed and replaced with a J qualifier on Table 2.

E - Indicates that the analyte concentration exceeded the calibration range of the GC/MS and that a re-analysis of a diluted sample is required.

D - Indicates that sample concentration was obtained by dilution to bring result within calibration range.

N - Indicates presumptive evidence of a compound. This flag is used for TICs were the identification is based on a library search and is applied to all TIC results. For general classes of compounds (hydrocarbons, etc.) this flag is not used.

P - This flag is used for pesticides/PCBs when there is greater than 25% difference between the concentrations on the two columns used for analysis. The lower value is reported.

C - This flag applies to pesticide/PCBs results when the identification has been confirmed by GC/MS.

A - Indicates that a TIC is a suspected aldol-condensation product.

X - Laboratory-defined qualifier used to provide additional information not covered by the other qualifiers.

Inorganic Data Qualifiers

E - The reported concentration is estimated because of the presence of an interference.

M - Duplicate injection precision criteria were not met.

N - Spiked sample recovery not within control limits.

S - The reported concentration was determined by the method of standard additions.

W - Post-digestion spike for furnace atomic absorption analysis is outside control limits.

B - Concentration reported is below CRDL but greater than the IDL.

* - Duplicate analysis not within control limits.

+ - Correlation coefficient for the method of standard additions was less than 0.995

U - Indicates that compound was analyzed but not detected. The sample quantitation limit is adjusted for dilution and percent moisture. .

# OFFSITE HISTORICAL RESULTS

**PROJECT:** Olin Rochester **SITE:** Jackson Welding 04/25/96

| | Location: | BR-114 | MW-114 |
|---|---|---|---|
| | Date: | 07-DEC-95 | 07-DEC-95 |
| | Type: | | |
| | Sample Name: | BR-114 | MW-114 |
| **PYRIDINE** | (ug/L) | | |
| 2,6-Dichloropyridine | | 6 J | 10 U |
| 2-Chloropyridine | | 12 | 10 U |
| 3-Chloropyridine | | 8 J | 10 U |
| 4-Chloropyridine | | 10 U | 10 U |
| Pyridine | | 10 U | 10 U |
| p-Fluoroaniline | | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Jackson Welding 04/25/96

| | Location: | BR-114 | MW-114 |
|---|---|---|---|
| | Date: | 27-OCT-95 | 27-OCT-95 |
| | Type: | | |
| | Sample Name: | BR-114 | MW-114 |
| INORGs | (ug/L) | | |
| Aluminum | | 235 | 2490 |
| Antimony | | 5.1 U | 5.1 U |
| Arsenic | | 5.3 U | 6.9 B |
| Barium | | 279 | 1020 |
| Beryllium | | 0.2 U | 0.21 B |
| Cadmium | | 0.4 U | 0.72 B |
| Calcium | | 135000 | 1130000 |
| Chromium | | 1 U | 1 U |
| Cobalt | | 1.6 U | 34.2 B |
| Copper | | 1.6 B | 3.7 B |
| Cyanide | | 10 U | 10 U |
| Iron | | 2540 N | 29100 N |
| Lead | | 1.4 U | 4.6 |
| Magnesium | | 28800 | 74500 |
| Manganese | | 119 | 8640 |
| Mercury | | 0.2 U | 0.72 |
| Nickel | | 1.4 U | 20.2 B |
| Potassium | | 4880 BE | 12400 E |
| Selenium | | 5 U | 5 U |
| Silver | | 1.1 U | 1.2 B |
| Sodium | | 97200 | 64900 |
| Thallium | | 7.1 U | 7.1 U |
| Vanadium | | 1.6 U | 4 B |
| Zinc | | 17.6 B | 132 |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Jackson Welding 04/25/96

| Location: | BR-114 | MW-114 |
|---|---|---|
| Date: | 27-OCT-95 | 27-OCT-95 |
| Type: | | |
| Sample Name: | BR-114 | MW-114 |
| SVOCs (ug/L) | | |
| 1,2,4-Trichlorobenzene | 10 U | 10 U |
| 1,2-Dichlorobenzene | 10 U | 10 U |
| 1,3-Dichlorobenzene | 10 U | 10 U |
| 1,4-Dichlorobenzene | 10 U | 10 U |
| 2,4,5-Trichlorophenol | 25 U | 25 U |
| 2,4,6-Trichlorophenol | 10 U | 10 U |
| 2,4-Dichlorophenol | 10 U | 10 U |
| 2,4-Dimethylphenol | 10 U | 10 U |
| 2,4-Dinitrophenol | 50 U | 50 U |
| 2,4-Dinitrotoluene | 10 U | 10 U |
| 2,6-Dinitrotoluene | 10 U | 10 U |
| 2-Chloronaphthalene | 10 U | 10 U |
| 2-Chlorophenol | 10 U | 10 U |
| 2-Methylnaphthalene | 10 U | 10 U |
| 2-Methylphenol | 10 U | 10 U |
| 2-Nitroaniline | 50 U | 50 U |
| 2-Nitrophenol | 10 U | 10 U |
| 3,3'-Dichlorobenzidine | 10 U | 10 U |
| 3-Nitroaniline | 50 U | 50 U |
| 4,6-Dinitro-2-methylphenol | 50 U | 50 U |
| 4-Bromophenyl-phenylether | 10 U | 10 U |
| 4-Chloro-3-Methylphenol | 10 U | 10 U |
| 4-Chloroaniline | 10 U | 10 U |
| 4-Chlorophenyl-phenylether | 10 U | 10 U |
| 4-Methylphenol | 10 U | 10 U |
| 4-Nitroaniline | 50 U | 50 U |
| 4-Nitrophenol | 50 U | 50 U |
| Acenaphthene | 10 U | 10 U |

N/A = Not Analyzed

| | Location: | BR-114 | MW-114 |
|---|---|---|---|
| | Date: | 27-OCT-95 | 27-OCT-95 |
| | Type: | | |
| | Sample Name: | BR-114 | MW-114 |
| SVOCs | (ug/L) | | |
| Acenaphthylene | | 10 U | 10 U |
| Anthracene | | 10 U | 10 U |
| Benzo(a)anthracene | | 10 U | 10 U |
| Benzo(a)pyrene | | 10 U | 10 U |
| Benzo(b)fluoranthene | | 10 U | 10 U |
| Benzo(g,h,i)perylene | | 10 U | 10 U |
| Benzo(k)fluoranthene | | 10 U | 10 U |
| Benzoic acid | | 50 U | 50 U |
| Benzyl alcohol | | 10 U | 10 U |
| Bis(2-Chloroethoxy)methane | | 10 U | 10 U |
| Bis(2-Chloroethyl)ether | | 10 U | 10 U |
| Bis(2-Chloroisopropyl)ether | | 10 U | 10 U |
| Bis(2-ethylhexyl)phthalate | | 10 U | 4 J |
| Butylbenzylphthalate | | 10 U | 10 U |
| Chrysene | | 10 U | 10 U |
| Di-n-butylphthalate | | 10 U | 10 U |
| Di-n-octylphthalate | | 10 U | 10 U |
| Dibenzo(a,h)Anthracene | | 10 U | 10 U |
| Dibenzofuran | | 10 U | 10 U |
| Diethylphthalate | | 10 U | 10 U |
| Dimethylphthalate | | 10 U | 10 U |
| Fluoranthene | | 10 U | 10 U |
| Fluorene | | 10 U | 10 U |
| Hexachlorobenzene | | 10 U | 10 U |
| Hexachlorobutadiene | | 10 U | 10 U |
| Hexachlorocyclopentadiene | | 10 U | 10 U |
| Hexachloroethane | | 10 U | 10 U |
| Indeno(1,2,3-c,d)Pyrene | | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Jackson Welding 04/25/96

| | Location: | BR-114 | MW-114 |
|---|---|---|---|
| | Date: | 27-OCT-95 | 27-OCT-95 |
| | Type: | | |
| | Sample Name: | BR-114 | MW-114 |
| SVOCs | (ug/L) | | |
| Isophorone | | 10 U | 10 U |
| N-Nitroso-di-n-propylamine | | 10 U | 10 U |
| N-Nitrosodiphenylamine | | 10 U | 10 U |
| Naphthalene | | 10 U | 10 U |
| Nitrobenzene | | 10 U | 10 U |
| Pentachlorophenol | | 50 U | 50 U |
| Phenanthrene | | 10 U | 10 U |
| Phenol | | 10 U | 10 U |
| Pyrene | | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Jackson Welding 04/25/96

| Location: | BR-114 | MW-114 |
|---|---|---|
| Date: | 27-OCT-95 | 27-OCT-95 |
| Type: | | |
| Sample Name: | BR-114 | MW-114 |
| VOCs (ug/L) | | |
| 1,1,1-Trichloroethane | 0.5 U | 0.5 U |
| 1,1,2,2-Tetrachloroethane | 0.5 U | 0.5 U |
| 1,1,2-Trichloroethane | 0.5 U | 0.5 U |
| 1,1-Dichloroethane | 0.95 | 0.85 |
| 1,1-Dichloroethene | 0.5 U | 0.5 U |
| 1,2-Dichloroethane | 0.5 U | 0.94 |
| 1,2-Dichloroethene (total) | 0.5 U | 0.5 U |
| 1,2-Dichloropropane | 0.5 U | 0.38 J |
| 2-Butanone | 1 U | 1 U |
| 2-Hexanone | 1 U | 1 U |
| 4-Methyl-2-pentanone | 1 U | 2 |
| Acetone | 10 U | 14 |
| Benzene | 0.58 | 0.64 |
| Bromodichloromethane | 0.5 U | 0.5 U |
| Bromoform | 0.5 U | 0.5 U |
| Bromomethane | 1 U | 1 U |
| Carbon disulfide | 0.34 J | 0.5 U |
| Carbon tetrachloride | 0.5 U | 0.5 U |
| Chlorobenzene | 0.5 U | 0.5 U |
| Chloroethane | 1 U | 1 U |
| Chloroform | 0.5 U | 1.8 |
| Chloromethane | 1 U | 1 U |
| Dibromochloromethane | 0.5 U | 0.5 U |
| Ethylbenzene | 1.1 | 0.5 U |
| Methylene chloride | 3 U | 3 U |
| Styrene | 0.5 U | 0.5 U |
| Tetrachloroethene | 0.5 U | 3.1 |
| Toluene | 0.25 J | 0.55 |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Jackson Welding 04/25/96

| | Location: | BR-114 | MW-114 |
|---|---|---|---|
| | Date: | 27-OCT-95 | 27-OCT-95 |
| | Type: | | |
| | Sample Name: | BR-114 | MW-114 |
| VOCs | (ug/L) | | |
| Total Xylenes | | 2.1 | 0.59 |
| Trichloroethene | | 0.5 U | 5.1 |
| Vinyl acetate | | 5 U | 5 U |
| Vinyl chloride | | 1 U | 1 U |
| cis-1,3-Dichloropropene | | 0.5 U | 0.5 U |
| trans-1,3-Dichloropropene | | 0.5 U | 0.5 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| | Location: | BR-106 | BR-108 | MW-106 |
|---|---|---|---|---|
| | Date: | 02-FEB-94 | 02-FEB-94 | 02-FEB-94 |
| | Type: | | | |
| | Sample Name: | BR-106 | BR-108 | MW-106 |
| INORGs | (ug/L) | | | |
| Aluminum | | 610 | 160 J | 1900 |
| Antimony | | 3 U | 3 U | 3 U |
| Arsenic | | 3 UJ | 3 UJ | 3 J |
| Barium | | 530 | 97 J | 230 |
| Beryllium | | 3 U | 3 U | 3 U |
| Cadmium | | 0.2 U | 0.2 U | 0.2 U |
| Calcium | | 190000 | 160000 | 75000 |
| Chromium | | 10 U | 10 U | 11 |
| Cobalt | | 20 U | 20 U | 20 U |
| Copper | | 10 U | 10 U | 10 U |
| Cyanide | | 10 UJ | 10 UJ | 12 J |
| Iron | | 1800 | 6400 | 4700 |
| Lead | | R | R | R |
| Magnesium | | 54000 | 53000 | 37000 |
| Manganese | | 160 | 360 | 180 |
| Mercury | | 0.4 UJ | 0.4 UJ | 0.4 UJ |
| Nickel | | 30 U | 30 U | 30 U |
| Potassium | | 13000 | 6700 | 9400 |
| Selenium | | R | R | R |
| Silver | | R | R | R |
| Sodium | | 350000 | 35000 | 1300000 |
| Thallium | | 4 UJ | 4 UJ | 4 UJ |
| Vanadium | | 20 U | 20 U | 20 U |
| Zinc | | 10 U | 10 U | 23 |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Location: | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-108 | BR-108 | BR-108 |
| Date: | 22-MAR-94 | 01-JUL-94 | 01-OCT-94 | 04-APR-95 | 11-SEP-95 | 23-MAR-94 | 01-JUL-94 | 01-OCT-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-106 | BR-106 | BR-106 | BR-106 | BR106 | BR-108 | BR-108 | BR-108 |
| **METHANOL** (ug/L) | | | | | | | | |
| Methanol | 150 J | 550 U | 550 U | 1000 U | 1000 U | 550 U | 550 U | 550 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Location: | BR-108 | MW-106 | MW-106 | MW-106 | MW-106 | MW-106 | MW-108 | MW-108 |
| Date: | 10-APR-95 | 22-MAR-94 | 01-JUL-94 | 01-OCT-94 | 04-APR-95 | 11-SEP-95 | 22-MAR-94 | 10-APR-95 |
| Type: | | | | | | | | |
| Sample Name: | BR-108 | MW-106 | MW-106 | MW-106 | MW-106 | MW106 | MW-108 | MW-108 |
| **METHANOL** (ug/L) | | | | | | | | |
| Methanol | 1000 U | 550 U | 550 U | 550 U | 1000 U | 1000 U | 550 U | 1000 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 |
|---|---|---|---|---|---|---|---|---|
| Date: | 02-FEB-94 | 04-APR-94 | 04-APR-94 | 04-APR-94 | 12-JUL-94 | 13-JUL-94 | 19-OCT-94 | 20-OCT-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-106 | BR-106 | BR-106D2 | BR-106DL | BR-106 | BR-106DL | BR-106 | BR-106DL |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 710 | 520 E | 560 DJ | 580 D | 580 E | 1000 DJ | 310 E | 310 D |
| 2-Chloropyridine | 7500 | 3200 E | 7700 D | 5300 DE | 2700 E | 11000 D | 1400 E | 2100 DE |
| 3-Chloropyridine | 180 | 100 E | 78 DJ | 120 D | 85 E | 240 DJ | 73 | 89 DJ |
| 4-Chloropyridine | 5 U | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Pyridine | 95 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| p-Fluoroaniline | 280 | 31 | 36 DJ | 64 DJ | 37 | 2000 U | 7 J | 5 DJ |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-108 |
|---|---|---|---|---|---|---|---|---|
| Date: | 20-OCT-94 | 06-APR-95 | 09-APR-95 | 09-APR-95 | 11-SEP-95 | 11-SEP-95 | 11-SEP-95 | 02-FEB-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-106DL2 | BR-106 | BR-106 D2 | BR-106 DL | BR106 | BR106 D2 | BR106 DL | BR-108 |
| PYRIDINE (ug/L) | | | | | | | | |
| 2,6-Dichloropyridine | 370 DJ | 420 E | 540 DJ | 520 D | N/A | N/A | 810 D | 0.7 J |
| 2-Chloropyridine | 2900 D | 2500 E | 4300 D | 3900 DE | N/A | 5800 D | N/A | 13 |
| 3-Chloropyridine | 100 DJ | 160 E | 140 DJ | 180 D | N/A | N/A | 250 D | 6 U |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 6 U |
| Pyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 6 U |
| p-Fluoroaniline | 500 U | 18 | 1000 U | 22 DJ | 24 | N/A | N/A | 6 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | BR-108 | BR-108 | BR-108 | MW-106 | MW-106 | MW-106 | MW-106 | MW-106 |
|---|---|---|---|---|---|---|---|---|
| Date: | 30-MAR-94 | 13-JUL-94 | 14-APR-95 | 02-FEB-94 | 28-MAR-94 | 28-MAR-94 | 29-MAR-94 | 29-MAR-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-108 | BR-108 | BR-108 | MW-106 | MW-106D2 | MW-106DL | MW-106 | MW-106D3 |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 10 U | 0.9 J | 10 U | 4200 | 3300 DJ | 4100 DE | 4400 E | 3200 DJ |
| 2-Chloropyridine | 2 J | 8 J | 14 | 60000 | 60000 DE | 67000 DE | 51000 E | 62000 D |
| 3-Chloropyridine | 10 U | 10 U | 10 U | 1500 | 670 DJ | 1100 D | 880 E | 660 DJ |
| 4-Chloropyridine | N/A | N/A | N/A | 6 U | N/A | N/A | N/A | N/A |
| Pyridine | N/A | N/A | N/A | 640 | N/A | N/A | N/A | N/A |
| p-Fluoroaniline | 10 U | 10 U | 10 U | 2100 | 560 DJ | 850 D | 830 E | 580 DJ |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | MW-106 | MW-106 | MW-106 | MW-106 | MW-106 | MW-106 | MW-106 | MW-106 |
|---|---|---|---|---|---|---|---|---|
| Date: | 12-JUL-94 | 29-AUG-94 | 29-AUG-94 | 20-OCT-94 | 21-OCT-94 | 21-OCT-94 | 06-APR-95 | 10-APR-95 |
| Type: | | | | | | | | |
| Sample Name: | MW-106 | MW-106DL | MW-106DL2 | MW-106 | MW-106DL | MW-106DL2 | MW-106 | MW-106 D2 |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 3600 E | 2200 D | 3400 DJ | 12000 E | 17000 D | 17000 DJ | 6300 E | 12000 D |
| 2-Chloropyridine | 8600 E | 43000 DE | 120000 D | 37000 E | 82000 DE | 110000 D | 13000 E | 57000 D |
| 3-Chloropyridine | 350 E | 1000 D | 1200 DJ | 3000 E | 4500 D | 4500 DJ | 1900 E | 2500 DJ |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Pyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| p-Fluoroaniline | 270 E | 120 DJ | 100000 U | 510 | 2500 U | 20000 U | 270 E | 8000 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | MW-106 | MW-106 | MW-106 | MW-106 | MW-106 | MW-108 | MW-108 |
|---|---|---|---|---|---|---|---|
| Date: | 10-APR-95 | 10-APR-95 | 11-SEP-95 | 11-SEP-95 | 11-SEP-95 | 30-MAR-94 | 14-APR-95 |
| Type: | | | | | | | |
| Sample Name: | MW-106 DL | MW-106 RE | MW106 | MW106 D2 | MW106 DL | MW-108 | MW-108 |
| **PYRIDINE (ug/L)** | | | | | | | |
| 2,6-Dichloropyridine | 9100 DE | 5700 E | N/A | 15000 DJ | N/A | 10 U | 2 J |
| 2-Chloropyridine | 43000 DE | 12000 E | N/A | 84000 D | N/A | 0.9 J | 26 |
| 3-Chloropyridine | 3000 D | 2100 E | N/A | N/A | 4000 D | 10 U | 10 U |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Pyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| p-Fluoroaniline | 110 DJ | 380 E | 320 | N/A | N/A | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | BR-106 | BR-108 | MW-106 |
|---|---|---|---|
| Date: | 02-FEB-94 | 02-FEB-94 | 02-FEB-94 |
| Type: | | | |
| Sample Name: | BR-106 | BR-108 | MW-106 |
| SVOCs (ug/L) | | | |
| 1,2,4-Trichlorobenzene | 2 U | 2 U | 2 U |
| 1,3-Dichlorobenzene | 2 U | 2 U | 2 U |
| 1,4-Dichlorobenzene | 2 U | 2 U | 2 U |
| 2,4,5-Trichlorophenol | 4 U | 4 U | 4 U |
| 2,4,6-Trichlorophenol | 6 U | 7 U | 7 U |
| 2,4-Dichlorophenol | 4 U | 5 U | 5 U |
| 2,4-Dimethylphenol | 3 U | 4 U | 4 U |
| 2,4-Dinitrophenol | 6 U | 6 U | 6 U |
| 2,4-Dinitrotoluene | 1 U | 1 U | 1 U |
| 2,6-Dinitrotoluene | 1 U | 1 U | 1 U |
| 2-Chloronaphthalene | 1 U | 1 U | 1 U |
| 2-Chlorophenol | 4 U | 5 U | 5 U |
| 2-Methylnaphthalene | 3 | 2 U | 2 U |
| 2-Methylphenol | 4 U | 5 U | 5 U |
| 2-Nitroaniline | 0.9 U | 1 U | 1 U |
| 2-Nitrophenol | 5 U | 5 U | 5 U |
| 3,3'-Dichlorobenzidine | 1 U | 1 U | 1 U |
| 3-Nitroaniline | 0.6 U | 0.8 U | 0.8 U |
| 4,6-Dinitro-2-methylphenol | 9 U | 11 U | 11 U |
| 4-Bromophenyl-phenylether | 1 U | 1 U | 1 U |
| 4-Chloro-3-Methylphenol | 3 U | 4 U | 4 U |
| 4-Chloroaniline | 13 | 2 U | 110 |
| 4-Chlorophenyl-phenylether | 1 U | 1 U | 1 U |
| 4-Methylphenol | 4 U | 4 U | 4 U |
| 4-Nitroaniline | 1 U | 1 U | 1 U |
| 4-Nitrophenol | 4 U | 5 U | 5 U |
| Acenaphthene | 1 U | 2 U | 2 U |
| Anthracene | 1 U | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | PZ-101 | PZ-102 | PZ-103 |
|---|---|---|---|
| Date: | 24-JAN-94 | 03-FEB-94 | 01-FEB-94 |
| Type: | | | |
| Sample Name: | PZ-101 | PZ-102 | PZ-103 |
| SVOCs (ug/L) | | | |
| 1,2,4-Trichlorobenzene | 2 U | 2 U | 2 U |
| 1,3-Dichlorobenzene | 2 U | 2 U | 2 U |
| 1,4-Dichlorobenzene | 2 U | 34 | 2 U |
| 2,4,5-Trichlorophenol | 4 U | 4 U | 4 U |
| 2,4,6-Trichlorophenol | 7 U | 7 U | 6 U |
| 2,4-Dichlorophenol | 5 U | 5 U | 4 U |
| 2,4-Dimethylphenol | 4 U | 4 U | 3 U |
| 2,4-Dinitrophenol | 6 U | 6 U | 6 U |
| 2,4-Dinitrotoluene | 1 U | 1 U | 1 U |
| 2,6-Dinitrotoluene | 1 U | 1 U | 1 U |
| 2-Chloronaphthalene | 1 U | 1 U | 1 U |
| 2-Chlorophenol | 4 J | 5 U | 5 U |
| 2-Methylnaphthalene | 2 U | 2 U | 2 U |
| 2-Methylphenol | 5 U | 9 | 5 U |
| 2-Nitroaniline | 1 U | 1 U | 1 U |
| 2-Nitrophenol | 5 U | 5 U | 5 U |
| 3,3'-Dichlorobenzidine | 1 U | 1 U | 1 U |
| 3-Nitroaniline | 0.7 U | 0.7 U | 0.7 U |
| 4,6-Dinitro-2-methylphenol | 10 U | 10 U | 10 U |
| 4-Bromophenyl-phenylether | 1 U | 1 U | 1 U |
| 4-Chloro-3-Methylphenol | 4 U | 4 U | 4 U |
| 4-Chloroaniline | 42 | 120 D | 310 D |
| 4-Chlorophenyl-phenylether | 1 U | 1 U | 1 U |
| 4-Methylphenol | 4 U | 17 | 4 U |
| 4-Nitroaniline | 1 U | 1 U | 1 U |
| 4-Nitrophenol | 5 U | 5 U | 4 U |
| Acenaphthene | 2 U | 2 U | 2 U |
| Anthracene | 1 U | 1 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | PZ-101 | PZ-102 | PZ-103 |
|---|---|---|---|
| Date: | 24-JAN-94 | 03-FEB-94 | 01-FEB-94 |
| Type: | | | |
| Sample Name: | PZ-101 | PZ-102 | PZ-103 |
| SVOCs (ug/L) | | | |
| Benzo(a)anthracene | 2 U | 2 U | 2 U |
| Benzo(a)pyrene | 1 U | 1 U | 1 U |
| Benzo(b)fluoranthene | 2 U | 2 U | 2 U |
| Benzo(g,h,i)perylene | 1 U | 1 U | 1 U |
| Benzo(k)fluoranthene | 2 U | 2 U | 2 U |
| Benzoic acid | 10 U | 22 DJ | 73 DJ |
| Benzyl alcohol | 2 U | 2 U | 2 U |
| Bis(2-Chloroethoxy)methane | 1 U | 1 U | 1 U |
| Bis(2-Chloroethyl)ether | 1 | 56 | 150 D |
| Bis(2-Chloroisopropyl)ether | 1 U | 1 U | 1 U |
| Bis(2-ethylhexyl)phthalate | 4 | 2 U | 6 |
| Butylbenzylphthalate | 3 U | 3 U | 3 U |
| Chrysene | 1 U | 1 U | 1 U |
| Di-n-butylphthalate | 1 U | 1 U | 1 U |
| Di-n-octylphthalate | 2 U | 2 U | 1 U |
| Dibenzo(a,h)Anthracene | 1 U | 1 U | 1 U |
| Dibenzofuran | 1 U | 1 U | 1 U |
| Diethylphthalate | 2 U | 2 U | 2 U |
| Dimethylphthalate | 4 U | 4 U | 4 U |
| Fluoranthene | 1 U | 1 U | 1 U |
| Fluorene | 2 U | 2 U | 1 U |
| Hexachlorobenzene | 1 U | 1 U | 1 U |
| Hexachlorobutadiene | 3 U | 3 U | 3 U |
| Hexachlorocyclopentadiene | 1 U | 1 U | 1 U |
| Hexachloroethane | 3 U | 3 U | 2 U |
| Indeno(1,2,3-c,d)Pyrene | 1 U | 1 U | 1 U |
| Isophorone | 1 U | 1 U | 1 U |
| N-Nitroso-di-n-propylamine | 1 U | 1 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | BR-106 | BR-108 | MW-106 |
|---|---|---|---|
| Date: | 02-FEB-94 | 02-FEB-94 | 02-FEB-94 |
| Type: | | | |
| Sample Name: | BR-106 | BR-108 | MW-106 |
| SVOCs (ug/L) | | | |
| Benzo(a)anthracene | 2 U | 2 U | 2 U |
| Benzo(a)pyrene | 1 U | 1 U | 1 U |
| Benzo(b)fluoranthene | 2 U | 2 U | 2 U |
| Benzo(g,h,i)perylene | 1 U | 2 U | 2 U |
| Benzo(k)fluoranthene | 2 U | 2 U | 2 U |
| Benzoic acid | 9 U | 11 U | 59 |
| Benzyl alcohol | 2 U | 3 U | 3 U |
| Bis(2-Chloroethoxy)methane | 1 U | 1 U | 1 U |
| Bis(2-Chloroethyl)ether | 6 | 2 U | 25 |
| Bis(2-Chloroisopropyl)ether | 1 U | 2 U | 2 U |
| Bis(2-ethylhexyl)phthalate | 7 U | 1 J | 2 |
| Butylbenzylphthalate | 3 U | 4 U | 4 U |
| Chrysene | 1 U | 1 U | 1 U |
| Di-n-butylphthalate | 1 U | 1 U | 1 U |
| Di-n-octylphthalate | 1 U | 2 U | 2 U |
| Dibenzo(a,h)Anthracene | 1 U | 1 U | 1 U |
| Dibenzofuran | 1 U | 1 U | 1 U |
| Diethylphthalate | 2 U | 2 U | 2 U |
| Dimethylphthalate | 4 U | 5 U | 5 U |
| Fluoranthene | 1 U | 2 U | 2 U |
| Fluorene | 1 U | 2 U | 2 U |
| Hexachlorobenzene | 1 U | 1 U | 1 U |
| Hexachlorobutadiene | 2 U | 3 U | 3 U |
| Hexachlorocyclopentadiene | 1 U | 2 U | 2 U |
| Hexachloroethane | 2 U | 3 U | 3 U |
| Indeno(1,2,3-c,d)Pyrene | 1 U | 1 U | 1 U |
| Isophorone | 1 U | 1 U | 1 U |
| N-Nitroso-di-n-propylamine | 1 U | 1 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| | Location: | BR-106 | BR-108 | MW-106 |
|---|---|---|---|---|
| | Date: | 02-FEB-94 | 02-FEB-94 | 02-FEB-94 |
| | Type: | | | |
| | Sample Name: | BR-106 | BR-108 | MW-106 |
| SVOCs | (ug/L) | | | |
| N-Nitrosodiphenylamine | | 1 U | 1 U | 1 U |
| Naphthalene | | 1 U | 2 U | 2 U |
| Nitrobenzene | | 1 U | 1 U | 1 U |
| Pentachlorophenol | | 9 U | 10 U | 10 U |
| Phenanthrene | | 1 U | 2 U | 2 U |
| Phenol | | 3 U | 4 U | 4 U |
| Pyrene | | 2 U | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| | Location: | PZ-101 | PZ-102 | PZ-103 |
|---|---|---|---|---|
| | Date: | 24-JAN-94 | 03-FEB-94 | 01-FEB-94 |
| | Type: | | | |
| | Sample Name: | PZ-101 | PZ-102 | PZ-103 |
| SVOCs | (ug/L) | | | |
| N-Nitrosodiphenylamine | | 1 U | 1 U | 1 U |
| Naphthalene | | 2 U | 2 U | 1 U |
| Nitrobenzene | | 1 U | 1 U | 1 U |
| Pentachlorophenol | | 10 U | 10 U | 9 U |
| Phenanthrene | | 2 U | 2 U | 2 U |
| Phenol | | 3 U | 3 U | 3 U |
| Pyrene | | 2 U | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT: Olin Rochester** **SITE: Aid to Hospitals** 04/25/96

| Location: | PZ-101 | PZ-102 | PZ-103 |
|---|---|---|---|
| Date: | 24-JAN-94 | 03-FEB-94 | 01-FEB-94 |
| Type: | | | |
| Sample Name: | PZ-101 | PZ-102 | PZ-103 |
| VOCs (ug/L) | | | |
| 1,1,1-Trichloroethane | 2 U | 200 U | 40 U |
| 1,1,2,2-Tetrachloroethane | 0.7 U | 70 U | 14 U |
| 1,1,2-Trichloroethane | 0.8 U | 80 U | 16 U |
| 1,1-Dichloroethane | 2 U | 170 U | 34 U |
| 1,1-Dichloroethene | 2 U | 250 U | 50 U |
| 1,2-Dichlorobenzene | 7 | 1000 | 5800 D |
| 1,2-Dichloroethane | 1 U | 140 U | 80 |
| 1,2-Dichloroethene (total) | 2 U | 200 U | 10 J |
| 1,2-Dichloropropane | 1 U | 130 U | 26 U |
| 1,3-Dichlorobenzene | 1 U | 100 U | 42 |
| 1,4-Dichlorobenzene | 0.6 J | 45 J | 160 |
| 2-Butanone | 4 U | 400 U | 80 U |
| 2-Chloroethyl Vinyl Ether | 2 U | 160 U | 32 U |
| 2-Hexanone | 2 U | 240 U | 48 U |
| 4-Methyl-2-pentanone | 2 U | 200 U | 40 U |
| Acetone | 7 U | 700 U | 760 |
| Benzene | 120 | 170 | 180 |
| Bromodichloromethane | 1 U | 140 U | 28 U |
| Bromoform | 1 U | 100 U | 20 U |
| Bromomethane | 1 U | 120 U | 24 U |
| Carbon disulfide | 4 U | 400 U | 80 U |
| Carbon tetrachloride | 2 U | 200 U | 40 U |
| Chlorobenzene | 620 BD | 990 B | 1700 |
| Chloroethane | 3 U | 300 U | 60 U |
| Chloroform | 1 U | 130 U | 92 |
| Chloromethane | 1 U | 100 U | 20 U |
| Dibromochloromethane | 1 U | 120 U | 24 U |
| Ethylbenzene | 0.9 U | 87 U | 17 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | PZ-101 | PZ-102 | PZ-103 |
|---|---|---|---|
| Date: | 24-JAN-94 | 03-FEB-94 | 01-FEB-94 |
| Type: | | | |
| Sample Name: | PZ-101 | PZ-102 | PZ-103 |
| VOCs (ug/L) | | | |
| Methylene chloride | 1 U | 10000 | 4700 D |
| Styrene | 1 U | 130 U | 26 U |
| Tetrachloroethene | 2 U | 200 U | 16 J |
| Toluene | 7 | 940 B | 2200 |
| Total Xylenes | 2 U | 230 U | 38 J |
| Trichloroethene | 2 U | 200 U | 69 |
| Vinyl acetate | 1 U | 120 U | 24 U |
| Vinyl chloride | 1 U | 120 U | 37 |
| cis-1,3-Dichloropropene | 2 U | 160 U | 32 U |
| trans-1,3-Dichloropropene | 2 U | 160 U | 32 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Dolomite Products, Inc. 04/25/96

| Location: | QS-1 | QS-2 | QS-3 | QS-4 | QS-4 | QS-4 | QS-4 | QS-4 |
|---|---|---|---|---|---|---|---|---|
| Date: | 06-SEP-95 | 06-SEP-95 | 06-SEP-95 | 06-SEP-95 | 06-SEP-95 | 06-SEP-95 | 25-OCT-95 | 25-OCT-95 |
| Type: | | | | | | | Duplicate | |
| Sample Name: | QS-1 | QS-2 | QS-3 | QS-4 | QS-4 D2 | QS-4 DL | QS-4 FD | QS-4 |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 10 U | 10 U | 4 J | N/A | N/A | 140 J | 58 | 55 |
| 2-Chloropyridine | 10 U | 4 J | 40 | N/A | 1300 | N/A | 610 | 550 |
| 3-Chloropyridine | 10 U | 10 U | 10 U | 7 J | N/A | N/A | 7 J | 7 J |
| 4-Chloropyridine | 10 U | 10 U | 10 U | 10 U | N/A | N/A | 10 U | 10 U |
| Pyridine | 10 U | 10 U | 10 U | 10 U | N/A | N/A | 10 U | 10 U |
| p-Fluoroaniline | 10 U | 10 U | 10 U | 2 J | N/A | N/A | 5 J | 5 J |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 |
|---|---|---|---|---|---|---|---|---|
| Date: | 02-FEB-94 | 19-MAR-94 | 01-JUL-94 | 01-JUL-94 | 30-SEP-94 | 30-SEP-94 | 29-MAR-95 | 11-SEP-95 |
| Type: | | | | | | | | |
| Sample Name: | BR-106 | BR-106 | BR-106 | BR-106DL | BR-106 | BR-106DL | BR-106 | BR106 |
| VOCs (ug/L) | | | | | | | | |
| 1,1,1-Trichloroethane | 8 U | 25 U | 10 U | 100 U | 8 J | 200 U | 20 U | 40 U |
| 1,1,2,2-Tetrachloroethane | 3 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| 1,1,2-Trichloroethane | 3 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| 1,1-Dichloroethane | 25 | 19 J | 10 U | 100 U | 91 J | 77 DJ | 26 | 28 J |
| 1,1-Dichloroethene | 10 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| 1,2-Dichlorobenzene | 85 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-Dichloroethane | 6 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| 1,2-Dichloroethene (total) | 580 | 360 | 32 | 25 DJ | 2800 E | 2500 D | 300 | 490 |
| 1,2-Dichloropropane | 5 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| 1,3-Dichlorobenzene | 4 U | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,4-Dichlorobenzene | 2 J | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-Butanone | 16 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| 2-Chloroethyl Vinyl Ether | 6 U | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-Hexanone | 10 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| 4-Methyl-2-pentanone | 8 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| Acetone | 28 U | 25 U | 130 | 100 U | 100 U | 200 U | 20 U | 100 |
| Benzene | 77 | 72 | 63 | 60 DJ | 120 | 110 DJ | 67 | 86 |
| Bromodichloromethane | 6 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| Bromoform | 4 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| Bromomethane | 5 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| Carbon disulfide | 16 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| Carbon tetrachloride | 8 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| Chlorobenzene | 100 | 120 | 220 BE | 240 BD | 85 BJ | 87 BDJ | 72 | 160 |
| Chloroethane | 12 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| Chloroform | 6 U | 5 J | 4 J | 4 DJ | 8 J | 200 U | 6 J | 7 J |
| Chloromethane | 4 U | 25 U | 2 J | 100 U | 100 U | 200 U | 20 U | 40 U |
| Dibromochloromethane | 5 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| Ethylbenzene | 4 | 4 J | 2 J | 100 U | 100 U | 200 U | 6 J | 4 J |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | BR-108 | BR-108 | BR-108 | BR-108 | BR-108 | MW-106 | MW-106 | MW-106 |
|---|---|---|---|---|---|---|---|---|
| Date: | 02-FEB-94 | 21-MAR-94 | 01-JUL-94 | 30-SEP-94 | 06-APR-95 | 02-FEB-94 | 21-MAR-94 | 01-JUL-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-108 | BR-108 | BR-108 | BR-108 | BR-108 | MW-106 | MW-106 | MW-106 |
| VOCs (ug/L) | | | | | | | | |
| 1,1,1-Trichloroethane | 2 U | 10 U | 10 U | 10 U | 10 U | 8 U | 25 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 0.7 U | 10 U | 10 U | 10 U | 10 U | 3 U | 25 U | 10 U |
| 1,1,2-Trichloroethane | 0.8 U | 10 U | 10 U | 10 U | 10 U | 3 U | 25 U | 10 U |
| 1,1-Dichloroethane | 2 | 10 U | 10 U | 10 U | 10 U | 7 U | 25 U | 10 U |
| 1,1-Dichloroethene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 25 U | 10 U |
| 1,2-Dichlorobenzene | 1 U | N/A | N/A | N/A | N/A | 210 | N/A | N/A |
| 1,2-Dichloroethane | 1 U | 10 U | 10 U | 10 U | 10 U | 6 U | 9 J | 10 U |
| 1,2-Dichloroethene (total) | 2 U | 10 U | 10 U | 10 U | 10 U | 31 | 15 J | 20 |
| 1,2-Dichloropropane | 1 U | 10 U | 10 U | 10 U | 10 U | 5 U | 25 U | 10 U |
| 1,3-Dichlorobenzene | 1 U | N/A | N/A | N/A | N/A | 4 U | N/A | N/A |
| 1,4-Dichlorobenzene | 0.7 U | N/A | N/A | N/A | N/A | 13 | N/A | N/A |
| 2-Butanone | 4 U | 10 U | 10 U | 10 U | 10 U | 16 U | 25 U | 10 U |
| 2-Chloroethyl Vinyl Ether | 2 U | N/A | N/A | N/A | N/A | 6 U | N/A | N/A |
| 2-Hexanone | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 25 U | 10 U |
| 4-Methyl-2-pentanone | 2 U | 10 U | 10 U | 10 U | 10 U | 8 U | 25 U | 6 J |
| Acetone | 7 U | 10 U | 10 U | 10 U | 10 U | 61 | 25 U | 91 |
| Benzene | 31 | 8 J | 2 J | 53 | 16 | 210 | 120 | 180 |
| Bromodichloromethane | 1 U | 10 U | 10 U | 10 U | 10 U | 6 U | 25 U | 10 U |
| Bromoform | 1 U | 10 U | 10 U | 10 U | 10 U | 4 U | 25 U | 10 U |
| Bromomethane | 1 U | 10 U | 10 U | 10 U | 10 U | 5 U | 25 U | 10 U |
| Carbon disulfide | 4 U | 10 U | 10 U | 10 U | 10 U | 16 U | 25 U | 10 U |
| Carbon tetrachloride | 2 U | 10 U | 10 U | 10 U | 10 U | 8 U | 25 U | 10 U |
| Chlorobenzene | 1 U | 10 U | 10 U | 10 U | 10 U | 500 | 320 | 570 BE |
| Chloroethane | 3 U | 10 U | 10 U | 10 U | 10 U | 12 U | 25 U | 10 U |
| Chloroform | 1 U | 10 U | 10 U | 10 U | 10 U | 5 U | 25 U | 10 U |
| Chloromethane | 1 U | 10 U | 10 U | 10 U | 10 U | 4 U | 25 U | 10 U |
| Dibromochloromethane | 1 U | 10 U | 10 U | 10 U | 10 U | 5 U | 25 U | 10 U |
| Ethylbenzene | 0.9 U | 10 U | 10 U | 10 U | 10 U | 3 U | 25 U | 2 J |

N/A = Not Analyzed

**PROJECT: Olin Rochester** **SITE: Aid to Hospitals** 04/25/96

| Location: | MW-106 | MW-106 | MW-106 | MW-106 | MW-106 | MW-106 | MW-108 | MW-108 |
|---|---|---|---|---|---|---|---|---|
| Date: | 01-JUL-94 | 30-SEP-94 | 30-SEP-94 | 29-MAR-95 | 11-SEP-95 | 11-SEP-95 | 02-FEB-94 | 21-MAR-94 |
| Type: | | | | | | | | |
| Sample Name: | MW-106DL | MW-106 | MW-106DL | MW-106 | MW106 | MW106 DL | MW-108 | MW-108 |
| VOCs (ug/L) | | | | | | | | |
| 1,1,1-Trichloroethane | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 2 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 0.7 U | 10 U |
| 1,1,2-Trichloroethane | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 0.8 U | 10 U |
| 1,1-Dichloroethane | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 2 U | 10 U |
| 1,1-Dichloroethene | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 2 U | 10 U |
| 1,2-Dichlorobenzene | N/A | N/A | N/A | N/A | N/A | N/A | 1 U | N/A |
| 1,2-Dichloroethane | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 1 U | 10 U |
| 1,2-Dichloroethene (total) | 13 DJ | 5 J | 100 U | 50 U | 9 J | N/A | 2 U | 10 U |
| 1,2-Dichloropropane | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 1 U | 10 U |
| 1,3-Dichlorobenzene | N/A | N/A | N/A | N/A | N/A | N/A | 1 U | N/A |
| 1,4-Dichlorobenzene | N/A | N/A | N/A | N/A | N/A | N/A | 0.7 U | N/A |
| 2-Butanone | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 4 U | 10 U |
| 2-Chloroethyl Vinyl Ether | N/A | N/A | N/A | N/A | N/A | N/A | 2 U | N/A |
| 2-Hexanone | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 2 U | 10 U |
| 4-Methyl-2-pentanone | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 2 U | 10 U |
| Acetone | 87 D | 460 | 440 D | 260 | N/A | 1200 D | 7 U | 10 U |
| Benzene | 150 D | 210 | 210 D | 120 | 190 | N/A | 0.8 U | 10 U |
| Bromodichloromethane | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 1 U | 10 U |
| Bromoform | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 1 U | 10 U |
| Bromomethane | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 1 U | 10 U |
| Carbon disulfide | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 4 U | 10 U |
| Carbon tetrachloride | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 2 U | 10 U |
| Chlorobenzene | 620 BD | 970 B | 1000 BD | 640 | N/A | 1400 D | 1 U | 10 U |
| Chloroethane | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 3 U | 10 U |
| Chloroform | 50 U | 28 J | 27 DJ | 26 J | 89 | N/A | 1 U | 10 U |
| Chloromethane | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 1 U | 10 U |
| Dibromochloromethane | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 1 U | 10 U |
| Ethylbenzene | 50 U | 50 U | 100 U | 50 U | 8 J | N/A | 0.9 U | 10 U |

N/A = Not Analyzed

| | |
|---|---|
| Location: | MW-108 |
| Date: | 06-APR-95 |
| Type: | |
| Sample Name: | MW-108 |

| VOCs (ug/L) | |
|---|---|
| 1,1,1-Trichloroethane | 10 U |
| 1,1,2,2-Tetrachloroethane | 10 U |
| 1,1,2-Trichloroethane | 10 U |
| 1,1-Dichloroethane | 10 U |
| 1,1-Dichloroethene | 10 U |
| 1,2-Dichlorobenzene | N/A |
| 1,2-Dichloroethane | 10 U |
| 1,2-Dichloroethene (total) | 10 U |
| 1,2-Dichloropropane | 10 U |
| 1,3-Dichlorobenzene | N/A |
| 1,4-Dichlorobenzene | N/A |
| 2-Butanone | 10 U |
| 2-Chloroethyl Vinyl Ether | N/A |
| 2-Hexanone | 10 U |
| 4-Methyl-2-pentanone | 10 U |
| Acetone | 10 U |
| Benzene | 10 U |
| Bromodichloromethane | 10 U |
| Bromoform | 10 U |
| Bromomethane | 10 U |
| Carbon disulfide | 10 U |
| Carbon tetrachloride | 10 U |
| Chlorobenzene | 10 U |
| Chloroethane | 10 U |
| Chloroform | 10 U |
| Chloromethane | 10 U |
| Dibromochloromethane | 10 U |
| Ethylbenzene | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 | BR-106 |
|---|---|---|---|---|---|---|---|---|
| Date: | 02-FEB-94 | 19-MAR-94 | 01-JUL-94 | 01-JUL-94 | 30-SEP-94 | 30-SEP-94 | 29-MAR-95 | 11-SEP-95 |
| Type: | | | | | | | | |
| Sample Name: | BR-106 | BR-106 | BR-106 | BR-106DL | BR-106 | BR-106DL | BR-106 | BR106 |
| VOCs (ug/L) | | | | | | | | |
| Methylene chloride | 330 | 83 | 1300 E | 1300 D | 50 J | 42 DJ | 20 U | 40 U |
| Styrene | 5 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| Tetrachloroethene | 8 U | 25 U | 0.8 J | 100 U | 100 U | 200 U | 20 U | 40 U |
| Toluene | 120 | 140 | 310 BE | 270 BD | 120 B | 120 DJ | 90 | 230 |
| Total Xylenes | 4 J | 6 J | 4 J | 100 U | 100 U | 200 U | 7 J | 6 J |
| Trichloroethene | 14 | 12 J | 10 | 8 DJ | 25 J | 25 DJ | 9 J | 9 J |
| Vinyl acetate | 5 U | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Vinyl chloride | 230 | 190 | 24 | 16 DJ | 1200 | 1100 D | 250 | 350 |
| cis-1,3-Dichloropropene | 6 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |
| trans-1,3-Dichloropropene | 6 U | 25 U | 10 U | 100 U | 100 U | 200 U | 20 U | 40 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | BR-108 | BR-108 | BR-108 | BR-108 | BR-108 | MW-106 | MW-106 | MW-106 |
|---|---|---|---|---|---|---|---|---|
| Date: | 02-FEB-94 | 21-MAR-94 | 01-JUL-94 | 30-SEP-94 | 06-APR-95 | 02-FEB-94 | 21-MAR-94 | 01-JUL-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-108 | BR-108 | BR-108 | BR-108 | BR-108 | MW-106 | MW-106 | MW-106 |
| VOCs (ug/L) | | | | | | | | |
| Methylene chloride | 1 U | 10 U | 10 U | 10 U | 10 U | 5 U | 25 U | 30 |
| Styrene | 1 U | 10 U | 10 U | 10 U | 10 U | 5 U | 25 U | 10 U |
| Tetrachloroethene | 2 U | 10 U | 10 U | 10 U | 10 U | 8 U | 25 U | 10 U |
| Toluene | 1 U | 10 U | 10 U | 10 U | 10 U | 500 | 320 | 340 BE |
| Total Xylenes | 2 U | 10 U | 10 U | 10 U | 10 U | 6 J | 4 J | 10 |
| Trichloroethene | 2 U | 10 U | 10 U | 10 U | 10 U | 21 | 14 J | 24 |
| Vinyl acetate | 1 U | N/A | N/A | N/A | N/A | 5 U | N/A | N/A |
| Vinyl chloride | 1 U | 10 U | 10 U | 10 U | 10 U | 10 | 4 J | 14 |
| cis-1,3-Dichloropropene | 2 U | 10 U | 10 U | 10 U | 10 U | 6 U | 25 U | 10 U |
| trans-1,3-Dichloropropene | 2 U | 10 U | 10 U | 10 U | 10 U | 6 U | 25 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | MW-106 | MW-106 | MW-106 | MW-106 | MW-106 | MW-106 | MW-108 | MW-108 |
|---|---|---|---|---|---|---|---|---|
| Date: | 01-JUL-94 | 30-SEP-94 | 30-SEP-94 | 29-MAR-95 | 11-SEP-95 | 11-SEP-95 | 02-FEB-94 | 21-MAR-94 |
| Type: | | | | | | | | |
| Sample Name: | MW-106DL | MW-106 | MW-106DL | MW-106 | MW106 | MW106 DL | MW-108 | MW-108 |
| VOCs (ug/L) | | | | | | | | |
| Methylene chloride | 30 DJ | 50 U | 100 U | 50 U | 50 U | N/A | 1 U | 10 U |
| Styrene | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 1 U | 10 U |
| Tetrachloroethene | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 2 U | 10 U |
| Toluene | 310 BD | 1100 BE | 1100 D | 870 | N/A | 2300 D | 1 U | 10 U |
| Total Xylenes | 7 DJ | 19 J | 17 DJ | 14 J | 27 J | N/A | 2 U | 10 U |
| Trichloroethene | 22 DJ | 28 J | 29 DJ | 50 U | 50 U | N/A | 2 U | 10 U |
| Vinyl acetate | N/A | N/A | N/A | N/A | N/A | N/A | 1 U | N/A |
| Vinyl chloride | 6 DJ | 5 J | 100 U | 6 J | 8 J | N/A | 1 U | 10 U |
| cis-1,3-Dichloropropene | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 2 U | 10 U |
| trans-1,3-Dichloropropene | 50 U | 50 U | 100 U | 50 U | 50 U | N/A | 2 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| | |
|---|---|
| Location: | MW-108 |
| Date: | 06-APR-95 |
| Type: | |
| Sample Name: | MW-108 |

| VOCs (ug/L) | |
|---|---|
| Methylene chloride | 10 U |
| Styrene | 10 U |
| Tetrachloroethene | 10 U |
| Toluene | 10 U |
| Total Xylenes | 10 U |
| Trichloroethene | 10 U |
| Vinyl acetate | N/A |
| Vinyl chloride | 10 U |
| cis-1,3-Dichloropropene | 10 U |
| trans-1,3-Dichloropropene | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| | Location: | PZ-101 | PZ-102 | PZ-103 |
|---|---|---|---|---|
| | Date: | 24-JAN-94 | 03-FEB-94 | 01-FEB-94 |
| | Type: | | | |
| | Sample Name: | PZ-101 | PZ-102 | PZ-103 |
| INORGs | (ug/L) | | | |
| Aluminum | | 1500 | 340 | 170 |
| Antimony | | 4 U | 3 U | 3 U |
| Arsenic | | 4 U | 5 B* | 18 |
| Barium | | 340 | 490 | 600 |
| Beryllium | | 3 U | 3 U | 3 U |
| Cadmium | | 1.2 B | 0.2 U | 0.2 |
| Calcium | | 240000 | 120000 | 87000 E |
| Chromium | | 10 U | 10 U | 11 |
| Cobalt | | 20 U | 20 U | 20 U |
| Copper | | 10 U | 10 U* | 10 U |
| Cyanide | | 10 U | 18 | 48 |
| Iron | | 3000 | 850 | 180 |
| Lead | | 2 B | 2 UN | 3 N |
| Magnesium | | 87000 | 57000 | 74000 |
| Manganese | | 1000 | 89 | 50 |
| Mercury | | 0.4 U | 0.4 UN | 0.4 U |
| Nickel | | 30 U | 30 U | 30 U |
| Potassium | | 6400 | 10000 | 15000 |
| Selenium | | 3 UN | 3 UN | 3 UN |
| Silver | | 10 U | 10 UN | 0.5 UN |
| Sodium | | 730000 | 1200000 | 1800000 |
| Thallium | | 4 U | 4 UN | 3 UN |
| Vanadium | | 20 U | 20 U | 20 U |
| Zinc | | 18 B | 10 U | 13 |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Aid to Hospitals 04/25/96

| Location: | PZ-101 | PZ-102 | PZ-103 |
|---|---|---|---|
| Date: | 24-JAN-94 | 03-FEB-94 | 01-FEB-94 |
| Type: | | | |
| Sample Name: | PZ-101 | PZ-102 | PZ-103 |
| **PYRIDINE (ug/L)** | | | |
| 2,6-Dichloropyridine | 820 D | 4300 D | 8400 D |
| 2-Chloropyridine | 26000 D | 50000 D | 15000 D |
| 3-Chloropyridine | 110 D | 1300 D | 2100 D |
| 4-Chloropyridine | 6 U | 10 | 5 U |
| Pyridine | 6 | 1800 D | 800 D |
| p-Fluoroaniline | 560 D | 570 D | 1200 D |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Mark IV 04/25/96

| | Location: | MW-2 | MW-3 |
|---|---|---|---|
| | Date: | 19-JAN-94 | 19-JAN-94 |
| | Type: | | |
| | Sample Name: | MW-2 | MW-3 |
| SVOCs | (ug/L) | | |
| 1,2,4-Trichlorobenzene | | 2 U | 2 U |
| 1,3-Dichlorobenzene | | 2 U | 1 U |
| 1,4-Dichlorobenzene | | 2 U | 2 U |
| 2,4,5-Trichlorophenol | | 4 U | 4 U |
| 2,4,6-Trichlorophenol | | 6 U | 6 U |
| 2,4-Dichlorophenol | | 4 U | 4 U |
| 2,4-Dimethylphenol | | 3 U | 3 U |
| 2,4-Dinitrophenol | | 6 U | 6 U |
| 2,4-Dinitrotoluene | | 1 U | 1 U |
| 2,6-Dinitrotoluene | | 1 U | 1 U |
| 2-Chloronaphthalene | | 1 U | 1 U |
| 2-Chlorophenol | | 5 U | 5 U |
| 2-Methylnaphthalene | | 2 U | 2 U |
| 2-Methylphenol | | 5 U | 5 U |
| 2-Nitroaniline | | 1 U | 1 U |
| 2-Nitrophenol | | 5 U | 5 U |
| 3,3'-Dichlorobenzidine | | 1 U | 1 U |
| 3-Nitroaniline | | 0.7 U | 0.7 U |
| 4,6-Dinitro-2-methylphenol | | 10 U | 10 U |
| 4-Bromophenyl-phenylether | | 1 U | 1 U |
| 4-Chloro-3-Methylphenol | | 4 U | 4 U |
| 4-Chloroaniline | | 2 U | 2 U |
| 4-Chlorophenyl-phenylether | | 1 U | 1 U |
| 4-Methylphenol | | 4 U | 4 U |
| 4-Nitroaniline | | 1 U | 1 U |
| 4-Nitrophenol | | 4 U | 4 U |
| Acenaphthene | | 2 U | 2 U |
| Anthracene | | 1 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Mark IV 04/25/96

| | Location: | MW-2 | MW-3 |
|---|---|---|---|
| | Date: | 19-JAN-94 | 19-JAN-94 |
| | Type: | | |
| | Sample Name: | MW-2 | MW-3 |
| PYRIDINE | (ug/L) | | |
| 2,6-Dichloropyridine | | 5 U | 5 U |
| 2-Chloropyridine | | 0.9 J | 4 J |
| 3-Chloropyridine | | 5 U | 5 U |
| 4-Chloropyridine | | 5 U | 5 U |
| Pyridine | | 5 U | 5 U |
| p-Fluoroaniline | | 5 U | 5 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (formerly Gerber) 04/25/96

| Location: | BR-103 | MW-103 |
|---|---|---|
| Date: | 20-JAN-94 | 20-JAN-94 |
| Type: | | |
| Sample Name: | BR-103 | MW-103 |
| SVOCs (ug/L) | | |
| Benzo(a)anthracene | 2 U | 2 U |
| Benzo(a)pyrene | 1 U | 1 U |
| Benzo(b)fluoranthene | 2 U | 2 U |
| Benzo(g,h,i)perylene | 1 U | 1 U |
| Benzo(k)fluoranthene | 2 U | 2 U |
| Benzoic acid | 10 U | 10 U |
| Benzyl alcohol | 2 U | 2 U |
| Bis(2-Chloroethoxy)methane | 1 U | 1 U |
| Bis(2-Chloroethyl)ether | 1 U | 1 U |
| Bis(2-Chloroisopropyl)ether | 1 U | 1 U |
| Bis(2-ethylhexyl)phthalate | 9 | 2 U |
| Butylbenzylphthalate | 3 U | 3 U |
| Chrysene | 1 U | 1 U |
| Di-n-butylphthalate | 1 U | 1 U |
| Di-n-octylphthalate | 2 U | 2 U |
| Dibenzo(a,h)Anthracene | 1 U | 1 U |
| Dibenzofuran | 1 U | 1 U |
| Diethylphthalate | 2 U | 2 U |
| Dimethylphthalate | 4 U | 4 U |
| Fluoranthene | 1 U | 1 U |
| Fluorene | 2 U | 2 U |
| Hexachlorobenzene | 1 U | 1 U |
| Hexachlorobutadiene | 3 U | 3 U |
| Hexachlorocyclopentadiene | 1 U | 1 U |
| Hexachloroethane | 3 U | 3 U |
| Indeno(1,2,3-c,d)Pyrene | 1 U | 1 U |
| Isophorone | 1 U | 1 U |
| N-Nitroso-di-n-propylamine | 1 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (formerly Gerber) 04/25/96

| Location: | BR-103 | MW-103 |
|---|---|---|
| Date: | 20-JAN-94 | 20-JAN-94 |
| Type: | | |
| Sample Name: | BR-103 | MW-103 |
| SVOCs (ug/L) | | |
| 1,2,4-Trichlorobenzene | 2 U | 2 U |
| 1,3-Dichlorobenzene | 2 U | 2 U |
| 1,4-Dichlorobenzene | 2 U | 2 U |
| 2,4,5-Trichlorophenol | 4 U | 4 U |
| 2,4,6-Trichlorophenol | 7 U | 7 U |
| 2,4-Dichlorophenol | 5 U | 5 U |
| 2,4-Dimethylphenol | 4 U | 4 U |
| 2,4-Dinitrophenol | 6 U | 6 U |
| 2,4-Dinitrotoluene | 1 U | 1 U |
| 2,6-Dinitrotoluene | 1 U | 1 U |
| 2-Chloronaphthalene | 1 U | 1 U |
| 2-Chlorophenol | 5 U | 5 U |
| 2-Methylnaphthalene | 2 U | 2 U |
| 2-Methylphenol | 5 U | 5 U |
| 2-Nitroaniline | 1 U | 1 U |
| 2-Nitrophenol | 5 U | 5 U |
| 3,3'-Dichlorobenzidine | 1 U | 1 U |
| 3-Nitroaniline | 0.7 U | 0.7 U |
| 4,6-Dinitro-2-methylphenol | 10 U | 10 U |
| 4-Bromophenyl-phenylether | 1 U | 1 U |
| 4-Chloro-3-Methylphenol | 4 U | 4 U |
| 4-Chloroaniline | 2 U | 2 U |
| 4-Chlorophenyl-phenylether | 1 U | 1 U |
| 4-Methylphenol | 4 U | 4 U |
| 4-Nitroaniline | 1 U | 1 U |
| 4-Nitrophenol | 5 U | 5 U |
| Acenaphthene | 2 U | 2 U |
| Anthracene | 1 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Mark IV 04/25/96

| | Location: | MW-2 | MW-3 |
|---|---|---|---|
| | Date: | 19-JAN-94 | 19-JAN-94 |
| | Type: | | |
| | Sample Name: | MW-2 | MW-3 |
| INORGs | (ug/L) | | |
| Aluminum | | 3500 * | 21000 * |
| Antimony | | 3 U | 3 U |
| Arsenic | | 7 B | 84 |
| Barium | | 310 | 900 |
| Beryllium | | 3 U | 3 U |
| Cadmium | | 0.5 B | 1.2 B |
| Calcium | | 220000 | 410000 |
| Chromium | | 10 U* | 33 * |
| Cobalt | | 20 U | 30 B |
| Copper | | 10 U | 100 |
| Cyanide | | 82 N | 20 N |
| Iron | | 32000 | 77000 |
| Lead | | 6 | 87 |
| Magnesium | | 59000 | 79000 |
| Manganese | | 1400 | 2400 |
| Mercury | | 0.4 UN | 0.4 UN |
| Nickel | | 30 U | 63 |
| Potassium | | 6400 | 8300 |
| Selenium | | 3 U | 3 U |
| Silver | | 10 UN | 10 UN |
| Sodium | | 120000 N | 100000 N |
| Thallium | | 3 UN | 3 UN |
| Vanadium | | 41 B | 45 B |
| Zinc | | 27 | 670 |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (formerly Gerber) 04/25/96

| | | | | |
|---|---|---|---|---|
| Location: | MW-103 | MW-103 | MW-103 | MW-103 |
| Date: | 29-JUN-94 | 29-SEP-94 | 29-MAR-95 | 11-SEP-95 |
| Type: | | | | |
| Sample Name: | MW-103 | MW-103 | MW-103 | MW103 |
| VOCs (ug/L) | | | | |
| Methylene chloride | 10 U | 10 U | 10 U | 10 U |
| Styrene | 10 U | 10 U | 10 U | 10 U |
| Tetrachloroethene | 10 U | 10 U | 10 U | 10 U |
| Toluene | 10 U | 10 U | 10 U | 10 U |
| Total Xylenes | 10 U | 10 U | 10 U | 10 U |
| Trichloroethene | 10 U | 10 U | 10 U | 10 U |
| Vinyl acetate | N/A | N/A | N/A | N/A |
| Vinyl chloride | 10 U | 10 U | 10 U | 10 U |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | 10 U |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (formerly Gerber) 04/25/96

| Location: | BR-103 | BR-103 | BR-103 | BR-103 | BR-103 | BR-103 | MW-103 | MW-103 |
|---|---|---|---|---|---|---|---|---|
| Date: | 20-JAN-94 | 17-MAR-94 | 29-JUN-94 | 29-SEP-94 | 29-MAR-95 | 11-SEP-95 | 20-JAN-94 | 17-MAR-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-103 | BR-103 | BR-103 | BR-103 | BR-103 | BR103 | MW-103 | MW-103 |
| VOCs (ug/L) | | | | | | | | |
| 1,1,1-Trichloroethane | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 0.7 U | 10 U | 10 U | 10 U | 10 U | 10 U | 0.7 U | 10 U |
| 1,1,2-Trichloroethane | 0.8 U | 10 U | 10 U | 10 U | 10 U | 10 U | 0.8 U | 10 U |
| 1,1-Dichloroethane | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 | 2 J |
| 1,1-Dichloroethene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| 1,2-Dichlorobenzene | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | N/A |
| 1,2-Dichloroethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| 1,2-Dichloroethene (total) | 20 | 14 | 13 | 19 | 17 | 24 | 2 U | 10 U |
| 1,2-Dichloropropane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| 1,3-Dichlorobenzene | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | N/A |
| 1,4-Dichlorobenzene | 0.7 U | N/A | N/A | N/A | N/A | N/A | 0.7 U | N/A |
| 2-Butanone | 4 U | 10 U | 10 U | 10 U | 10 U | 10 U | 4 U | 10 U |
| 2-Chloroethyl Vinyl Ether | 2 U | N/A | N/A | N/A | N/A | N/A | 2 U | N/A |
| 2-Hexanone | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| 4-Methyl-2-pentanone | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| Acetone | 7 U | 10 U | 10 U | 10 U | 10 U | 10 U | 7 U | 10 U |
| Benzene | 1 | 0.9 J | 0.6 J | 2 J | 2 J | 2 J | 0.8 U | 10 U |
| Bromodichloromethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Bromoform | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Bromomethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Carbon disulfide | 4 U | 10 U | 10 U | 10 U | 10 U | 10 U | 4 U | 10 U |
| Carbon tetrachloride | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| Chlorobenzene | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Chloroethane | 3 U | 10 U | 10 U | 10 U | 10 U | 10 U | 3 U | 10 U |
| Chloroform | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Chloromethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Dibromochloromethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Ethylbenzene | 0.9 U | 10 U | 10 U | 10 U | 10 U | 10 U | 0.9 J | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (formerly Gerber) 04/25/96

| | Location: | BR-103 | MW-103 |
|---|---|---|---|
| | Date: | 20-JAN-94 | 20-JAN-94 |
| | Type: | | |
| | Sample Name: | BR-103 | MW-103 |
| SVOCs | (ug/L) | | |
| N-Nitrosodiphenylamine | | 1 U | 1 U |
| Naphthalene | | 2 U | 2 U |
| Nitrobenzene | | 1 U | 1 U |
| Pentachlorophenol | | 10 U | 10 U |
| Phenanthrene | | 2 U | 2 U |
| Phenol | | 3 U | 3 U |
| Pyrene | | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (formerly Gerber) 04/25/96

| Location: | BR-103 | BR-103 | BR-103 | BR-103 | BR-103 | BR-103 | MW-103 | MW-103 |
|---|---|---|---|---|---|---|---|---|
| Date: | 20-JAN-94 | 17-MAR-94 | 29-JUN-94 | 29-SEP-94 | 29-MAR-95 | 11-SEP-95 | 20-JAN-94 | 17-MAR-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-103 | BR-103 | BR-103 | BR-103 | BR-103 | BR103 | MW-103 | MW-103 |
| VOCs (ug/L) | | | | | | | | |
| Methylene chloride | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Styrene | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Tetrachloroethene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| Toluene | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Total Xylenes | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| Trichloroethene | 1 J | 10 U | 0.7 J | 0.8 J | 10 U | 10 U | 2 U | 10 U |
| Vinyl acetate | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | N/A |
| Vinyl chloride | 5 | 4 J | 2 J | 3 J | 2 J | 3 J | 1 U | 10 U |
| cis-1,3-Dichloropropene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| trans-1,3-Dichloropropene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (formerly Gerber) 04/25/96

| Location: | MW-103 | MW-103 | MW-103 | MW-103 |
|---|---|---|---|---|
| Date: | 29-JUN-94 | 29-SEP-94 | 29-MAR-95 | 11-SEP-95 |
| Type: | | | | |
| Sample Name: | MW-103 | MW-103 | MW-103 | MW103 |
| VOCs (ug/L) | | | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 10 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | 10 U |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | 10 U |
| 1,1-Dichloroethane | 2 J | 10 U | 10 U | 10 U |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichlorobenzene | N/A | N/A | N/A | N/A |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichloroethene (total) | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | 10 U |
| 1,3-Dichlorobenzene | N/A | N/A | N/A | N/A |
| 1,4-Dichlorobenzene | N/A | N/A | N/A | N/A |
| 2-Butanone | 10 U | 10 U | 10 U | 10 U |
| 2-Chloroethyl Vinyl Ether | N/A | N/A | N/A | N/A |
| 2-Hexanone | 10 U | 10 U | 10 U | 10 U |
| 4-Methyl-2-pentanone | 10 U | 10 U | 10 U | 10 U |
| Acetone | 10 U | 10 U | 10 U | 10 U |
| Benzene | 10 U | 10 U | 10 U | 10 U |
| Bromodichloromethane | 10 U | 10 U | 10 U | 10 U |
| Bromoform | 10 U | 10 U | 10 U | 10 U |
| Bromomethane | 10 U | 10 U | 10 U | 10 U |
| Carbon disulfide | 10 U | 10 U | 10 U | 10 U |
| Carbon tetrachloride | 10 U | 10 U | 10 U | 10 U |
| Chlorobenzene | 10 U | 10 U | 10 U | 10 U |
| Chloroethane | 10 U | 10 U | 10 U | 10 U |
| Chloroform | 10 U | 10 U | 10 U | 10 U |
| Chloromethane | 10 U | 10 U | 10 U | 10 U |
| Dibromochloromethane | 10 U | 10 U | 10 U | 10 U |
| Ethylbenzene | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (formerly Gerber) 04/25/96

| Location: | MW-103 | MW-103 | MW-103 | MW-103 | MW-103 |
|---|---|---|---|---|---|
| Date: | 23-MAR-94 | 11-JUL-94 | 18-OCT-94 | 06-APR-95 | 11-SEP-95 |
| Type: | | | | | |
| Sample Name: | MW-103 | MW-103 | MW-103 | MW-103 | MW103 |
| **PYRIDINE (ug/L)** | | | | | |
| 2,6-Dichloropyridine | 10 U | 10 U | 10 U | 4 J | 1 J |
| 2-Chloropyridine | 0.8 J | 0.8 J | 10 U | 48 | 23 |
| 3-Chloropyridine | 10 U | 10 U | 10 U | 4 J | 10 U |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | N/A |
| Pyridine | N/A | N/A | N/A | N/A | N/A |
| p-Fluoroaniline | 10 U | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (formerly Gerber) 04/25/96

| Location: | BR-103 | BR-103 | BR-103 | BR-103 | BR-103 | BR-103 | BR-103 | MW-103 |
|---|---|---|---|---|---|---|---|---|
| Date: | 20-JAN-94 | 23-MAR-94 | 11-JUL-94 | 18-OCT-94 | 06-APR-95 | 10-APR-95 | 11-SEP-95 | 20-JAN-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-103 | BR-103 | BR-103 | BR-103 | BR-103 | BR-103 DL | BR103 | MW-103 |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 6 U | 10 U | 10 U | 10 U | 32 | 18 DJ | 0.5 J | 6 U |
| 2-Chloropyridine | 6 | 7 J | 4 J | 12 | 350 E | 350 D | 15 | 6 U |
| 3-Chloropyridine | 6 U | 10 U | 10 U | 10 U | 27 | 23 DJ | 10 U | 6 U |
| 4-Chloropyridine | 6 U | N/A | N/A | N/A | N/A | N/A | N/A | 6 U |
| Pyridine | 6 U | N/A | N/A | N/A | N/A | N/A | N/A | 6 U |
| p-Fluoroaniline | 6 | 4 J | 10 U | 10 U | 0 J | 100 U | 10 U | 6 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (formerly Gerber) 04/25/96

| | | | |
|---|---|---|---|
| | Location: | MW-103 | MW-103 |
| | Date: | 04-APR-95 | 11-SEP-95 |
| | Type: | | |
| | Sample Name: | MW-103 | MW103 |
| METHANOL | (ug/L) | | |
| Methanol | | 1000 U | 1000 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (formerly Gerber) 04/25/96

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Location: | BR-103 | BR-103 | BR-103 | BR-103 | BR-103 | MW-103 | MW-103 | MW-103 |
| Date: | 22-MAR-94 | 30-JUN-94 | 30-SEP-94 | 04-APR-95 | 11-SEP-95 | 22-MAR-94 | 01-JUL-94 | 30-SEP-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-103 | BR-103 | BR-103 | BR-103 | BR103 | MW-103 | MW-103 | MW-103 |
| **METHANOL** (ug/L) | | | | | | | | |
| Methanol | 550 U | 550 U | 550 U | 1000 U | 1000 U | 550 U | 550 U | 550 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester

**SITE:** Kodak (formerly Gerber)

04/25/96

| | Location: | BR-103 | MW-103 |
|---|---|---|---|
| | Date: | 20-JAN-94 | 20-JAN-94 |
| | Type: | | |
| | Sample Name: | BR-103 | MW-103 |
| INORGs | (ug/L) | | |
| Aluminum | | 340 J | 27000 J |
| Antimony | | 3 U | 3 U |
| Arsenic | | 3 U | 17 |
| Barium | | 66 J | 450 |
| Beryllium | | 3 U | 3 U |
| Cadmium | | 0.2 J | 0.7 J |
| Calcium | | 150000 | 460000 |
| Chromium | | 10 U | 43 |
| Cobalt | | 20 U | 32 J |
| Copper | | 10 U | 40 |
| Cyanide | | 10 UJ | 10 UJ |
| Iron | | 1600 | 68000 |
| Lead | | 2 J | 49 |
| Magnesium | | 44000 | 120000 |
| Manganese | | 210 | 5200 |
| Mercury | | 0.4 UJ | 0.4 UJ |
| Nickel | | 30 U | 95 |
| Potassium | | 6900 | 6000 |
| Selenium | | 3 U | 3 U |
| Silver | | 10 UJ | 10 UJ |
| Sodium | | 230000 | 68000 |
| Thallium | | 3 UJ | 3 UJ |
| Vanadium | | 20 U | 56 |
| Zinc | | 10 U | 180 |

N/A = Not Analyzed

**PROJECT: Olin Rochester** **SITE: Kodak (52 McKee Road)** 04/25/96

| | Location: | PZ-104 | PZ-108 |
|---|---|---|---|
| | Date: | 01-FEB-94 | 24-JAN-94 |
| | Type: | | |
| | Sample Name: | PZ-104 | PZ-108 |
| VOCs | (ug/L) | | |
| Methylene chloride | | 1 U | 1 U |
| Styrene | | 1 U | 1 U |
| Tetrachloroethene | | 1 J | 2 U |
| Toluene | | 16 | 3 |
| Total Xylenes | | 2 U | 2 U |
| Trichloroethene | | 4 | 1 J |
| Vinyl acetate | | 1 U | 1 U |
| Vinyl chloride | | 2 | 1 U |
| cis-1,3-Dichloropropene | | 2 U | 2 U |
| trans-1,3-Dichloropropene | | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (52 McKee Road) 04/25/96

| Location: | PZ-104 | PZ-108 |
|---|---|---|
| Date: | 01-FEB-94 | 24-JAN-94 |
| Type: | | |
| Sample Name: | PZ-104 | PZ-108 |
| VOCs (ug/L) | | |
| 1,1,1-Trichloroethane | 2 U | 2 U |
| 1,1,2,2-Tetrachloroethane | 0.7 U | 0.7 U |
| 1,1,2-Trichloroethane | 0.8 U | 0.8 U |
| 1,1-Dichloroethane | 2 U | 2 U |
| 1,1-Dichloroethene | 2 U | 2 U |
| 1,2-Dichlorobenzene | 2 | 1 U |
| 1,2-Dichloroethane | 1 U | 1 U |
| 1,2-Dichloroethene (total) | 4 | 2 U |
| 1,2-Dichloropropane | 1 U | 1 U |
| 1,3-Dichlorobenzene | 1 U | 1 U |
| 1,4-Dichlorobenzene | 0.7 U | 0.7 U |
| 2-Butanone | 4 U | 4 U |
| 2-Chloroethyl Vinyl Ether | 2 U | 2 U |
| 2-Hexanone | 2 U | 2 U |
| 4-Methyl-2-pentanone | 2 U | 2 U |
| Acetone | 7 U | 7 U |
| Benzene | 8 | 0.8 U |
| Bromodichloromethane | 1 U | 1 U |
| Bromoform | 1 U | 1 U |
| Bromomethane | 1 U | 1 U |
| Carbon disulfide | 4 U | 4 U |
| Carbon tetrachloride | 2 U | 0.6 J |
| Chlorobenzene | 12 | 2 B |
| Chloroethane | 3 U | 3 U |
| Chloroform | 35 | 1 U |
| Chloromethane | 1 U | 1 U |
| Dibromochloromethane | 1 U | 1 U |
| Ethylbenzene | 0.9 U | 0.9 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (52 McKee Road) 04/25/96

| Location: | PZ-104 | PZ-108 |
|---|---|---|
| Date: | 01-FEB-94 | 24-JAN-94 |
| Type: | | |
| Sample Name: | PZ-104 | PZ-108 |
| SVOCs (ug/L) | | |
| N-Nitrosodiphenylamine | 1 U | 1 U |
| Naphthalene | 1 U | 2 U |
| Nitrobenzene | 1 U | 1 U |
| Pentachlorophenol | 9 U | 11 U |
| Phenanthrene | 1 U | 2 U |
| Phenol | 3 U | 4 U |
| Pyrene | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (52 McKee Road) 04/25/96

| | Location: | PZ-104 | PZ-108 |
|---|---|---|---|
| | Date: | 01-FEB-94 | 24-JAN-94 |
| | Type: | | |
| | Sample Name: | PZ-104 | PZ-108 |
| SVOCs | (ug/L) | | |
| Benzo(a)anthracene | | 2 U | 2 U |
| Benzo(a)pyrene | | 1 U | 1 U |
| Benzo(b)fluoranthene | | 2 U | 2 U |
| Benzo(g,h,i)perylene | | 1 U | 2 U |
| Benzo(k)fluoranthene | | 2 U | 3 U |
| Benzoic acid | | 9 U | 11 U |
| Benzyl alcohol | | 2 U | 3 U |
| Bis(2-Chloroethoxy)methane | | 1 U | 1 U |
| Bis(2-Chloroethyl)ether | | 10 | 2 U |
| Bis(2-Chloroisopropyl)ether | | 1 U | 2 U |
| Bis(2-ethylhexyl)phthalate | | 4 | 2 |
| Butylbenzylphthalate | | 3 U | 4 U |
| Chrysene | | 1 U | 1 U |
| Di-n-butylphthalate | | 1 U | 1 U |
| Di-n-octylphthalate | | 1 U | 0.4 J |
| Dibenzo(a,h)Anthracene | | 1 U | 1 U |
| Dibenzofuran | | 1 U | 1 U |
| Diethylphthalate | | 2 U | 2 U |
| Dimethylphthalate | | 4 U | 5 U |
| Fluoranthene | | 1 U | 2 U |
| Fluorene | | 1 U | 2 U |
| Hexachlorobenzene | | 1 U | 2 U |
| Hexachlorobutadiene | | 2 U | 3 U |
| Hexachlorocyclopentadiene | | 1 U | 2 U |
| Hexachloroethane | | 2 U | 3 U |
| Indeno(1,2,3-c,d)Pyrene | | 1 U | 1 U |
| Isophorone | | 1 U | 1 U |
| N-Nitroso-di-n-propylamine | | 1 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester

**SITE:** Kodak (52 McKee Road)

04/25/96

| | Location: | PZ-104 | PZ-108 |
|---|---|---|---|
| | Date: | 01-FEB-94 | 24-JAN-94 |
| | Type: | | |
| | Sample Name: | PZ-104 | PZ-108 |
| SVOCs | (ug/L) | | |
| 1,2,4-Trichlorobenzene | | 2 U | 3 U |
| 1,3-Dichlorobenzene | | 2 U | 2 U |
| 1,4-Dichlorobenzene | | 2 U | 2 U |
| 2,4,5-Trichlorophenol | | 4 U | 5 U |
| 2,4,6-Trichlorophenol | | 6 U | 8 U |
| 2,4-Dichlorophenol | | 4 U | 5 U |
| 2,4-Dimethylphenol | | 3 U | 4 U |
| 2,4-Dinitrophenol | | 6 U | 7 U |
| 2,4-Dinitrotoluene | | 1 U | 1 U |
| 2,6-Dinitrotoluene | | 1 U | 1 U |
| 2-Chloronaphthalene | | 1 U | 2 U |
| 2-Chlorophenol | | 0.4 J | 6 U |
| 2-Methylnaphthalene | | 2 U | 2 U |
| 2-Methylphenol | | 4 U | 6 U |
| 2-Nitroaniline | | 0.9 U | 1 U |
| 2-Nitrophenol | | 5 U | 6 U |
| 3,3'-Dichlorobenzidine | | 1 U | 2 U |
| 3-Nitroaniline | | 0.6 U | 0.8 U |
| 4,6-Dinitro-2-methylphenol | | 9 U | 12 U |
| 4-Bromophenyl-phenylether | | 1 U | 2 U |
| 4-Chloro-3-Methylphenol | | 3 U | 4 U |
| 4-Chloroaniline | | 7 | 2 U |
| 4-Chlorophenyl-phenylether | | 1 U | 1 U |
| 4-Methylphenol | | 4 U | 5 U |
| 4-Nitroaniline | | 1 U | 1 U |
| 4-Nitrophenol | | 4 U | 5 U |
| Acenaphthene | | 1 U | 2 U |
| Anthracene | | 1 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Kodak (52 McKee Road) 04/25/96

| | Location: | PZ-104 | PZ-108 |
|---|---|---|---|
| | Date: | 01-FEB-94 | 24-JAN-94 |
| | Type: | | |
| | Sample Name: | PZ-104 | PZ-108 |
| PYRIDINE | (ug/L) | | |
| 2,6-Dichloropyridine | | 1000 DJ | 18 |
| 2-Chloropyridine | | 7800 D | 47 |
| 3-Chloropyridine | | 220 D | 2 J |
| 4-Chloropyridine | | 0.3 J | 6 U |
| Pyridine | | 38 | 0.4 J |
| p-Fluoroaniline | | 75 | 6 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester

**SITE:** Kodak (52 McKee Road)

04/25/96

| | Location: | PZ-104 | PZ-108 |
|---|---|---|---|
| | Date: | 01-FEB-94 | 24-JAN-94 |
| | Type: | | |
| | Sample Name: | PZ-104 | PZ-108 |
| INORGs | (ug/L) | | |
| Aluminum | | 570 | 2000 |
| Antimony | | 3 U | 4 U |
| Arsenic | | 4 U | 4 B |
| Barium | | 140 | 85 B |
| Beryllium | | 3 U | 3 U |
| Cadmium | | 0.3 | 1.5 B |
| Calcium | | 130000 E | 140000 |
| Chromium | | 10 U | 10 U |
| Cobalt | | 20 U | 20 U |
| Copper | | 10 U | 10 U |
| Cyanide | | 30 | 10 U |
| Iron | | 1200 | 13000 |
| Lead | | 2 N | 2 B |
| Magnesium | | 40000 | 36000 |
| Manganese | | 160 | 17000 |
| Mercury | | 0.4 U | 0.4 U |
| Nickel | | 30 U | 130 |
| Potassium | | 9800 | 1300 B |
| Selenium | | 3 UN | 3 UN |
| Silver | | 0.5 UN | 10 U |
| Sodium | | 290000 | 23000 |
| Thallium | | 3 UN | 4 U |
| Vanadium | | 20 U | 20 U |
| Zinc | | 37 | 20 B |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Dolomite Products, Inc. 04/25/96

| | |
|---|---|
| Location: | QP-1 |
| Date: | 25-OCT-95 |
| Type: | |
| Sample Name: | QP-1 |

| PYRIDINE (ug/L) | |
|---|---|
| 2,6-Dichloropyridine | 3 J |
| 2-Chloropyridine | 19 |
| 3-Chloropyridine | 10 U |
| 4-Chloropyridine | 10 U |
| Pyridine | 10 U |
| p-Fluoroaniline | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Erie Barge Canal 04/25/96

| Location: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113 | BR-113 | BR-113D |
|---|---|---|---|---|---|---|---|
| Date: | 26-OCT-95 | 26-OCT-95 | 27-OCT-95 | 27-OCT-95 | 26-OCT-95 | 26-OCT-95 | 26-OCT-95 |
| Type: | | | | | Duplicate | | |
| Sample Name: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113FD | BR-113 | BR-113D |
| INORGs (ug/L) | | | | | | | |
| Aluminum | 16600 E | 4660 E | 240 | 3090 | 7760 E | 7950 E | 1940 E |
| Antimony | 5.1 U | 5.1 U | 5.1 U | 5.1 U | 5.1 U | 5.1 U | 5.4 B |
| Arsenic | 16.1 | 54.8 | 5.3 U | 5.3 U | 6.2 B | 9 B | 5.3 U |
| Barium | 102 B | 81 B | 36.7 B | 99 B | 163 B | 174 B | 60 B |
| Beryllium | 0.82 B | 0.2 U | 0.2 U | 0.3 B | 0.6 B | 0.65 B | 0.2 U |
| Cadmium | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| Calcium | 316000 | 1220000 | 193000 | 234000 | 193000 | 191000 | 177000 |
| Chromium | 27.4 | 2 B | 1 U | 9.5 B | 10.8 | 13 | 1 U |
| Cobalt | 7.1 B | 1.7 B | 1.6 U | 1.6 U | 5.2 B | 5.7 B | 1.6 U |
| Copper | 26.5 | 9.1 B | 1.1 U | 3.9 B | 20.7 B | 20.4 B | 4.8 B |
| Cyanide | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Iron | 25200 N | 5520 N | 2830 N | 9400 N | 18100 N | 18500 N | 3870 N |
| Lead | 47.4 | 13.1 | 2.3 B | 9 | 40 | 49 | 9 |
| Magnesium | 151000 | 305000 | 58900 | 82000 | 81200 | 81300 | 54200 |
| Manganese | 695 | 128 | 54.1 | 412 | 920 | 925 | 221 |
| Mercury | 0.2 U | 0.2 U | 7.7 | 0.54 | 0.2 U | 0.2 U | 0.2 U |
| Nickel | 28.3 B | 2.3 B | 1.4 U | 9.5 B | 12.9 B | 13.7 B | 1.6 B |
| Potassium | 24600 E | 171000 E | 4040 BE | 9310 E | 17000 E | 18800 E | 9220 E |
| Selenium | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Silver | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| Sodium | 23900 | 6490000 | 12200 | 161000 | 61700 | 60700 | 151000 |
| Thallium | 3 U | 3 U | 7.1 U | 7.1 U | 3 U | 3 U | 3 U |
| Vanadium | 21.3 B | 5.2 B | 1.6 U | 4.2 B | 13.5 B | 14.7 B | 3.9 B |
| Zinc | 93.7 | 51.8 | 18 B | 38 | 127 | 153 | 58.3 |

N/A = Not Analyzed

**PROJECT: Olin Rochester** **SITE: Erie Barge Canal** 04/25/96

| Location: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113 | BR-113 | BR-113D |
|---|---|---|---|---|---|---|---|
| Date: | 07-DEC-95 | 07-DEC-95 | 07-DEC-95 | 07-DEC-95 | 07-DEC-95 | 07-DEC-95 | 07-DEC-95 |
| Type: | | | | | Duplicate | | |
| Sample Name: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113FD | BR-113 | BR-113D |
| **PYRIDINE (ug/L)** | | | | | | | |
| 2,6-Dichloropyridine | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 J |
| 2-Chloropyridine | 10 U | 10 U | 10 U | 4 J | 2 J | 2 J | 76 |
| 3-Chloropyridine | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloropyridine | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Pyridine | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| p-Fluoroaniline | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Erie Barge Canal 04/25/96

| Location: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113 | BR-113 | BR-113D |
|---|---|---|---|---|---|---|---|
| Date: | 26-OCT-95 | 26-OCT-95 | 27-OCT-95 | 27-OCT-95 | 26-OCT-95 | 26-OCT-95 | 26-OCT-95 |
| Type: | | | | | Duplicate | | |
| Sample Name: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113FD | BR-113 | BR-113D |
| SVOCs (ug/L) | | | | | | | |
| 1,2,4-Trichlorobenzene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichlorobenzene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,3-Dichlorobenzene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,4-Dichlorobenzene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4,5-Trichlorophenol | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| 2,4,6-Trichlorophenol | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dichlorophenol | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dimethylphenol | 10 U | 2 J | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dinitrophenol | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| 2,4-Dinitrotoluene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,6-Dinitrotoluene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chloronaphthalene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chlorophenol | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Methylnaphthalene | 10 U | 2 J | 10 U | 10 U | 14 | 10 | 10 U |
| 2-Methylphenol | 10 U | 0.9 J | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Nitroaniline | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| 2-Nitrophenol | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 3,3'-Dichlorobenzidine | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 3-Nitroaniline | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| 4,6-Dinitro-2-methylphenol | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| 4-Bromophenyl-phenylether | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloro-3-Methylphenol | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloroaniline | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chlorophenyl-phenylether | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Methylphenol | 1 J | 2 J | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Nitroaniline | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| 4-Nitrophenol | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Acenaphthene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Erie Barge Canal 04/25/96

| Location: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113 | BR-113 | BR-113D |
|---|---|---|---|---|---|---|---|
| Date: | 26-OCT-95 | 26-OCT-95 | 27-OCT-95 | 27-OCT-95 | 26-OCT-95 | 26-OCT-95 | 26-OCT-95 |
| Type: | | | | | Duplicate | | |
| Sample Name: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113FD | BR-113 | BR-113D |
| SVOCs (ug/L) | | | | | | | |
| Acenaphthylene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Anthracene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)anthracene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)pyrene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(b)fluoranthene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(g,h,i)perylene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(k)fluoranthene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzoic acid | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Benzyl alcohol | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Bis(2-Chloroethoxy)methane | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Bis(2-Chloroethyl)ether | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Bis(2-Chloroisopropyl)ether | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Bis(2-ethylhexyl)phthalate | 10 U | 5 J | 10 U | 4 J | 2 J | 1 J | 2 J |
| Butylbenzylphthalate | 0.7 J | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chrysene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Di-n-butylphthalate | 10 U | 0.8 J | 10 U | 10 U | 10 U | 10 U | 2 J |
| Di-n-octylphthalate | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dibenzo(a,h)Anthracene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dibenzofuran | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Diethylphthalate | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dimethylphthalate | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Fluoranthene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Fluorene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobenzene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobutadiene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorocyclopentadiene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachloroethane | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Indeno(1,2,3-c,d)Pyrene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Erie Barge Canal 04/25/96

| Location: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113 | BR-113 | BR-113D |
|---|---|---|---|---|---|---|---|
| Date: | 26-OCT-95 | 26-OCT-95 | 27-OCT-95 | 27-OCT-95 | 26-OCT-95 | 26-OCT-95 | 26-OCT-95 |
| Type: | | | | | Duplicate | | |
| Sample Name: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113FD | BR-113 | BR-113D |
| SVOCs (ug/L) | | | | | | | |
| Isophorone | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| N-Nitroso-di-n-propylamine | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| N-Nitrosodiphenylamine | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Naphthalene | 10 U | 1 J | 10 U | 10 U | 16 | 11 | 10 U |
| Nitrobenzene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Pentachlorophenol | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Phenanthrene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Phenol | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Pyrene | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Erie Barge Canal 04/25/96

| Location: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113 | BR-113 | BR-113D |
|---|---|---|---|---|---|---|---|
| Date: | 26-OCT-95 | 26-OCT-95 | 27-OCT-95 | 27-OCT-95 | 26-OCT-95 | 26-OCT-95 | 26-OCT-95 |
| Type: | | | | | Duplicate | | |
| Sample Name: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113FD | BR-113 | BR-113D |
| VOCs (ug/L) | | | | | | | |
| 1,1,1-Trichloroethane | 0.5 U | 5 U | 0.5 U | 0.89 | 2.5 U | 2.5 U | 0.85 |
| 1,1,2,2-Tetrachloroethane | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| 1,1,2-Trichloroethane | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| 1,1-Dichloroethane | 0.5 U | 5 U | 0.5 U | 35 | 2.5 U | 2.5 U | 35 |
| 1,1-Dichloroethene | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| 1,2-Dichloroethane | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| 1,2-Dichloroethene (total) | 0.5 U | 5 U | 0.5 U | 48 | 2.5 U | 2.5 U | 36 |
| 1,2-Dichloropropane | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| 2-Butanone | 1 U | 10 U | 1 U | 1 U | 5 U | 5 U | 1 U |
| 2-Hexanone | 1 U | 10 U | 1 U | 1 U | 5 U | 5 U | 1 U |
| 4-Methyl-2-pentanone | 1 U | 10 U | 1 U | 1 U | 5 U | 5 U | 1 U |
| Acetone | 21 | 100 U | 10 U | 10 U | 50 U | 50 U | 10 U |
| Benzene | 1.6 | 240 | 0.5 U | 22 | 30 | 31 | 24 |
| Bromodichloromethane | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| Bromoform | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| Bromomethane | 1 U | 10 U | 1 U | 1 U | 5 U | 5 U | 1 U |
| Carbon disulfide | 0.69 | 5.5 | 0.6 | 3.7 | 2.5 U | 2.5 U | 1.7 |
| Carbon tetrachloride | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| Chlorobenzene | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| Chloroethane | 1 U | 10 U | 1 U | 3 | 5 U | 5 U | 1 U |
| Chloroform | 0.5 U | 5 U | 0.41 J | 0.5 U | 2.5 U | 2.5 U | 1 |
| Chloromethane | 1 U | 10 U | 1 U | 1 U | 5 U | 5 U | 1 U |
| Dibromochloromethane | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| Ethylbenzene | 1.1 | 38 | 0.5 U | 3.2 | 62 | 61 | 1.3 |
| Methylene chloride | 3 U | 30 U | 3 U | 3 U | 15 U | 15 U | 3 U |
| Styrene | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| Tetrachloroethene | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| Toluene | 0.59 | 14 | 0.24 J | 0.54 | 140 | 130 | 1.1 |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Erie Barge Canal 04/25/96

| Location: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113 | BR-113 | BR-113D |
|---|---|---|---|---|---|---|---|
| Date: | 26-OCT-95 | 26-OCT-95 | 27-OCT-95 | 27-OCT-95 | 26-OCT-95 | 26-OCT-95 | 26-OCT-95 |
| Type: | | | | | Duplicate | | |
| Sample Name: | BR-111 | BR-111D | BR-112A | BR-112D | BR-113FD | BR-113 | BR-113D |
| VOCs (ug/L) | | | | | | | |
| Total Xylenes | 2.8 | 41 | 0.28 J | 1.8 | 340 | 340 | 2 |
| Trichloroethene | 0.5 U | 5 U | 0.5 U | 2.4 | 2.5 U | 2.5 U | 1.6 |
| Vinyl acetate | 5 U | 50 U | 5 U | 5 U | 25 | 25 U | 5 U |
| Vinyl chloride | 1 U | 10 U | 1 U | 67 | 5 U | 5 U | 33 |
| cis-1,3-Dichloropropene | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |
| trans-1,3-Dichloropropene | 0.5 U | 5 U | 0.5 U | 0.5 U | 2.5 U | 2.5 U | 0.5 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Erie Barge Canal 04/25/96

| Location: | QO-1 | SW-1 | SW-1 | SW-1 | SW-1 | SW-1 | SW-2 | SW-2 |
|---|---|---|---|---|---|---|---|---|
| Date: | 25-OCT-95 | 02-NOV-94 | 11-APR-95 | 17-MAY-95 | 06-SEP-95 | 20-NOV-95 | 02-NOV-94 | 02-NOV-94 |
| Type: | | | | | | | Duplicate | |
| Sample Name: | QO-1 | 01SW001000XXXX | SW-1 | SW-1 | SW-1 | SW-1 | 01SW002000X1DXFD | 01SW002000X1XX |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 11 U | 10 U | 10 U | 10 U | 10 U | 0.2 J | 10 U | 10 U |
| 2-Chloropyridine | 11 U | 10 U | 5 J | 10 U | 10 U | 1 J | 10 U | 10 U |
| 3-Chloropyridine | 11 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloropyridine | 11 U | N/A | N/A | N/A | 10 U | 10 U | N/A | N/A |
| Pyridine | 11 U | 10 U | 10 U | 10 U | 10 U | 10 UJ | 10 U | 10 U |
| p-Fluoroaniline | 11 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Erie Barge Canal 04/25/96

| Location: | SW-2 | SW-2 | SW-2 | SW-2 | SW-2 | SW-2 | SW-2 | SW-3 |
|---|---|---|---|---|---|---|---|---|
| Date: | 11-APR-95 | 11-APR-95 | 17-MAY-95 | 17-MAY-95 | 06-SEP-95 | 20-NOV-95 | 20-NOV-95 | 02-NOV-94 |
| Type: | Duplicate | | Duplicate | | | Duplicate | | |
| Sample Name: | SW-2 FD | SW-2 | SW-2 FD | SW-2 | SW-2 | SW-2 FD | SW-2 | 01SW003000X1XX |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 10 U | 10 U | 10 U | 10 U | 10 UJ | 0.3 J | 0.3 J | 10 U |
| 2-Chloropyridine | 5 J | 4 J | 10 U | 10 U | 10 U | 3 J | 2 J | 10 U |
| 3-Chloropyridine | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | 10 U | 10 U | 10 U | N/A |
| Pyridine | 10 U | 10 U | 10 U | 10 U | 10 U | 10 UJ | 10 UJ | 10 U |
| p-Fluoroaniline | 10 U | 10 U | 10 U | 10 U | 10 UJ | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Erie Barge Canal 04/25/96

| Location: | SW-3 | SW-3 | SW-3 | SW-3 | SW-3 |
|---|---|---|---|---|---|
| Date: | 11-APR-95 | 17-MAY-95 | 06-SEP-95 | 06-SEP-95 | 20-NOV-95 |
| Type: | | | Duplicate | | |
| Sample Name: | SW-3 | SW-3 | SW-3FD | SW-3 | SW-3 |
| **PYRIDINE (ug/L)** | | | | | |
| 2,6-Dichloropyridine | 10 U | 10 U | 10 U | 10 U | 0.2 J |
| 2-Chloropyridine | 6 J | 10 U | 10 U | 10 U | 1 J |
| 3-Chloropyridine | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloropyridine | N/A | N/A | 10 U | 10 U | 10 U |
| Pyridine | 10 U | 10 U | 10 U | 10 U | 10 UJ |
| p-Fluoroaniline | 10 U | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Firth Rixson 04/25/96

| | Location: | BR-107 | BR-107 | MW-107 |
|---|---|---|---|---|
| | Date: | 21-JAN-94 | 21-JAN-94 | 21-JAN-94 |
| | Type: | Duplicate | | |
| | Sample Name: | BR-107FD | BR-107 | MW-107 |
| INORGs | (ug/L) | | | |
| Aluminum | | 490 | 1000 | 26000 |
| Antimony | | 4 U | 4 U | 4 U |
| Arsenic | | 4 U | 4 U | 150 |
| Barium | | 190 J | 190 J | 320 |
| Beryllium | | 3 U | 3 U | 3 U |
| Cadmium | | 0.2 U | 0.2 U | 1.4 J |
| Calcium | | 120000 | 120000 | 330000 |
| Chromium | | 10 U | 10 U | 32 |
| Cobalt | | 20 U | 20 U | 20 U |
| Copper | | 10 U | 10 U | 13 J |
| Cyanide | | 10 U | 10 U | 10 U |
| Iron | | 6300 | 6400 | 82000 |
| Lead | | 3 | 2 U | 32 |
| Magnesium | | 27000 | 25000 | 95000 |
| Manganese | | 310 | 300 | 1800 |
| Mercury | | 0.4 U | 0.4 U | 0.4 |
| Nickel | | 30 U | 30 U | 55 |
| Potassium | | 16000 | 23000 | 6500 |
| Selenium | | 3 UJ | 3 UJ | 3 UJ |
| Silver | | 10 U | 10 U | 10 U |
| Sodium | | 31000 | 34000 | 19000 |
| Thallium | | 4 U | 4 U | 4 U |
| Vanadium | | 20 U | 20 U | 28 J |
| Zinc | | 23 | 11 J | 100 |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Firth Rixson 04/25/96

| | Location: | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | MW-107 | MW-107 | MW-107 |
|---|---|---|---|---|---|---|---|---|---|
| | Date: | 22-MAR-94 | 01-JUL-94 | 30-SEP-94 | 08-APR-95 | 11-SEP-95 | 22-MAR-94 | 01-JUL-94 | 03-OCT-94 |
| | Type: | | | | | | | | |
| | Sample Name: | BR-107 | BR-107 | BR-107 | BR-107 | BR107 | MW-107 | MW-107 | MW-107 |
| **METHANOL** | (ug/L) | | | | | | | | |
| Methanol | | 550 U | 340 BJ | 550 U | 1000 U | 1000 U | 550 U | 550 U | 550 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Firth Rixson 04/25/96

| | Location: | MW-107 | MW-107 |
|---|---|---|---|
| | Date: | 07-APR-95 | 11-SEP-95 |
| | Type: | | |
| | Sample Name: | MW-107 | MW107 |
| **METHANOL** | (ug/L) | | |
| Methanol | | 1000 U | 1000 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Firth Rixson 04/25/96

| Location: | BR-107 | BR-107 | MW-107 |
|---|---|---|---|
| Date: | 21-JAN-94 | 21-JAN-94 | 21-JAN-94 |
| Type: | Duplicate | | |
| Sample Name: | BR-107FD | BR-107 | MW-107 |
| SVOCs (ug/L) | | | |
| 1,2,4-Trichlorobenzene | 3 U | 3 U | 2 U |
| 1,3-Dichlorobenzene | 3 U | 3 U | 2 U |
| 1,4-Dichlorobenzene | 2 U | 2 U | 2 U |
| 2,4,5-Trichlorophenol | 5 U | 5 U | 4 U |
| 2,4,6-Trichlorophenol | 8 U | 8 U | 7 U |
| 2,4-Dichlorophenol | 5 U | 5 U | 4 U |
| 2,4-Dimethylphenol | 4 U | 4 U | 4 U |
| 2,4-Dinitrophenol | 7 U | 7 U | 6 U |
| 2,4-Dinitrotoluene | 1 U | 1 U | 1 U |
| 2,6-Dinitrotoluene | 1 U | 1 U | 1 U |
| 2-Chloronaphthalene | 2 U | 2 U | 1 U |
| 2-Chlorophenol | 6 U | 6 U | 5 U |
| 2-Methylnaphthalene | 2 U | 2 U | 2 U |
| 2-Methylphenol | 6 U | 6 U | 5 U |
| 2-Nitroaniline | 1 U | 1 U | 1 U |
| 2-Nitrophenol | 6 U | 6 U | 5 U |
| 3,3'-Dichlorobenzidine | 2 U | 2 U | 1 U |
| 3-Nitroaniline | 0.8 U | 0.8 U | 0.7 U |
| 4,6-Dinitro-2-methylphenol | 12 U | 12 U | 10 U |
| 4-Bromophenyl-phenylether | 2 U | 2 U | 1 U |
| 4-Chloro-3-Methylphenol | N/A | 4 U | 4 U |
| 4-Chloroaniline | 2 U | 2 U | 2 U |
| 4-Chlorophenyl-phenylether | 1 U | 1 U | 1 U |
| 4-Methylphenol | 5 U | 5 U | 4 U |
| 4-Nitroaniline | 1 U | 1 U | 1 U |
| 4-Nitrophenol | 5 U | 5 U | 5 U |
| Acenaphthene | 2 U | 2 U | 2 U |
| Anthracene | 2 U | 2 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Firth Rixson 04/25/96

| Location: | BR-107 | BR-107 | MW-107 |
|---|---|---|---|
| Date: | 21-JAN-94 | 21-JAN-94 | 21-JAN-94 |
| Type: | Duplicate | | |
| Sample Name: | BR-107FD | BR-107 | MW-107 |
| **SVOCs (ug/L)** | | | |
| Benzo(a)anthracene | 2 U | 2 U | 2 U |
| Benzo(a)pyrene | 1 U | 1 U | 1 U |
| Benzo(b)fluoranthene | 2 U | 2 U | 2 U |
| Benzo(g,h,i)perylene | 2 U | 2 U | 1 U |
| Benzo(k)fluoranthene | 3 U | 3 U | 2 U |
| Benzoic acid | 11 U | 11 U | 10 U |
| Benzyl alcohol | 3 U | 3 U | 2 U |
| Bis(2-Chloroethoxy)methane | 1 U | 1 U | 1 U |
| Bis(2-Chloroethyl)ether | 2 U | 2 U | 1 U |
| Bis(2-Chloroisopropyl)ether | 2 U | 2 U | 1 U |
| Bis(2-ethylhexyl)phthalate | 10 | 7 | 1 J |
| Butylbenzylphthalate | 4 U | 4 U | 3 U |
| Chrysene | 1 U | 1 U | 1 U |
| Di-n-butylphthalate | 1 U | 1 U | 1 U |
| Di-n-octylphthalate | 2 U | 2 U | 0.9 J |
| Dibenzo(a,h)Anthracene | 1 U | 1 U | 1 U |
| Dibenzofuran | 1 U | 1 U | 1 U |
| Diethylphthalate | 2 U | 2 U | 2 U |
| Dimethylphthalate | 5 U | 5 U | 4 U |
| Fluoranthene | 2 U | 2 U | 1 U |
| Fluorene | 2 U | 2 U | 1 U |
| Hexachlorobenzene | 2 U | 2 U | 1 U |
| Hexachlorobutadiene | 3 U | 3 U | 3 U |
| Hexachlorocyclopentadiene | 2 U | 2 U | 1 U |
| Hexachloroethane | 3 U | 3 U | 2 U |
| Indeno(1,2,3-c,d)Pyrene | 1 U | 1 U | 1 U |
| Isophorone | 1 U | 1 U | 1 U |
| N-Nitroso-di-n-propylamine | 1 U | 1 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Firth Rixson 04/25/96

| Location: | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | MW-107 |
|---|---|---|---|---|---|---|---|---|
| Date: | 21-JAN-94 | 21-JAN-94 | 29-MAR-94 | 13-JUL-94 | 18-OCT-94 | 10-APR-95 | 11-SEP-95 | 21-JAN-94 |
| Type: | Duplicate | | | | | | | |
| Sample Name: | BR-107FD | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | BR107 | MW-107 |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 6 U | 6 U | 10 U | 10 U | 10 U | 10 U | 10 U | 0.6 J |
| 2-Chloropyridine | 5 J | 4 J | 5 J | 4 J | 10 U | 5 J | 17 | 2 J |
| 3-Chloropyridine | 6 U | 6 U | 10 U | 10 U | 10 U | 10 U | 10 U | 5 U |
| 4-Chloropyridine | 6 U | 6 U | N/A | N/A | N/A | N/A | N/A | 5 U |
| Pyridine | 6 U | 6 U | N/A | N/A | N/A | N/A | N/A | 5 U |
| p-Fluoroaniline | 6 U | 6 U | 10 U | 10 U | 10 U | 10 U | 10 U | 5 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Firth Rixson 04/25/96

| Location: | MW-107 | MW-107 | MW-107 | MW-107 | MW-107 |
|---|---|---|---|---|---|
| Date: | 29-MAR-94 | 13-JUL-94 | 19-OCT-94 | 10-APR-95 | 11-SEP-95 |
| Type: | | | | | |
| Sample Name: | MW-107 | MW-107 | MW-107 | MW-107 | MW107 |
| **PYRIDINE (ug/L)** | | | | | |
| 2,6-Dichloropyridine | 10 U | 0.4 J | 10 U | 10 U | 1 J |
| 2-Chloropyridine | 2 J | 4 J | 10 U | 2 J | 14 |
| 3-Chloropyridine | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | N/A |
| Pyridine | N/A | N/A | N/A | N/A | N/A |
| p-Fluoroaniline | 10 U | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

| Location: | BR-107 | BR-107 | MW-107 |
|---|---|---|---|
| Date: | 21-JAN-94 | 21-JAN-94 | 21-JAN-94 |
| Type: | Duplicate | | |
| Sample Name: | BR-107FD | BR-107 | MW-107 |
| **SVOCs (ug/L)** | | | |
| N-Nitrosodiphenylamine | 1 U | 1 U | 1 U |
| Naphthalene | 3 | 2 | 1 U |
| Nitrobenzene | 1 U | 1 U | 1 U |
| Pentachlorophenol | 11 U | 11 U | 10 U |
| Phenanthrene | 2 U | 2 U | 2 U |
| Phenol | N/A | 4 U | 3 U |
| Pyrene | 2 U | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Firth Rixson 04/25/96

| Location: | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 |
|---|---|---|---|---|---|---|---|---|
| Date: | 21-JAN-94 | 21-JAN-94 | 18-MAR-94 | 01-JUL-94 | 29-SEP-94 | 04-APR-95 | 11-SEP-95 | 11-SEP-95 |
| Type: | Duplicate | | | | | | | |
| Sample Name: | BR-107FD | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | BR107 | BR107 DL |
| VOCs (ug/L) | | | | | | | | |
| 1,1,1-Trichloroethane | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| 1,1,2,2-Tetrachloroethane | 0.7 U | 0.7 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| 1,1,2-Trichloroethane | 0.8 U | 0.8 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| 1,1-Dichloroethane | 5 | 4 | 3 J | 3 J | 4 J | 4 J | 6 J | N/A |
| 1,1-Dichloroethene | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| 1,2-Dichlorobenzene | 1 U | 1 U | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-Dichloroethane | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| 1,2-Dichloroethene (total) | 110 | 110 | 120 | 110 | 89 | 110 | N/A | 360 D |
| 1,2-Dichloropropane | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| 1,3-Dichlorobenzene | 1 U | 1 U | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,4-Dichlorobenzene | 0.7 U | 0.7 U | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-Butanone | 4 U | 4 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| 2-Chloroethyl Vinyl Ether | 2 U | 2 U | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-Hexanone | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| 4-Methyl-2-pentanone | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Acetone | 7 U | 7 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Benzene | 97 | 110 | 100 | 69 | 110 | 34 | 110 | N/A |
| Bromodichloromethane | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Bromoform | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Bromomethane | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Carbon disulfide | 4 U | 4 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Carbon tetrachloride | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Chlorobenzene | 1 U | 1 U | 10 U | 2 BJ | 10 U | 10 U | 10 U | N/A |
| Chloroethane | 3 U | 3 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Chloroform | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Chloromethane | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Dibromochloromethane | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Ethylbenzene | 3 | 4 | 42 | 10 U | 2 J | 10 U | 10 U | N/A |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Firth Rixson 04/25/96

| Location: | MW-107 | MW-107 | MW-107 | MW-107 | MW-107 | MW-107 |
|---|---|---|---|---|---|---|
| Date: | 21-JAN-94 | 18-MAR-94 | 01-JUL-94 | 30-SEP-94 | 31-MAR-95 | 11-SEP-95 |
| Type: | | | | | | |
| Sample Name: | MW-107 | MW-107 | MW-107 | MW-107 | MW-107 | MW107 |
| VOCs (ug/L) | | | | | | |
| 1,1,1-Trichloroethane | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 0.7 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,1,2-Trichloroethane | 0.8 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,1-Dichloroethane | 2 | 10 U | 10 U | 10 U | 10 U | 2 J |
| 1,1-Dichloroethene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichlorobenzene | 1 U | N/A | N/A | N/A | N/A | N/A |
| 1,2-Dichloroethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichloroethene (total) | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichloropropane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,3-Dichlorobenzene | 1 U | N/A | N/A | N/A | N/A | N/A |
| 1,4-Dichlorobenzene | 0.7 U | N/A | N/A | N/A | N/A | N/A |
| 2-Butanone | 4 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chloroethyl Vinyl Ether | 2 U | N/A | N/A | N/A | N/A | N/A |
| 2-Hexanone | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Methyl-2-pentanone | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Acetone | 7 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzene | 0.8 U | 10 U | 0.4 J | 10 U | 10 U | 10 U |
| Bromodichloromethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Bromoform | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Bromomethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Carbon disulfide | 4 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Carbon tetrachloride | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chlorobenzene | 1 U | 10 U | 1 BJ | 10 U | 10 U | 10 U |
| Chloroethane | 3 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chloroform | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chloromethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dibromochloromethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Ethylbenzene | 0.9 U | 10 U | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Firth Rixson 04/25/96

| Location: | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 |
|---|---|---|---|---|---|---|---|---|
| Date: | 21-JAN-94 | 21-JAN-94 | 18-MAR-94 | 01-JUL-94 | 29-SEP-94 | 04-APR-95 | 11-SEP-95 | 11-SEP-95 |
| Type: | Duplicate | | | | | | | |
| Sample Name: | BR-107FD | BR-107 | BR-107 | BR-107 | BR-107 | BR-107 | BR107 | BR107 DL |
| VOCs (ug/L) | | | | | | | | |
| Methylene chloride | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Styrene | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Tetrachloroethene | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Toluene | 6 | 6 | 8 J | 3 BJ | 5 J | 3 J | 6 J | N/A |
| Total Xylenes | 24 | 25 | 26 | 8 J | 8 J | 7 J | 6 J | N/A |
| Trichloroethene | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| Vinyl acetate | 1 U | 1 U | N/A | N/A | N/A | N/A | N/A | N/A |
| Vinyl chloride | 100 | 96 | 81 | 130 | 83 | 140 | N/A | 280 D |
| cis-1,3-Dichloropropene | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |
| trans-1,3-Dichloropropene | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | N/A |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Firth Rixson 04/25/96

| Location: | MW-107 | MW-107 | MW-107 | MW-107 | MW-107 | MW-107 |
|---|---|---|---|---|---|---|
| Date: | 21-JAN-94 | 18-MAR-94 | 01-JUL-94 | 30-SEP-94 | 31-MAR-95 | 11-SEP-95 |
| Type: | | | | | | |
| Sample Name: | MW-107 | MW-107 | MW-107 | MW-107 | MW-107 | MW107 |
| VOCs (ug/L) | | | | | | |
| Methylene chloride | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Styrene | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Tetrachloroethene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Toluene | 1 U | 10 U | 0.7 BJ | 10 U | 10 U | 10 U |
| Total Xylenes | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Trichloroethene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Vinyl acetate | 1 U | N/A | N/A | N/A | N/A | N/A |
| Vinyl chloride | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| cis-1,3-Dichloropropene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| trans-1,3-Dichloropropene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Griffith Oil 04/25/96

| | Location: | MW-G6 | MW-G8 | MW-G9 |
|---|---|---|---|---|
| | Date: | 19-JAN-94 | 19-JAN-94 | 18-JAN-94 |
| | Type: | | | |
| | Sample Name: | MW-G6 | MW-G8 | MW-G9 |
| INORGs | (ug/L) | | | |
| Aluminum | | 260000 * | 35000 * | 8400 * |
| Antimony | | 3 U | 3 B | 3 U |
| Arsenic | | 100 | 25 | 10 |
| Barium | | 3100 | 860 | 490 |
| Beryllium | | 11 | 3 U | 3 U |
| Cadmium | | 19 B | 30 B | 0.7 B |
| Calcium | | 3500000 | 670000 | 310000 |
| Chromium | | 520 * | 100 * | 18 * |
| Cobalt | | 230 | 42 B | 20 U |
| Copper | | 670 | 280 | 13 B |
| Cyanide | | 10 UN | 10 UN | 10 UN |
| Iron | | 780000 | 81000 | 20000 |
| Lead | | 280 | 290 | 16 |
| Magnesium | | 740000 | 100000 | 34000 |
| Manganese | | 22000 | 3800 | 1500 |
| Mercury | | 1.3 N | 0.4 UN | 0.4 UN |
| Nickel | | 600 | 150 | 30 U |
| Potassium | | 31000 | 10000 | 2700 B |
| Selenium | | 3 U | 3 U | 3 U |
| Silver | | 13 N | 15 N | 10 UN |
| Sodium | | 37000 N | 54000 N | 9500 N |
| Thallium | | 3 UN | 3 UN | 3 UN |
| Vanadium | | 20 U | 83 | 27 B |
| Zinc | | 1900 | 2000 | 39 |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Griffith Oil 04/25/96

| | Location: | MW-G6 | MW-G8 | MW-G9 |
|---|---|---|---|---|
| | Date: | 19-JAN-94 | 19-JAN-94 | 18-JAN-94 |
| | Type: | | | |
| | Sample Name: | MW-G6 | MW-G8 | MW-G9 |
| **PYRIDINE** | (ug/L) | | | |
| 2,6-Dichloropyridine | | 5 U | 6 U | 6 U |
| 2-Chloropyridine | | 5 U | 6 U | 6 U |
| 3-Chloropyridine | | 5 U | 6 U | 6 U |
| 4-Chloropyridine | | 5 U | 6 U | 6 U |
| Pyridine | | 5 U | 6 U | 6 U |
| p-Fluoroaniline | | 5 U | 6 U | 6 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Griffith Oil 04/25/96

| Location: | MW-G6 | MW-G8 | MW-G9 |
|---|---|---|---|
| Date: | 19-JAN-94 | 19-JAN-94 | 18-JAN-94 |
| Type: | | | |
| Sample Name: | MW-G6 | MW-G8 | MW-G9 |
| SVOCs (ug/L) | | | |
| 1,2,4-Trichlorobenzene | 2 U | 2 U | 3 U |
| 1,3-Dichlorobenzene | 2 U | 1 U | 3 U |
| 1,4-Dichlorobenzene | 2 U | 2 U | 2 U |
| 2,4,5-Trichlorophenol | 4 U | 4 U | 5 U |
| 2,4,6-Trichlorophenol | 6 U | 7 U | 8 U |
| 2,4-Dichlorophenol | 4 U | 5 U | 5 U |
| 2,4-Dimethylphenol | 3 U | 4 U | 4 U |
| 2,4-Dinitrophenol | 6 U | 6 U | 7 U |
| 2,4-Dinitrotoluene | 1 U | 1 U | 1 U |
| 2,6-Dinitrotoluene | 1 U | 1 U | 1 U |
| 2-Chloronaphthalene | 1 U | 1 U | 2 U |
| 2-Chlorophenol | 5 U | 5 U | 6 U |
| 2-Methylnaphthalene | 1 J | 2 U | 2 U |
| 2-Methylphenol | 5 U | 5 U | 6 U |
| 2-Nitroaniline | 1 U | 1 U | 1 U |
| 2-Nitrophenol | 5 U | 5 U | 6 U |
| 3,3'-Dichlorobenzidine | 1 U | 1 U | 2 U |
| 3-Nitroaniline | 0.7 U | 0.8 U | 0.8 U |
| 4,6-Dinitro-2-methylphenol | 10 U | 11 U | 12 U |
| 4-Bromophenyl-phenylether | 1 U | 1 U | 2 U |
| 4-Chloro-3-Methylphenol | 4 U | 4 U | 4 U |
| 4-Chloroaniline | 2 U | 2 U | 2 U |
| 4-Chlorophenyl-phenylether | 1 U | 1 U | 1 U |
| 4-Methylphenol | 4 U | 4 U | 5 U |
| 4-Nitroaniline | 1 U | 1 U | 2 U |
| 4-Nitrophenol | 4 U | 5 U | 6 U |
| Acenaphthene | 2 U | 2 U | 6 |
| Anthracene | 1 U | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Griffith Oil 04/25/96

| Location: | MW-G6 | MW-G8 | MW-G9 |
|---|---|---|---|
| Date: | 19-JAN-94 | 19-JAN-94 | 18-JAN-94 |
| Type: | | | |
| Sample Name: | MW-G6 | MW-G8 | MW-G9 |
| SVOCs (ug/L) | | | |
| Benzo(a)anthracene | 2 U | 2 U | 2 U |
| Benzo(a)pyrene | 1 U | 1 U | 1 U |
| Benzo(b)fluoranthene | 2 U | 2 U | 2 U |
| Benzo(g,h,i)perylene | 1 U | 2 U | 2 U |
| Benzo(k)fluoranthene | 2 U | 2 U | 3 U |
| Benzoic acid | 10 U | 11 U | 12 U |
| Benzyl alcohol | 2 U | 3 U | 3 U |
| Bis(2-Chloroethoxy)methane | 1 U | 1 U | 1 U |
| Bis(2-Chloroethyl)ether | 1 U | 2 U | 2 U |
| Bis(2-Chloroisopropyl)ether | 1 U | 2 U | 2 U |
| Bis(2-ethylhexyl)phthalate | 1 U | 2 U | 2 |
| Butylbenzylphthalate | 3 U | 4 U | 4 U |
| Chrysene | 1 U | 1 U | 1 U |
| Di-n-butylphthalate | 1 U | 1 U | 2 U |
| Di-n-octylphthalate | 1 U | 2 U | 2 U |
| Dibenzo(a,h)Anthracene | 1 U | 1 U | 1 U |
| Dibenzofuran | 1 U | 1 U | 3 |
| Diethylphthalate | 1 J | 2 U | 2 U |
| Dimethylphthalate | 4 U | 5 U | 5 U |
| Fluoranthene | 1 U | 2 U | 2 U |
| Fluorene | 1 U | 2 U | 5 |
| Hexachlorobenzene | 1 U | 1 U | 2 U |
| Hexachlorobutadiene | 3 U | 3 U | 3 U |
| Hexachlorocyclopentadiene | 1 U | 2 U | 2 U |
| Hexachloroethane | 2 U | 3 U | 3 U |
| Indeno(1,2,3-c,d)Pyrene | 1 U | 1 U | 1 U |
| Isophorone | 1 U | 1 U | 1 U |
| N-Nitroso-di-n-propylamine | 1 U | 1 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Griffith Oil 04/25/96

| | Location: | MW-G6 | MW-G8 | MW-G9 |
|---|---|---|---|---|
| | Date: | 19-JAN-94 | 19-JAN-94 | 18-JAN-94 |
| | Type: | | | |
| | Sample Name: | MW-G6 | MW-G8 | MW-G9 |
| SVOCs | (ug/L) | | | |
| N-Nitrosodiphenylamine | | 1 U | 1 U | 1 U |
| Naphthalene | | 1 U | 2 U | 2 U |
| Nitrobenzene | | 1 U | 1 U | 1 U |
| Pentachlorophenol | | 9 U | 10 U | 11 U |
| Phenanthrene | | 2 U | 2 U | 2 U |
| Phenol | | 3 U | 4 U | 4 U |
| Pyrene | | 2 U | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Griffith Oil 04/25/96

| Location: | MW-G6 | MW-G8 | MW-G9 |
|---|---|---|---|
| Date: | 19-JAN-94 | 19-JAN-94 | 18-JAN-94 |
| Type: | | | |
| Sample Name: | MW-G6 | MW-G8 | MW-G9 |
| VOCs (ug/L) | | | |
| 1,1,1-Trichloroethane | 2 U | 2 U | 2 U |
| 1,1,2,2-Tetrachloroethane | 0.7 U | 0.7 U | 0.7 U |
| 1,1,2-Trichloroethane | 0.8 U | 0.8 U | 0.8 U |
| 1,1-Dichloroethane | 2 U | 2 U | 2 U |
| 1,1-Dichloroethene | 2 U | 2 U | 2 U |
| 1,2-Dichlorobenzene | 1 U | 1 U | 1 U |
| 1,2-Dichloroethane | 1 U | 1 U | 1 U |
| 1,2-Dichloroethene (total) | 2 U | 16 | 2 U |
| 1,2-Dichloropropane | 1 U | 1 U | 1 U |
| 1,3-Dichlorobenzene | 1 U | 1 U | 1 U |
| 1,4-Dichlorobenzene | 0.7 U | 0.7 U | 0.7 U |
| 2-Butanone | 4 U | 4 U | 4 U |
| 2-Chloroethyl Vinyl Ether | 2 U | 2 U | 2 U |
| 2-Hexanone | 2 U | 2 U | 2 U |
| 4-Methyl-2-pentanone | 2 U | 2 U | 2 U |
| Acetone | 7 U | 7 U | 7 U |
| Benzene | 150 | 0.8 U | 4 |
| Bromodichloromethane | 1 U | 1 U | 1 U |
| Bromoform | 1 U | 1 U | 1 U |
| Bromomethane | 1 U | 1 U | 1 U |
| Carbon disulfide | 4 U | 4 U | 4 U |
| Carbon tetrachloride | 2 U | 2 U | 2 U |
| Chlorobenzene | 1 U | 1 U | 1 U |
| Chloroethane | 3 U | 3 U | 3 U |
| Chloroform | 1 U | 1 U | 1 U |
| Chloromethane | 1 U | 1 U | 1 U |
| Dibromochloromethane | 1 U | 1 U | 1 U |
| Ethylbenzene | 5 | 0.9 U | 8 |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Griffith Oil 04/25/96

| | Location: | MW-G6 | MW-G8 | MW-G9 |
|---|---|---|---|---|
| | Date: | 19-JAN-94 | 19-JAN-94 | 18-JAN-94 |
| | Type: | | | |
| | Sample Name: | MW-G6 | MW-G8 | MW-G9 |
| VOCs | (ug/L) | | | |
| Methylene chloride | | 1 U | 1 U | 1 U |
| Styrene | | 1 U | 1 U | 1 U |
| Tetrachloroethene | | 2 U | 2 U | 2 U |
| Toluene | | 2 | 1 U | 4 |
| Total Xylenes | | 10 | 2 U | 54 |
| Trichloroethene | | 2 U | 2 U | 2 U |
| Vinyl acetate | | 1 U | 1 U | 1 U |
| Vinyl chloride | | 1 U | 18 | 1 U |
| cis-1,3-Dichloropropene | | 2 U | 2 U | 2 U |
| trans-1,3-Dichloropropene | | 2 U | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Mark IV 04/25/96

| | Location: | MW-2 | MW-3 |
|---|---|---|---|
| | Date: | 19-JAN-94 | 19-JAN-94 |
| | Type: | | |
| | Sample Name: | MW-2 | MW-3 |
| VOCs | (ug/L) | | |
| 1,1,1-Trichloroethane | | 2 U | 2 U |
| 1,1,2,2-Tetrachloroethane | | 0.7 U | 0.7 U |
| 1,1,2-Trichloroethane | | 0.8 U | 0.8 U |
| 1,1-Dichloroethane | | 2 U | 2 U |
| 1,1-Dichloroethene | | 2 U | 2 U |
| 1,2-Dichlorobenzene | | 1 U | 1 U |
| 1,2-Dichloroethane | | 1 U | 1 U |
| 1,2-Dichloroethene (total) | | 2 U | 2 U |
| 1,2-Dichloropropane | | 1 U | 1 U |
| 1,3-Dichlorobenzene | | 1 U | 1 U |
| 1,4-Dichlorobenzene | | 0.7 U | 0.7 U |
| 2-Butanone | | 4 U | 4 U |
| 2-Chloroethyl Vinyl Ether | | 2 U | 2 U |
| 2-Hexanone | | 2 U | 2 U |
| 4-Methyl-2-pentanone | | 2 U | 2 U |
| Acetone | | 7 U | 7 U |
| Benzene | | 0.8 U | 0.8 U |
| Bromodichloromethane | | 1 U | 1 U |
| Bromoform | | 1 U | 1 U |
| Bromomethane | | 1 U | 1 U |
| Carbon disulfide | | 4 U | 4 U |
| Carbon tetrachloride | | 2 U | 2 U |
| Chlorobenzene | | 1 U | 1 U |
| Chloroethane | | 3 U | 3 U |
| Chloroform | | 1 U | 1 U |
| Chloromethane | | 1 U | 1 U |
| Dibromochloromethane | | 1 U | 1 U |
| Ethylbenzene | | 0.9 U | 0.9 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Mark IV 04/25/96

| Location: | MW-2 | MW-3 |
|---|---|---|
| Date: | 19-JAN-94 | 19-JAN-94 |
| Type: | | |
| Sample Name: | MW-2 | MW-3 |
| VOCs (ug/L) | | |
| Methylene chloride | 1 U | 1 U |
| Styrene | 1 U | 1 U |
| Tetrachloroethene | 2 U | 2 U |
| Toluene | 1 U | 1 U |
| Total Xylenes | 2 U | 2 U |
| Trichloroethene | 2 U | 2 U |
| Vinyl acetate | 1 U | 1 U |
| Vinyl chloride | 1 U | 1 U |
| cis-1,3-Dichloropropene | 2 U | 2 U |
| trans-1,3-Dichloropropene | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| | Location: | BR-105 | BR-105 | BR-105D | BR-105D | BR-105D | BR-105D | BR-105D | EC-1 |
|---|---|---|---|---|---|---|---|---|---|
| | Date: | 04-APR-95 | 11-SEP-95 | 22-MAR-94 | 02-JUL-94 | 01-OCT-94 | 07-APR-95 | 11-SEP-95 | 26-MAR-90 |
| | Type: | | | | | | | | |
| | Sample Name: | BR-105 | BR105 | BR-105D | BR-105D | BR-105D | BR-105D | BR105D | EC-1 |
| **METHANOL** | (ug/L) | | | | | | | | |
| Methanol | | 1000 U | 1000 U | 550 U | 550 U | 550 U | 1000 U | 1000 U | 1000 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Location: | BR-104 | BR-104 | BR-104 | BR-104 | BR-104 | BR-105 | BR-105 | BR-105 |
| Date: | 22-MAR-94 | 30-JUN-94 | 30-SEP-94 | 04-APR-95 | 11-SEP-95 | 21-MAR-94 | 01-JUL-94 | 30-SEP-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-104 | BR-104 | BR-104 | BR-104 | BR104 | BR-105 | BR-105 | BR-105 |
| **METHANOL** (ug/L) | | | | | | | | |
| Methanol | 550 U | 550 U | 550 U | 1000 U | 1000 U | 550 U | 170 BJ | 550 U |

N/A = Not Analyzed

| | Location: | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 |
|---|---|---|---|---|---|---|---|---|---|
| | Date: | 26-JUN-90 | 17-DEC-90 | 19-MAR-91 | 11-JUN-91 | 26-MAR-92 | 18-JUN-92 | 18-SEP-92 | 22-MAR-93 |
| | Type: | | | | | | | | |
| | Sample Name: | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 |
| **METHANOL** | (ug/L) | | | | | | | | |
| Methanol | | 1000 U | 2000 U | 1000 U | 1000 U | 550 U | 550 U | 550 U | 550 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Location: | EC-1 | EC-1 | MW-104 | MW-104 | MW-104 | MW-104 | MW-104 |
| Date: | 25-JUN-93 | 24-SEP-93 | 22-MAR-94 | 30-JUN-94 | 03-OCT-94 | 04-APR-95 | 11-SEP-95 |
| Type: | | | | | | | |
| Sample Name: | EC-1 | EC-1 | MW-104 | MW-104 | MW-104 | MW-104 | MW104 |
| **METHANOL** (ug/L) | | | | | | | |
| Methanol | 550 U | 550 U | 550 U | 550 U | 550 U | 1000 U | 1000 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Ness Precision Products 04/25/96

| Location: | NESS-E | NESS-W | NESS-W | NESS-W | NESS-W | NESS-W | NESS-W | NESS-W |
|---|---|---|---|---|---|---|---|---|
| Date: | 07-DEC-95 | 28-JUL-94 | 15-AUG-94 | 12-APR-95 | 15-APR-95 | 12-SEP-95 | 12-SEP-95 | 07-DEC-95 |
| Type: | | | | | | | | |
| Sample Name: | NESS-E | NESS-W | NESS-WDL | NESS W | NESS W DL | NESS-W | NESS-W DL | NESS-W |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 97 | 26 | 9 DJ | 7 J | 200 U | 12 | N/A | 11 |
| 2-Chloropyridine | 1300 D | 530 E | 490 D | 790 E | 900 D | N/A | 600 D | 10 U |
| 3-Chloropyridine | 10 U | 10 U | 6 DJ | 13 | 200 U | 14 | N/A | 150 |
| 4-Chloropyridine | 10 U | N/A | N/A | N/A | N/A | N/A | N/A | 6 J |
| Pyridine | 10 U | N/A | N/A | N/A | N/A | N/A | N/A | 10 U |
| p-Fluoroaniline | 6 J | 10 U | 200 U | 10 U | 200 U | 1 J | N/A | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Ness Precision Products 04/25/96

| Location: | NESS-E | NESS-E | NESS-E | NESS-E | NESS-E | NESS-E | NESS-E | NESS-E |
|---|---|---|---|---|---|---|---|---|
| Date: | 29-AUG-94 | 29-AUG-94 | 12-APR-95 | 15-APR-95 | 15-APR-95 | 12-SEP-95 | 12-SEP-95 | 12-SEP-95 |
| Type: | | | | | | | | |
| Sample Name: | NESS-E | NESS-EDL | NESS E | NESS E D2 | NESS E DL | NESS-E | NESS-E D2 | NESS-E DL |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 80 | 73 DJ | 150 E | 160 DJ | 150 D | N/A | N/A | 140 D |
| 2-Chloropyridine | 1000 E | 4900 D | 2000 E | 2400 D | 3500 DE | N/A | 2200 D | N/A |
| 3-Chloropyridine | 19 | 21 DJ | 13 | 500 U | 50 U | 8 J | N/A | N/A |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Pyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| p-Fluoroaniline | 2 J | 1000 U | 10 U | 500 U | 50 U | 2 J | N/A | N/A |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Ness Precision Products 04/25/96

| | Location: | NESS-E | NESS-E | NESS-E | NESS-W | NESS-W | NESS-W |
|---|---|---|---|---|---|---|---|
| | Date: | 02-JUL-94 | 10-APR-95 | 12-SEP-95 | 02-JUL-94 | 10-APR-95 | 12-SEP-95 |
| | Type: | | | | | | |
| | Sample Name: | NESS-E | NESS E | NESS-E | NESS-W | NESS W | NESS-W |
| **METHANOL** | (ug/L) | | | | | | |
| Methanol | | 550 U | 1000 U | 1000 U | 1400 | 1000 U | 980 J |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Ness Precision Products 04/25/96

| | Location: | NESS-E | NESS-E | NESS-W |
|---|---|---|---|---|
| | Date: | 20-NOV-95 | 20-NOV-95 | 20-NOV-95 |
| | Type: | Duplicate | | |
| | Sample Name: | NESS-EFD | NESS-E | NESS-W |
| INORGs | (ug/L) | | | |
| Aluminum | | 378 | 2270 | 86.6 B |
| Antimony | | 5.1 U | 57.6 B | 5.1 U |
| Arsenic | | 29.3 | 371 | 9.2 B |
| Barium | | 290 | 1540 | 88.1 B |
| Beryllium | | 0.2 U | 2.1 B | 0.2 U |
| Cadmium | | 8.8 | 98.4 | 1.2 B |
| Calcium | | 175000 | 277000 | 212000 |
| Chromium | | 1 U* | 102 * | 12 * |
| Cobalt | | 4 B | 34.6 B | 5 B |
| Copper | | 8460 EN* | 70700 EN* | 470 EN* |
| Cyanide | | 10 U | 10 U | 10 U |
| Iron | | 117000 * | 864000 * | 433000 * |
| Lead | | 598 * | 4750 * | 22 * |
| Magnesium | | 357000 | 41100 | 44100 |
| Manganese | | 1790 N* | 5970 N* | 1660 N* |
| Mercury | | 0.2 U | 0.2 U | 0.2 U |
| Nickel | | 58 | 514 | 24 B |
| Potassium | | 11300 EN | 13200 EN | 14400 EN |
| Selenium | | 5 U* | 17.7 * | 7.1 * |
| Silver | | 4.5 BN | 33.4 N | 1.1 BN |
| Sodium | | 193000 | 185000 | 676000 |
| Thallium | | 3 U | 3 U | 3 U |
| Vanadium | | 8.9 B | 74.8 | 7.4 B |
| Zinc | | 351000 E* | 2780000 E* | 4710 E* |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Ness Precision Products 04/25/96

| Location: | NESS-E | NESS-E | NESS-W |
|---|---|---|---|
| Date: | 20-NOV-95 | 20-NOV-95 | 20-NOV-95 |
| Type: | Duplicate | | |
| Sample Name: | NESS-EFD | NESS-E | NESS-W |
| SVOCs (ug/L) | | | |
| Acenaphthylene | 10 U | 10 U | 10 U |
| Anthracene | 10 U | 10 U | 10 U |
| Benzo(a)anthracene | 10 U | 10 U | 10 U |
| Benzo(a)pyrene | 10 U | 10 U | 10 U |
| Benzo(b)fluoranthene | 10 U | 10 U | 10 U |
| Benzo(g,h,i)perylene | 10 U | 10 U | 10 U |
| Benzo(k)fluoranthene | 10 U | 10 U | 10 U |
| Benzoic acid | 50 U | 50 U | 50 U |
| Benzyl alcohol | 10 U | 10 U | 10 U |
| Bis(2-Chloroethoxy)methane | 10 U | 10 U | 10 U |
| Bis(2-Chloroethyl)ether | 6 J | 9 J | 10 U |
| Bis(2-Chloroisopropyl)ether | 10 U | 10 U | 10 U |
| Bis(2-ethylhexyl)phthalate | 2 J | 5 J | 16 |
| Butylbenzylphthalate | 10 U | 10 U | 10 U |
| Chrysene | 10 U | 10 U | 10 U |
| Di-n-butylphthalate | 10 U | 10 U | 10 U |
| Di-n-octylphthalate | 10 U | 10 U | 10 U |
| Dibenzo(a,h)Anthracene | 10 U | 10 U | 10 U |
| Dibenzofuran | 10 U | 10 U | 10 U |
| Diethylphthalate | 10 U | 10 U | 10 U |
| Dimethylphthalate | 10 U | 10 U | 10 U |
| Fluoranthene | 10 U | 10 U | 10 U |
| Fluorene | 10 U | 10 U | 10 U |
| Hexachlorobenzene | 10 U | 10 U | 10 U |
| Hexachlorobutadiene | 10 U | 10 U | 10 U |
| Hexachlorocyclopentadiene | 10 U | 10 U | 10 U |
| Hexachloroethane | 10 U | 10 U | 10 U |
| Indeno(1,2,3-c,d)Pyrene | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Ness Precision Products 04/25/96

| Location: | NESS-E | NESS-E | NESS-W |
|---|---|---|---|
| Date: | 20-NOV-95 | 20-NOV-95 | 20-NOV-95 |
| Type: | Duplicate | | |
| Sample Name: | NESS-EFD | NESS-E | NESS-W |
| SVOCs (ug/L) | | | |
| 1,2,4-Trichlorobenzene | 10 U | 10 U | 10 U |
| 1,2-Dichlorobenzene | 3 J | 4 J | 10 U |
| 1,3-Dichlorobenzene | 10 U | 10 U | 10 U |
| 1,4-Dichlorobenzene | 10 U | 10 U | 10 U |
| 2,4,5-Trichlorophenol | 25 U | 25 U | 25 U |
| 2,4,6-Trichlorophenol | 10 U | 10 U | 10 U |
| 2,4-Dichlorophenol | 10 U | 10 U | 10 U |
| 2,4-Dimethylphenol | 10 U | 10 U | 10 U |
| 2,4-Dinitrophenol | 50 U | 50 U | 50 U |
| 2,4-Dinitrotoluene | 10 U | 10 U | 10 U |
| 2,6-Dinitrotoluene | 10 U | 10 U | 10 U |
| 2-Chloronaphthalene | 10 U | 10 U | 10 U |
| 2-Chlorophenol | 10 U | 10 U | 10 U |
| 2-Methylnaphthalene | 10 U | 10 U | 10 U |
| 2-Methylphenol | 10 U | 10 U | 10 U |
| 2-Nitroaniline | 50 U | 50 U | 50 U |
| 2-Nitrophenol | 10 U | 10 U | 10 U |
| 3,3'-Dichlorobenzidine | 20 U | 20 U | 20 U |
| 3-Nitroaniline | 50 U | 50 U | 50 U |
| 4,6-Dinitro-2-methylphenol | 50 U | 50 U | 50 U |
| 4-Bromophenyl-phenylether | 10 U | 10 U | 10 U |
| 4-Chloro-3-Methylphenol | 10 U | 10 U | 10 U |
| 4-Chloroaniline | 10 U | 10 U | 10 U |
| 4-Chlorophenyl-phenylether | 10 U | 10 U | 10 U |
| 4-Methylphenol | 10 U | 10 U | 8 J |
| 4-Nitroaniline | 50 U | 50 U | 50 U |
| 4-Nitrophenol | 50 U | 50 U | 50 U |
| Acenaphthene | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Ness Precision Products 04/25/96

| Location: | NESS-E | NESS-E | NESS-E | NESS-E | NESS-E | NESS-E | NESS-E | NESS-W |
|---|---|---|---|---|---|---|---|---|
| Date: | 30-JUN-94 | 30-JUN-94 | 06-APR-95 | 07-APR-95 | 12-SEP-95 | 20-NOV-95 | 20-NOV-95 | 30-JUN-94 |
| Type: | | | | | | Duplicate | | |
| Sample Name: | NESS-E | NESS-EDL | NESS E | NESS E DL | NESS-E | NESS-EFD | NESS-E | NESS-W |
| VOCs (ug/L) | | | | | | | | |
| 1,1,1-Trichloroethane | 1 J | 20 U | 0 J | 20 U | 10 U | 0.5 U | 0.5 U | 40 U |
| 1,1,2,2-Tetrachloroethane | 15 | 16 DJ | 37 | 32 D | 10 U | 0.91 | 1.1 | 40 U |
| 1,1,2-Trichloroethane | 4 J | 4 DJ | 26 | 21 D | 10 U | 0.5 U | 0.5 U | 40 U |
| 1,1-Dichloroethane | 4 J | 20 U | 4 J | 20 U | 6 J | 4.8 | 4.5 | 40 U |
| 1,1-Dichloroethene | 10 U | 20 U | 11 | 8 DJ | 10 U | 0.5 U | 0.5 U | 40 U |
| 1,2-Dichloroethane | 10 U | 20 U | 4 J | 4 DJ | 10 U | 0.5 U | 0.5 U | 40 U |
| 1,2-Dichloroethene (total) | 22 | 22 D | 46 | 34 D | 4 J | 4.9 | 4.9 | 11 J |
| 1,2-Dichloropropane | 10 U | 20 U | 10 U | 20 U | 10 U | 0.5 U | 0.5 U | 40 U |
| 2-Butanone | 10 U | 20 U | 35 | 27 D | 10 U | 1 U | 1 U | 430 |
| 2-Hexanone | 10 U | 20 U | 10 U | 20 U | 10 U | 1 U | 1 U | 40 U |
| 4-Methyl-2-pentanone | 10 U | 20 U | 10 U | 20 U | 10 U | 1 U | 1 U | 40 U |
| Acetone | 10 U | 20 U | 21 | 20 U | 10 U | 16 | 14 | 340 |
| Benzene | 6 J | 7 DJ | 5 J | 4 DJ | 4 J | 2.8 | 2.3 | 40 |
| Bromodichloromethane | 10 U | 20 U | 10 U | 20 U | 10 U | 0.5 U | 0.5 U | 40 U |
| Bromoform | 10 U | 20 U | 10 U | 20 U | 10 U | 0.5 U | 0.5 U | 40 U |
| Bromomethane | 10 U | 20 U | 10 U | 20 U | 10 U | 1 U | 1 U | 40 U |
| Carbon disulfide | 10 U | 20 U | 3 J | 20 U | 10 U | 0.35 J | 0.39 J | 40 U |
| Carbon tetrachloride | 8 J | 8 DJ | 10 | 7 DJ | 10 U | 0.5 U | 0.5 U | 40 U |
| Chlorobenzene | 11 B | 11 BDJ | 9 J | 7 DJ | 5 J | 4.7 | 4.4 | 5 BJ |
| Chloroethane | 10 U | 20 U | 10 U | 20 U | 10 U | 1 U | 1 U | 40 U |
| Chloroform | 18 | 19 DJ | 75 | 59 D | 10 U | 1 | 1.2 | 4 J |
| Chloromethane | 10 U | 20 U | 10 U | 20 U | 10 U | 1 U | 1 U | 40 U |
| Dibromochloromethane | 10 U | 20 U | 10 U | 20 U | 10 U | 0.5 U | 0.5 U | 40 U |
| Ethylbenzene | 5 J | 6 DJ | 1 J | 20 U | 10 U | 0.26 J | 0.27 J | 12 J |
| Methylene chloride | 2 J | 2 DJ | 37 | 28 D | 10 U | 3 U | 3 U | 40 U |
| Styrene | 10 U | 20 U | 10 U | 20 U | 10 U | 0.5 U | 0.5 U | 40 U |
| Tetrachloroethene | 98 | 100 D | 180 | 140 D | 3 J | 3.9 | 3.8 | 36 J |
| Toluene | 2 BJ | 2 BDJ | 1 J | 1 DJ | 10 U | 0.32 J | 0.32 J | 8 BJ |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Ness Precision Products 04/25/96

| Location: | NESS-E | NESS-E | NESS-W |
|---|---|---|---|
| Date: | 20-NOV-95 | 20-NOV-95 | 20-NOV-95 |
| Type: | Duplicate | | |
| Sample Name: | NESS-EFD | NESS-E | NESS-W |
| **SVOCs (ug/L)** | | | |
| Isophorone | 10 U | 10 U | 10 U |
| N-Nitroso-di-n-propylamine | 10 U | 10 U | 10 U |
| N-Nitrosodiphenylamine | 10 U | 10 U | 10 U |
| Naphthalene | 10 U | 10 U | 2 J |
| Nitrobenzene | 10 U | 10 U | 10 U |
| Pentachlorophenol | 50 U | 50 U | 50 U |
| Phenanthrene | 10 U | 10 U | 10 U |
| Phenol | 10 U | 10 U | 10 U |
| Pyrene | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-104 | BR-104 | BR-104 | BR-104 | BR-104 | BR-104 | BR-105 | BR-105 |
|---|---|---|---|---|---|---|---|---|
| Date: | 26-JAN-94 | 17-MAR-94 | 28-JUN-94 | 29-SEP-94 | 30-MAR-95 | 11-SEP-95 | 27-JAN-94 | 17-MAR-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-104 | BR-104 | BR-104 | BR-104 | BR-104 | BR104 | BR-105 | BR-105 |
| VOCs (ug/L) | | | | | | | | |
| 1,1,1-Trichloroethane | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 0.7 U | 10 U | 10 U | 10 U | 10 U | 10 U | 0.7 U | 10 U |
| 1,1,2-Trichloroethane | 0.8 U | 10 U | 10 U | 10 U | 10 U | 10 U | 0.8 U | 10 U |
| 1,1-Dichloroethane | 3 | 10 U | 1 J | 10 U | 10 U | 10 U | 2 | 2 J |
| 1,1-Dichloroethene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| 1,2-Dichlorobenzene | 1 | N/A | N/A | N/A | N/A | N/A | 13 | N/A |
| 1,2-Dichloroethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| 1,2-Dichloroethene (total) | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 | 2 J |
| 1,2-Dichloropropane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| 1,3-Dichlorobenzene | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | N/A |
| 1,4-Dichlorobenzene | 0.7 | N/A | N/A | N/A | N/A | N/A | 0.8 | N/A |
| 2-Butanone | 4 U | 10 U | 10 U | 10 U | 10 U | 10 U | 4 U | 10 U |
| 2-Chloroethyl Vinyl Ether | 2 U | N/A | N/A | N/A | N/A | N/A | 2 U | N/A |
| 2-Hexanone | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| 4-Methyl-2-pentanone | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| Acetone | 7 U | 10 U | 10 U | 10 U | 10 U | 10 U | 7 U | 10 U |
| Benzene | 3 | 10 U | 2 J | 1 J | 10 U | 10 U | 16 | 12 |
| Bromodichloromethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Bromoform | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Bromomethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Carbon disulfide | 4 U | 10 U | 1 J | 10 U | 10 U | 10 U | 4 | 10 U |
| Carbon tetrachloride | 2 U | 10 U | 0.7 J | 10 U | 10 U | 10 U | 2 U | 10 U |
| Chlorobenzene | 2 | 10 U | 0.9 BJ | 10 U | 10 U | 10 U | 46 | 38 |
| Chloroethane | 3 U | 10 U | 10 U | 10 U | 10 U | 10 U | 3 U | 10 U |
| Chloroform | 8 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Chloromethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Dibromochloromethane | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Ethylbenzene | 0.9 U | 10 U | 10 U | 10 U | 10 U | 10 U | 0.9 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-105 | BR-105 | BR-105 | BR-105 | BR-105 | BR-105D | BR-105D | BR-105D |
|---|---|---|---|---|---|---|---|---|
| Date: | 30-JUN-94 | 29-SEP-94 | 30-MAR-95 | 11-SEP-95 | 12-SEP-95 | 04-FEB-94 | 04-FEB-94 | 18-MAR-94 |
| Type: | | | | | | Duplicate | | |
| Sample Name: | BR-105 | BR-105 | BR-105 | BR105 | BR105 | BR-105DFD | BR-105D | BR-105D |
| VOCs (ug/L) | | | | | | | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 10 U | 10 U | N/A | 2 U | 2 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | 10 U | N/A | 0.7 U | 0.7 U | 10 U |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | 10 U | N/A | 0.8 U | 0.8 U | 10 U |
| 1,1-Dichloroethane | 3 J | 2 J | 10 U | 2 J | N/A | 5 J | 7 | 14 |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | 10 U | N/A | 2 U | 2 U | 10 U |
| 1,2-Dichlorobenzene | N/A | N/A | N/A | N/A | N/A | 4 J | 5 | N/A |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | 10 U | N/A | 1 U | 1 U | 10 U |
| 1,2-Dichloroethene (total) | 79 | 10 | 3 J | 5 J | N/A | 58 J | 70 | 130 |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | 10 U | N/A | 1 U | 1 U | 10 U |
| 1,3-Dichlorobenzene | N/A | N/A | N/A | N/A | N/A | 1 U | 1 U | N/A |
| 1,4-Dichlorobenzene | N/A | N/A | N/A | N/A | N/A | 0.7 U | 0.3 J | N/A |
| 2-Butanone | 10 U | 10 U | 10 U | 10 U | N/A | 4 U | 4 U | 10 U |
| 2-Chloroethyl Vinyl Ether | N/A | N/A | N/A | N/A | N/A | 2 U | 2 U | N/A |
| 2-Hexanone | 10 U | 10 U | 10 U | 10 U | N/A | 2 U | 2 U | 10 U |
| 4-Methyl-2-pentanone | 10 U | 10 U | 10 U | 10 U | N/A | 2 U | 2 U | 10 U |
| Acetone | 10 U | 10 U | 10 U | N/A | 10 U | 7 U | 7 U | 10 U |
| Benzene | 7 J | 11 | 12 | 10 | N/A | 41 J | 33 | 27 |
| Bromodichloromethane | 10 U | 10 U | 10 U | 10 U | N/A | 1 U | 1 U | 10 U |
| Bromoform | 10 U | 10 U | 10 U | 10 U | N/A | 1 U | 1 U | 10 U |
| Bromomethane | 10 U | 10 U | 10 U | 10 U | N/A | 1 U | 1 U | 10 U |
| Carbon disulfide | 8 J | 2 J | 10 U | 2 J | N/A | 4 U | 4 U | 10 U |
| Carbon tetrachloride | 90 | 10 U | 10 U | 10 U | N/A | 1 J | 1 J | 10 U |
| Chlorobenzene | 14 B | 17 | 49 | 21 | N/A | 4 UJ | 4 | 0.7 J |
| Chloroethane | 10 U | 10 U | 10 U | N/A | 10 U | 3 U | 3 U | 10 U |
| Chloroform | 150 | 3 J | 10 U | 10 U | N/A | 3 J | 3 U | 3 J |
| Chloromethane | 10 U | 10 U | 10 U | 10 U | N/A | 1 U | 1 U | 10 U |
| Dibromochloromethane | 10 U | 10 U | 10 U | 10 U | N/A | 1 U | 1 U | 10 U |
| Ethylbenzene | 10 U | 10 U | 10 U | 10 U | N/A | 2 J | 2 U | 1 J |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-104 | BR-105 | BR-105D | BR-105D | EC-1 | EC-1 | MW-104 |
|---|---|---|---|---|---|---|---|
| Date: | 26-JAN-94 | 27-JAN-94 | 04-FEB-94 | 04-FEB-94 | 26-MAR-90 | 24-JAN-94 | 26-JAN-94 |
| Type: | | | Duplicate | | | | |
| Sample Name: | BR-104 | BR-105 | BR-105DFD | BR-105D | EC-1 | EC-1 | MW-104 |
| SVOCs (ug/L) | | | | | | | |
| N-Nitrosodiphenylamine | 1 U | 1 UJ | 1 | 1 | N/A | 1 U | 1 U |
| Naphthalene | 2 U | 2 UJ | 1 U | 2 U | 15 U | 2 U | 2 U |
| Nitrobenzene | 1 U | 1 UJ | 1 U | 1 U | 15 U | 1 U | 1 U |
| Pentachlorophenol | 11 U | 100 U | 9 U | 10 U | N/A | 11 U | 10 U |
| Phenanthrene | 2 U | 2 J | 1 U | 2 U | 15 U | 2 U | 2 U |
| Phenol | 4 U | 33 U | 3 U | 3 U | 15 U | 4 U | 3 U |
| Pyrene | 2 U | 2 UJ | 2 U | 2 U | 15 U | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-104 | BR-105 | BR-105D | BR-105D | EC-1 | EC-1 | MW-104 |
|---|---|---|---|---|---|---|---|
| Date: | 26-JAN-94 | 27-JAN-94 | 04-FEB-94 | 04-FEB-94 | 26-MAR-90 | 24-JAN-94 | 26-JAN-94 |
| Type: | | | Duplicate | | | | |
| Sample Name: | BR-104 | BR-105 | BR-105DFD | BR-105D | EC-1 | EC-1 | MW-104 |
| SVOCs (ug/L) | | | | | | | |
| Benzo(a)anthracene | 2 U | 2 U | 2 U | 2 U | N/A | 2 U | 2 U |
| Benzo(a)pyrene | 1 U | 1 U | 1 U | 1 U | N/A | 1 U | 1 U |
| Benzo(b)fluoranthene | 2 U | 2 U | 2 U | 2 U | N/A | 2 U | 2 U |
| Benzo(g,h,i)perylene | 2 U | 1 U | 1 U | 1 U | N/A | 1 U | 1 U |
| Benzo(k)fluoranthene | 3 U | 2 U | 2 U | 2 U | N/A | 3 U | 2 U |
| Benzoic acid | 11 U | 10 U | 3 J | 1 J | N/A | 11 U | 10 U |
| Benzyl alcohol | 3 U | 25 U | 2 U | 2 U | N/A | 3 U | 2 U |
| Bis(2-Chloroethoxy)methane | 1 U | 1 U | 1 U | 1 U | N/A | 1 U | 1 U |
| Bis(2-Chloroethyl)ether | 27 | 17 J | 1 U | 1 U | N/A | 2 U | 0.7 J |
| Bis(2-Chloroisopropyl)ether | 2 U | 1 U | 1 U | 1 U | N/A | 2 U | 1 U |
| Bis(2-ethylhexyl)phthalate | 2 U | 2 U | 50 | 33 | N/A | 3 | 2 U |
| Butylbenzylphthalate | 4 U | 3 U | 1 J | 3 U | N/A | 4 U | 3 U |
| Chrysene | 1 U | 1 U | 1 U | 1 U | N/A | 1 U | 1 U |
| Di-n-butylphthalate | 1 U | 1 U | 26 | 27 | 15 U | 1 U | 1 U |
| Di-n-octylphthalate | 2 U | 2 U | 1 U | 2 U | N/A | 2 U | 2 U |
| Dibenzo(a,h)Anthracene | 1 U | 1 U | 1 U | 1 U | N/A | 2 U | 1 U |
| Dibenzofuran | 1 U | 1 U | 1 U | 1 U | N/A | 1 U | 1 U |
| Diethylphthalate | 2 U | 2 U | 2 U | 2 U | 15 U | 2 U | 2 U |
| Dimethylphthalate | 5 U | 4 U | 4 U | 4 U | 15 U | 5 U | 4 U |
| Fluoranthene | 2 U | 1 U | 1 U | 1 U | 15 U | 2 U | 1 U |
| Fluorene | 2 U | 2 U | 1 U | 2 U | 15 U | 2 U | 2 U |
| Hexachlorobenzene | 2 U | 1 U | 1 U | 1 U | 15 U | 2 U | 1 U |
| Hexachlorobutadiene | 3 U | 3 U | 3 U | 3 U | 15 U | 3 U | 3 U |
| Hexachlorocyclopentadiene | 2 U | 1 U | 1 U | 1 U | N/A | 2 U | 1 U |
| Hexachloroethane | 3 U | 3 U | 2 U | 3 U | 15 U | 3 U | 3 U |
| Indeno(1,2,3-c,d)Pyrene | 1 U | 1 U | 1 U | 1 U | N/A | 1 U | 1 U |
| Isophorone | 1 U | 1 U | 1 U | 1 U | N/A | 1 U | 1 U |
| N-Nitroso-di-n-propylamine | 1 U | 1 U | 1 U | 1 U | N/A | 1 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 |
|---|---|---|---|---|---|---|---|---|
| Date: | 11-JUN-91 | 19-DEC-91 | 26-MAR-92 | 18-JUN-92 | 18-SEP-92 | 10-DEC-92 | 19-MAR-93 | 25-JUN-93 |
| Type: | | | | | | | | |
| Sample Name: | EC-1 | EC1 | EC-1 | EC1 | EC1 | EC1 | EC-1 | EC-1 |
| VOCs (ug/L) | | | | | | | | |
| 1,1,1-Trichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,1,2,2-Tetrachloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,1,2-Trichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | 5 U | 10 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichlorobenzene | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,2-Dichloroethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloroethene (total) | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloropropane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,3-Dichlorobenzene | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1,4-Dichlorobenzene | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-Butanone | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chloroethyl Vinyl Ether | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-Hexanone | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Methyl-2-pentanone | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Acetone | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Bromodichloromethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Bromoform | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Bromomethane | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Carbon disulfide | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Carbon tetrachloride | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chlorobenzene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chloroethane | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chloroform | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chloromethane | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dibromochloromethane | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Ethylbenzene | 5 U | N/A | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-105D | BR-105D | BR-105D | BR-105D | EC-1 | EC-1 | EC-1 | EC-1 |
|---|---|---|---|---|---|---|---|---|
| Date: | 30-JUN-94 | 30-SEP-94 | 31-MAR-95 | 11-SEP-95 | 26-MAR-90 | 26-JUN-90 | 17-DEC-90 | 19-MAR-91 |
| Type: | | | | | | | | |
| Sample Name: | BR-105D | BR-105D | BR-105D | BR105D | EC-1 | EC-1 | EC-1 | EC-1 |
| VOCs (ug/L) | | | | | | | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | 10 U | N/A | 5 U | 5 U | 5 U |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethane | 12 | 6 J | 6 J | 6 J | 5 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichlorobenzene | N/A | N/A | N/A | N/A | 5 U | N/A | N/A | N/A |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloroethene (total) | 78 | 55 | 72 | 59 | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |
| 1,3-Dichlorobenzene | N/A | N/A | N/A | N/A | 5 U | N/A | N/A | N/A |
| 1,4-Dichlorobenzene | N/A | N/A | N/A | N/A | 5 U | N/A | N/A | N/A |
| 2-Butanone | 10 U | 10 U | 10 U | 10 U | N/A | 10 U | 10 U | 10 U |
| 2-Chloroethyl Vinyl Ether | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2-Hexanone | 10 U | 10 U | 10 U | 10 U | N/A | 10 U | 10 U | 10 U |
| 4-Methyl-2-pentanone | 10 U | 10 U | 10 U | 10 U | N/A | 10 U | 10 U | 10 U |
| Acetone | 10 U | 10 U | 10 U | 10 U | N/A | 10 U | 10 U | 10 U |
| Benzene | 14 | 11 | 13 | 10 | 5 U | 5 U | 5 U | 5 U |
| Bromodichloromethane | 10 U | 10 U | 10 U | 10 U | N/A | 5 U | 5 U | 5 U |
| Bromoform | 10 U | 10 U | 10 U | 10 U | N/A | 5 U | 5 U | 5 U |
| Bromomethane | 10 U | 10 U | 10 U | 10 U | N/A | 10 U | 10 U | 10 U |
| Carbon disulfide | 10 U | 3 J | 10 U | 36 | N/A | 5 U | 5 U | 5 U |
| Carbon tetrachloride | 10 U | 10 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |
| Chlorobenzene | 0.8 BJ | 0.8 BJ | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |
| Chloroethane | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chloroform | 2 J | 1 J | 2 J | 10 U | 5 U | 5 U | 5 U | 5 U |
| Chloromethane | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dibromochloromethane | 10 U | 10 U | 10 U | 10 U | N/A | 5 U | 5 U | 5 U |
| Ethylbenzene | 10 U | 10 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |

N/A = Not Analyzed

**PROJECT: Olin Rochester** **SITE: RG+E Right of Way** 04/25/96

| Location: | EC-1 | EC-1 | MW-104 | MW-104 | MW-104 | MW-104 | MW-104 | MW-104 |
|---|---|---|---|---|---|---|---|---|
| Date: | 22-SEP-93 | 24-JAN-94 | 26-JAN-94 | 17-MAR-94 | 28-JUN-94 | 29-SEP-94 | 30-MAR-95 | 11-SEP-95 |
| Type: | | | | | | | | |
| Sample Name: | EC-1 | EC-1 | MW-104 | MW-104 | MW-104 | MW-104 | MW-104 | MW104 |
| VOCs (ug/L) | | | | | | | | |
| 1,1,1-Trichloroethane | 5 U | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 5 U | 0.7 U | 0.7 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,1,2-Trichloroethane | 5 U | 0.8 U | 0.8 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,1-Dichloroethane | 5 U | 2 U | 0.6 J | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,1-Dichloroethene | 5 U | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichlorobenzene | N/A | 1 U | 6 | N/A | N/A | N/A | N/A | N/A |
| 1,2-Dichloroethane | 5 U | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichloroethene (total) | 5 U | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichloropropane | 5 U | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,3-Dichlorobenzene | N/A | 1 U | 1 U | N/A | N/A | N/A | N/A | N/A |
| 1,4-Dichlorobenzene | N/A | 0.7 U | 3 | N/A | N/A | N/A | N/A | N/A |
| 2-Butanone | 10 U | 4 U | 4 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chloroethyl Vinyl Ether | N/A | 2 U | 2 U | N/A | N/A | N/A | N/A | N/A |
| 2-Hexanone | 10 U | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Methyl-2-pentanone | 10 U | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Acetone | 10 U | 7 U | 7 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzene | 5 U | 0.8 U | 0.8 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Bromodichloromethane | 5 U | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Bromoform | 5 U | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Bromomethane | 10 U | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Carbon disulfide | 5 U | 4 U | 4 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Carbon tetrachloride | 5 U | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chlorobenzene | 5 U | 1 U | 5 | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chloroethane | 10 U | 3 U | 3 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chloroform | 5 U | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chloromethane | 10 U | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dibromochloromethane | 5 U | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Ethylbenzene | 5 U | 0.9 U | 0.9 U | 10 U | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-104 | BR-104 | BR-104 | BR-104 | BR-104 | BR-104 | BR-105 | BR-105 |
|---|---|---|---|---|---|---|---|---|
| Date: | 26-JAN-94 | 17-MAR-94 | 28-JUN-94 | 29-SEP-94 | 30-MAR-95 | 11-SEP-95 | 27-JAN-94 | 17-MAR-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-104 | BR-104 | BR-104 | BR-104 | BR-104 | BR104 | BR-105 | BR-105 |
| VOCs (ug/L) | | | | | | | | |
| Methylene chloride | 6 | 10 U | 10 U | 10 U | 10 U | 10 U | 2 | 10 U |
| Styrene | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 1 U | 10 U |
| Tetrachloroethene | 1 J | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| Toluene | 2 | 10 U | 0.5 BJ | 10 U | 10 U | 10 U | 11 | 5 J |
| Total Xylenes | 2 U | 1 J | 10 U | 10 U | 10 U | 10 U | 0.8 J | 0.7 J |
| Trichloroethene | 2 | 10 U | 1 J | 1 J | 1 J | 10 U | 3 | 2 J |
| Vinyl acetate | 1 U | N/A | N/A | N/A | N/A | N/A | 1 U | N/A |
| Vinyl chloride | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U | 3 | 10 U |
| cis-1,3-Dichloropropene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |
| trans-1,3-Dichloropropene | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U | 2 U | 10 U |

N/A = Not Analyzed

| Location: | MW-2 | MW-3 |
|---|---|---|
| Date: | 19-JAN-94 | 19-JAN-94 |
| Type: | | |
| Sample Name: | MW-2 | MW-3 |
| SVOCs (ug/L) | | |
| Benzo(a)anthracene | 2 U | 2 U |
| Benzo(a)pyrene | 1 U | 1 U |
| Benzo(b)fluoranthene | 2 U | 2 U |
| Benzo(g,h,i)perylene | 1 U | 1 U |
| Benzo(k)fluoranthene | 2 U | 2 U |
| Benzoic acid | 10 U | 10 U |
| Benzyl alcohol | 2 U | 2 U |
| Bis(2-Chloroethoxy)methane | 1 U | 1 U |
| Bis(2-Chloroethyl)ether | 1 U | 1 U |
| Bis(2-Chloroisopropyl)ether | 1 U | 1 U |
| Bis(2-ethylhexyl)phthalate | 2 | 1 U |
| Butylbenzylphthalate | 3 U | 3 U |
| Chrysene | 1 U | 1 U |
| Di-n-butylphthalate | 1 U | 1 U |
| Di-n-octylphthalate | 1 U | 1 U |
| Dibenzo(a,h)Anthracene | 1 U | 1 U |
| Dibenzofuran | 1 U | 1 U |
| Diethylphthalate | 2 U | 2 U |
| Dimethylphthalate | 4 U | 4 U |
| Fluoranthene | 1 U | 1 U |
| Fluorene | 1 U | 1 U |
| Hexachlorobenzene | 1 U | 1 U |
| Hexachlorobutadiene | 3 U | 3 U |
| Hexachlorocyclopentadiene | 1 U | 1 U |
| Hexachloroethane | 2 U | 2 U |
| Indeno(1,2,3-c,d)Pyrene | 1 U | 1 U |
| Isophorone | 1 U | 1 U |
| N-Nitroso-di-n-propylamine | 1 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Mark IV 04/25/96

| | Location: | MW-2 | MW-3 |
|---|---|---|---|
| | Date: | 19-JAN-94 | 19-JAN-94 |
| | Type: | | |
| | Sample Name: | MW-2 | MW-3 |
| SVOCs | (ug/L) | | |
| N-Nitrosodiphenylamine | | 1 U | 1 U |
| Naphthalene | | 1 U | 1 U |
| Nitrobenzene | | 1 U | 1 U |
| Pentachlorophenol | | 9 U | 9 U |
| Phenanthrene | | 2 U | 2 U |
| Phenol | | 3 U | 3 U |
| Pyrene | | 2 U | 2 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Ness Precision Products 04/25/96

| | | | |
|---|---|---|---|
| Location: | NESS-W | NESS-W | NESS-W |
| Date: | 06-APR-95 | 12-SEP-95 | 20-NOV-95 |
| Type: | | | |
| Sample Name: | NESS W | NESS-W | NESS-W |
| VOCs (ug/L) | | | |
| Total Xylenes | 8 J | 5 J | 5.2 |
| Trichloroethene | 44 | 2 J | 1.5 |
| Vinyl acetate | N/A | N/A | 5 U |
| Vinyl chloride | 26 | 9 J | 60 |
| cis-1,3-Dichloropropene | 10 U | 10 U | 0.5 U |
| trans-1,3-Dichloropropene | 10 U | 10 U | 0.5 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-104 | BR-105 | BR-105D | BR-105D | EC-1 | MW-104 |
|---|---|---|---|---|---|---|
| Date: | 26-JAN-94 | 27-JAN-94 | 04-FEB-94 | 04-FEB-94 | 24-JAN-94 | 26-JAN-94 |
| Type: | | | Duplicate | | | |
| Sample Name: | BR-104 | BR-105 | BR-105DFD | BR-105D | EC-1 | MW-104 |
| INORGs (ug/L) | | | | | | |
| Aluminum | 1400 J | 250 | 500 | 690 | 360 | 21000 J |
| Antimony | 3 J | 3 U | 3 U | 4 J | 4 U | 3 J |
| Arsenic | 4 UJ | 4 U | 42 J | 28 J | 4 U | 20 J |
| Barium | 200 J | 160 | 230 | 230 | 33 B | 330 |
| Beryllium | 3 U | 3 U | 3 U | 3 U | 3 U | 3 U |
| Cadmium | 0.2 U | 0.2 U | 0.4 J | 0.5 J | 0.3 B | 0.6 J |
| Calcium | 180000 | R | 2200000 | 2200000 | 270000 | 390000 |
| Chromium | 10 UJ | 10 U | 10 U | 10 | 10 U | 33 J |
| Cobalt | 20 U | 20 U | 20 U | 20 U | 20 U | 34 J |
| Copper | 12 J | 10 U | 310 | 250 | 12 B | 52 |
| Cyanide | 73 | 20 | 20 J | 10 UJ | 10 U | 17 |
| Iron | R | 860 | 700 | 740 | 2100 | R |
| Lead | 3 J | R | R | R | 2 U | 42 J |
| Magnesium | 36000 | R | 400000 | 380000 | 64000 | 110000 |
| Manganese | 620 J | 180 | 30 | 37 | 600 | 1900 J |
| Mercury | 0.4 U | 0.4 U | 0.4 UJ | 0.4 UJ | 0.4 U | 0.4 U |
| Nickel | 30 U | 30 U | 30 U | 30 U | 30 U | 39 J |
| Potassium | 17000 J | 9100 | 210000 | 210000 | 1800 B | 11000 J |
| Selenium | 3 UJ | 3 UJ | R | R | 3 UN | 7 J |
| Silver | R | R | R | R | 10 U | R |
| Sodium | 200000 | 400000 | 15000000 | 14000000 | 9900 | 110000 |
| Thallium | 4 UJ | R | 4 UJ | 4 UJ | 4 U | 4 UJ |
| Vanadium | 20 U | 20 U | 20 U | 20 U | 20 U | 46 J |
| Zinc | 10 U | 15 | 43 | 36 | 10 U | R |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| | |
|---|---|
| Location: | EC-1 |
| Date: | 11-JUN-91 |
| Type: | |
| Sample Name: | EC-1 |

| PEST/PCB (ug/L) | |
|---|---|
| delta-BHC | 11 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-104 | BR-104 | BR-104 | BR-104 | BR-104 | BR-104 | BR-104 | BR-104 |
|---|---|---|---|---|---|---|---|---|
| Date: | 26-JAN-94 | 23-MAR-94 | 11-JUL-94 | 12-JUL-94 | 15-AUG-94 | 18-OCT-94 | 19-OCT-94 | 19-OCT-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-104 | BR-104 | BR-104 | BR-104DL | BR-104D2 | BR-104 | BR-104DL | BR-104DL2 |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 230 | 0.8 J | 230 E | 250 D | 150 DJ | 350 E | 210 D | 1000 U |
| 2-Chloropyridine | 2800 | 7 J | 1600 E | 3000 DE | 2400 D | 5400 E | 1500 DE | 1900 D |
| 3-Chloropyridine | 13 | 10 U | 3 J | 3 DJ | 1000 U | 4 J | 100 U | 1000 U |
| 4-Chloropyridine | 6 U | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Pyridine | 6 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| p-Fluoroaniline | 15 | 10 U | 0.5 J | 1 DJ | 1000 U | 10 U | 100 U | 1000 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-104 | BR-104 | BR-104 | BR-104 | BR-105 | BR-105 | BR-105 | BR-105 |
|---|---|---|---|---|---|---|---|---|
| Date: | 06-APR-95 | 10-APR-95 | 11-SEP-95 | 11-SEP-95 | 27-JAN-94 | 23-MAR-94 | 24-MAR-94 | 24-MAR-94 |
| Type: | | | | | | | | |
| Sample Name: | BR-104 | BR-104 DL | BR104 | BR104 DL | BR-105 | BR-105 | BR-105D2 | BR-105DL |
| **PYRIDINE** (ug/L) | | | | | | | | |
| 2,6-Dichloropyridine | 140 E | 91 DJ | 59 | N/A | 1800 J | 1300 E | 970 DJ | 1400 D |
| 2-Chloropyridine | 810 E | 740 D | N/A | 140 D | 21000 J | 9700 E | 13000 D | 17000 DE |
| 3-Chloropyridine | 2 J | 200 U | 10 U | N/A | 540 J | 350 E | 240 DJ | 380 D |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | 6 UJ | N/A | N/A | N/A |
| Pyridine | N/A | N/A | N/A | N/A | 35 J | N/A | N/A | N/A |
| p-Fluoroaniline | 0 J | 200 U | 10 U | N/A | 220 J | 54 | 2000 U | 33 DJ |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-105 | BR-105 | BR-105 | BR-105 | BR-105 | BR-105 | BR-105 | BR-105 |
|---|---|---|---|---|---|---|---|---|
| Date: | 12-JUL-94 | 13-JUL-94 | 18-OCT-94 | 19-OCT-94 | 19-OCT-94 | 19-OCT-94 | 06-APR-95 | 10-APR-95 |
| Type: | | | | | | | | |
| Sample Name: | BR-105 | BR-105 DL | BR-105 | BR-105DL | BR-105DL2 | BR-105RE | BR-105 | BR-105 D2 |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 420 E | 240 DJ | 1800 E | 1400 D | 1000 DJ | 720 E | 900 E | 1000 DJ |
| 2-Chloropyridine | 2300 E | 5400 D | 11000 E | 11000 DE | 12000 D | 3500 E | 5200 E | 10000 D |
| 3-Chloropyridine | 90 E | 90 DJ | 570 E | 360 DJ | 210 DJ | 190 E | 240 E | 220 DJ |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Pyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| p-Fluoroaniline | 10 | 2000 U | 20 | 400 U | 4000 U | 15 | 9 J | 2000 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-105 | BR-105 | BR-105 | BR-105 | BR-105D | BR-105D | BR-105D | BR-105D |
|---|---|---|---|---|---|---|---|---|
| Date: | 10-APR-95 | 11-SEP-95 | 11-SEP-95 | 11-SEP-95 | 04-FEB-94 | 04-FEB-94 | 30-MAR-94 | 30-MAR-94 |
| Type: | | | | | Duplicate | | | |
| Sample Name: | BR-105 DL | BR105 | BR105 D2 | BR105 DL | BR-105DFD | BR-105D | BR-105D | BR-105DDL |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 800 D | N/A | N/A | 750 D | 54 | 62 | 64 | 34 DJ |
| 2-Chloropyridine | 8000 DE | N/A | 12000 D | N/A | 2100 | 2100 | 4000 E | 3400 D |
| 3-Chloropyridine | 270 D | N/A | N/A | 210 D | 32 | 32 | 58 | 500 U |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | 5 U | 6 U | N/A | N/A |
| Pyridine | N/A | N/A | N/A | N/A | 6 | 8 | N/A | N/A |
| p-Fluoroaniline | 200 U | 14 | N/A | N/A | 11 | 14 | 9 J | 500 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-105D | BR-105D | BR-105D | BR-105D | BR-105D | BR-105D | BR-105D | BR-105D |
|---|---|---|---|---|---|---|---|---|
| Date: | 28-JUL-94 | 15-AUG-94 | 20-OCT-94 | 20-OCT-94 | 21-OCT-94 | 10-APR-95 | 12-APR-95 | 11-SEP-95 |
| Type: | | | | | | | | |
| Sample Name: | BR-105D | BR-105DDL | BR-105D | BR-105DDL | BR-105DRE | BR-105D | BR-105D DL | BR105D |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 52 | 500 U | 36 | 1000 U | 40 | 60 | 37 DJ | 32 |
| 2-Chloropyridine | 1300 E | 2000 D | 1000 E | 1600 D | 1100 E | 1400 E | 2400 D | N/A |
| 3-Chloropyridine | 28 | 500 U | 24 | 12 DJ | 22 | 17 | 400 U | 15 |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Pyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| p-Fluoroaniline | 10 U | 500 U | 5 J | 1000 U | 5 J | 4 J | 400 U | 4 J |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-105D | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 |
|---|---|---|---|---|---|---|---|---|
| Date: | 11-SEP-95 | 26-JUN-90 | 17-DEC-90 | 17-DEC-90 | 19-MAR-91 | 11-JUN-91 | 26-MAR-92 | 18-JUN-92 |
| Type: | | | | | | | | |
| Sample Name: | BR105D DL | EC-1 | EC-1 | EC-1D | EC-1 | EC-1 | EC1 | EC1 |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | N/A | 14 U | 14 U | 14 U | 10 U | N/A | 12 U | 10 U |
| 2-Chloropyridine | 1300 D | 14 U | 14 U | 14 U | 10 U | 11 U | 12 U | 10 U |
| 3-Chloropyridine | N/A | 14 U | 14 U | 14 U | 10 U | 11 U | 12 U | 10 U |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Pyridine | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| p-Fluoroaniline | N/A | 14 U | 14 U | 14 U | 10 U | 11 U | 12 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | MW-104 | MW-104 |
|---|---|---|---|---|---|---|---|---|
| Date: | 18-SEP-92 | 10-DEC-92 | 24-MAR-93 | 01-JUL-93 | 29-SEP-93 | 24-JAN-94 | 26-JAN-94 | 23-MAR-94 |
| Type: | | | | | | | | |
| Sample Name: | EC1 | EC1 | EC-1 | EC-1 | EC-1 | EC-1 | MW-104 | MW-104 |
| **PYRIDINE (ug/L)** | | | | | | | | |
| 2,6-Dichloropyridine | 10 U | 10 U | 10 U | 10 U | 11 U | 6 U | 28 | 0.9 J |
| 2-Chloropyridine | 10 U | 3 J | 10 U | 10 U | 11 U | 6 U | 7 | 2 J |
| 3-Chloropyridine | 10 U | 10 U | 10 U | 10 U | 11 U | 6 U | 6 U | 10 U |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | N/A | 6 U | 6 U | N/A |
| Pyridine | N/A | N/A | N/A | N/A | N/A | 6 U | 6 U | N/A |
| p-Fluoroaniline | 10 U | 10 U | 10 U | 10 U | 11 U | 6 U | 6 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Ness Precision Products 04/25/96

| Location: | NESS-W | NESS-W | NESS-W |
|---|---|---|---|
| Date: | 06-APR-95 | 12-SEP-95 | 20-NOV-95 |
| Type: | | | |
| Sample Name: | NESS W | NESS-W | NESS-W |
| VOCs (ug/L) | | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 0.5 U |
| 1,1,2,2-Tetrachloroethane | 4 J | 10 U | 0.5 U |
| 1,1,2-Trichloroethane | 3 J | 10 U | 0.5 U |
| 1,1-Dichloroethane | 10 | 7 J | 6.3 |
| 1,1-Dichloroethene | 10 U | 10 U | 0.5 U |
| 1,2-Dichloroethane | 10 U | 10 U | 0.5 U |
| 1,2-Dichloroethene (total) | 23 | 14 | 46 |
| 1,2-Dichloropropane | 10 U | 10 U | 0.5 U |
| 2-Butanone | 60 | 55 | 1 U |
| 2-Hexanone | 10 U | 10 U | 1 U |
| 4-Methyl-2-pentanone | 10 U | 10 U | 1 U |
| Acetone | 43 | 10 U | 10 U |
| Benzene | 44 | 34 | 35 |
| Bromodichloromethane | 10 U | 10 U | 0.5 U |
| Bromoform | 10 U | 10 U | 0.5 U |
| Bromomethane | 10 U | 10 U | 1 U |
| Carbon disulfide | 10 U | 10 U | 0.5 U |
| Carbon tetrachloride | 1 J | 10 U | 0.5 U |
| Chlorobenzene | 2 J | 2 J | 1.4 |
| Chloroethane | 10 U | 10 U | 1 U |
| Chloroform | 8 J | 10 U | 1.4 |
| Chloromethane | 10 U | 10 U | 1 U |
| Dibromochloromethane | 10 U | 10 U | 0.5 U |
| Ethylbenzene | 11 | 10 | 7.3 |
| Methylene chloride | 4 J | 3 J | 2.8 J |
| Styrene | 10 U | 10 U | 0.5 U |
| Tetrachloroethene | 27 | 2 J | 1.3 |
| Toluene | 5 J | 4 J | 3.1 |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** Ness Precision Products 04/25/96

| Location: | NESS-E | NESS-E | NESS-E | NESS-E | NESS-E | NESS-E | NESS-E | NESS-W |
|---|---|---|---|---|---|---|---|---|
| Date: | 30-JUN-94 | 30-JUN-94 | 06-APR-95 | 07-APR-95 | 12-SEP-95 | 20-NOV-95 | 20-NOV-95 | 30-JUN-94 |
| Type: | | | | | | Duplicate | | |
| Sample Name: | NESS-E | NESS-EDL | NESS E | NESS E DL | NESS-E | NESS-EFD | NESS-E | NESS-W |
| VOCs (ug/L) | | | | | | | | |
| Total Xylenes | 2 J | 2 DJ | 1 J | 20 U | 10 U | 0.25 J | 0.23 J | 7 J |
| Trichloroethene | 200 E | 210 D | 400 E | 310 D | 9 J | 11 | 12 | 49 |
| Vinyl acetate | N/A | N/A | N/A | N/A | N/A | 5 U | 5 U | N/A |
| Vinyl chloride | 6 J | 5 DJ | 8 J | 5 DJ | 4 J | 4.9 | 4.3 | 9 J |
| cis-1,3-Dichloropropene | 10 U | 20 U | 10 U | 20 U | 10 U | 0.5 U | 0.5 U | 40 U |
| trans-1,3-Dichloropropene | 10 U | 20 U | 10 U | 20 U | 10 U | 0.5 U | 0.5 U | 40 U |

N/A = Not Analyzed

| Location: | MW-104 | MW-104 | MW-104 | MW-104 | MW-104 | MW-104 |
|---|---|---|---|---|---|---|
| Date: | 11-JUL-94 | 18-OCT-94 | 19-OCT-94 | 06-APR-95 | 11-SEP-95 | 11-SEP-95 |
| Type: | | | | | | |
| Sample Name: | MW-104 | MW-104 | MW-104DL | MW-104 | MW104 | MW104 DL |
| **PYRIDINE (ug/L)** | | | | | | |
| 2,6-Dichloropyridine | 68 | 91 E | 71 D | 54 | 51 | N/A |
| 2-Chloropyridine | 12 | 5 J | 20 U | 9 J | N/A | 130 D |
| 3-Chloropyridine | 10 U | 10 U | 20 U | 10 U | 10 U | N/A |
| 4-Chloropyridine | N/A | N/A | N/A | N/A | N/A | N/A |
| Pyridine | N/A | N/A | N/A | N/A | N/A | N/A |
| p-Fluoroaniline | 10 U | 10 U | 20 U | 10 U | 10 U | N/A |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-104 | BR-105 | BR-105D | BR-105D | EC-1 | EC-1 | MW-104 |
|---|---|---|---|---|---|---|---|
| Date: | 26-JAN-94 | 27-JAN-94 | 04-FEB-94 | 04-FEB-94 | 26-MAR-90 | 24-JAN-94 | 26-JAN-94 |
| Type: | | | Duplicate | | | | |
| Sample Name: | BR-104 | BR-105 | BR-105DFD | BR-105D | EC-1 | EC-1 | MW-104 |
| SVOCs (ug/L) | | | | | | | |
| 1,2,4-Trichlorobenzene | 3 U | 2 UJ | 2 U | 2 U | 15 U | 3 U | 2 U |
| 1,3-Dichlorobenzene | 3 U | 2 UJ | 2 U | 2 U | N/A | 3 U | 2 U |
| 1,4-Dichlorobenzene | 2 U | 2 UJ | 2 U | 2 U | N/A | 2 U | 2 U |
| 2,4,5-Trichlorophenol | 5 U | 45 U | 4 U | 4 U | N/A | 5 U | 4 U |
| 2,4,6-Trichlorophenol | 8 U | 68 U | 6 U | 7 U | N/A | 8 U | 7 U |
| 2,4-Dichlorophenol | 5 U | 47 U | 4 U | 5 U | N/A | 5 U | 5 U |
| 2,4-Dimethylphenol | 4 U | 37 U | 3 U | 4 U | 15 U | 4 U | 4 U |
| 2,4-Dinitrophenol | 7 U | 62 U | 6 U | 6 U | N/A | 7 U | 6 U |
| 2,4-Dinitrotoluene | 1 U | 1 UJ | 1 U | 1 U | N/A | 1 U | 1 U |
| 2,6-Dinitrotoluene | 1 U | 1 UJ | 1 U | 1 U | N/A | 1 U | 1 U |
| 2-Chloronaphthalene | 2 U | 1 UJ | 1 U | 1 U | N/A | 2 U | 1 U |
| 2-Chlorophenol | 6 U | 50 U | 5 U | 5 U | N/A | 6 U | 5 U |
| 2-Methylnaphthalene | 2 U | 15 J | 2 U | 2 U | N/A | 2 U | 2 U |
| 2-Methylphenol | 6 U | 50 U | 5 U | 5 U | N/A | 6 U | 5 U |
| 2-Nitroaniline | 1 U | 1 UJ | 0.9 U | 1 U | N/A | 1 U | 1 U |
| 2-Nitrophenol | 6 U | 52 U | 5 U | 5 U | 15 U | 6 U | 5 U |
| 3,3'-Dichlorobenzidine | 2 U | 1 UJ | 1 U | 1 U | N/A | 2 U | 1 U |
| 3-Nitroaniline | 0.8 U | 0.7 UJ | 0.7 U | 0.7 U | N/A | 0.8 U | 0.7 U |
| 4,6-Dinitro-2-methylphenol | 12 U | 100 U | 10 U | 10 U | 77 U | 12 U | 10 U |
| 4-Bromophenyl-phenylether | 2 U | 1 UJ | 1 U | 1 U | N/A | 2 U | 1 U |
| 4-Chloro-3-Methylphenol | 4 U | 38 U | 4 U | 4 U | N/A | 4 U | 4 U |
| 4-Chloroaniline | 2 U | 20 J | 2 U | 2 U | N/A | 2 U | 2 U |
| 4-Chlorophenyl-phenylether | 1 U | 1 UJ | 1 U | 1 U | N/A | 1 U | 1 U |
| 4-Methylphenol | 5 U | 42 U | 2 J | 2 J | N/A | 5 U | 4 U |
| 4-Nitroaniline | 1 U | 1 UJ | 1 U | 1 U | N/A | 1 U | 1 U |
| 4-Nitrophenol | 5 U | 48 U | 4 U | 5 U | 77 U | 5 U | 5 U |
| Acenaphthene | 2 U | 1 J | 2 U | 2 U | 15 U | 2 U | 2 U |
| Anthracene | 2 U | 1 UJ | 1 U | 1 U | 15 U | 2 U | 1 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-105 | BR-105 | BR-105 | BR-105 | BR-105 | BR-105D | BR-105D | BR-105D |
|---|---|---|---|---|---|---|---|---|
| Date: | 30-JUN-94 | 29-SEP-94 | 30-MAR-95 | 11-SEP-95 | 12-SEP-95 | 04-FEB-94 | 04-FEB-94 | 18-MAR-94 |
| Type: | | | | | | Duplicate | | |
| Sample Name: | BR-105 | BR-105 | BR-105 | BR105 | BR105 | BR-105DFD | BR-105D | BR-105D |
| VOCs (ug/L) | | | | | | | | |
| Methylene chloride | 51 | 10 U | 10 U | 10 U | N/A | 3 J | 3 | 10 U |
| Styrene | 10 U | 10 U | 10 U | 10 U | N/A | 1 U | 1 U | 10 U |
| Tetrachloroethene | 19 | 6 J | 10 U | 2 J | N/A | 2 U | 2 U | 10 U |
| Toluene | 6 BJ | 2 J | 2 J | 2 J | N/A | 42 J | 41 | 26 |
| Total Xylenes | 10 U | 0.6 J | 10 U | 10 U | N/A | 15 J | 16 | 13 |
| Trichloroethene | 4 J | 2 J | 3 J | 4 J | N/A | 2 U | 2 U | 10 U |
| Vinyl acetate | N/A | N/A | N/A | N/A | N/A | 1 U | 1 U | N/A |
| Vinyl chloride | 19 | 5 J | 3 J | 2 J | N/A | 17 J | 6 J | 94 |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | 10 U | N/A | 2 U | 2 U | 10 U |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | 10 U | N/A | 2 U | 2 U | 10 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | BR-105D | BR-105D | BR-105D | BR-105D | EC-1 | EC-1 | EC-1 | EC-1 |
|---|---|---|---|---|---|---|---|---|
| Date: | 30-JUN-94 | 30-SEP-94 | 31-MAR-95 | 11-SEP-95 | 26-MAR-90 | 26-JUN-90 | 17-DEC-90 | 19-MAR-91 |
| Type: | | | | | | | | |
| Sample Name: | BR-105D | BR-105D | BR-105D | BR105D | EC-1 | EC-1 | EC-1 | EC-1 |
| VOCs (ug/L) | | | | | | | | |
| Methylene chloride | 10 U | 10 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |
| Styrene | 10 U | 10 U | 10 U | 10 U | N/A | 5 U | 5 U | 5 U |
| Tetrachloroethene | 10 U | 10 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |
| Toluene | 10 B | 8 BJ | 6 J | 6 J | 5 U | 5 U | 0.1 BJ | 5 U |
| Total Xylenes | 4 J | 3 J | 2 J | 2 J | N/A | 5 U | 5 U | 5 U |
| Trichloroethene | 0.8 J | 10 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |
| Vinyl acetate | N/A | N/A | N/A | N/A | N/A | 10 U | 10 U | 10 U |
| Vinyl chloride | 89 | 34 | 10 U | 30 | 10 U | 10 U | 10 U | 10 U |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | 10 U | 5 U | 5 U | 5 U | 5 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 | EC-1 |
|---|---|---|---|---|---|---|---|---|
| Date: | 11-JUN-91 | 19-DEC-91 | 26-MAR-92 | 18-JUN-92 | 18-SEP-92 | 10-DEC-92 | 19-MAR-93 | 25-JUN-93 |
| Type: | | | | | | | | |
| Sample Name: | EC-1 | EC1 | EC-1 | EC1 | EC1 | EC1 | EC-1 | EC-1 |
| VOCs (ug/L) | | | | | | | | |
| Methylene chloride | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Styrene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Tetrachloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Toluene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Total Xylenes | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Trichloroethene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Vinyl acetate | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Vinyl chloride | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| cis-1,3-Dichloropropene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| trans-1,3-Dichloropropene | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |

N/A = Not Analyzed

**PROJECT:** Olin Rochester **SITE:** RG+E Right of Way 04/25/96

| Location: | EC-1 | EC-1 | MW-104 | MW-104 | MW-104 | MW-104 | MW-104 | MW-104 |
|---|---|---|---|---|---|---|---|---|
| Date: | 22-SEP-93 | 24-JAN-94 | 26-JAN-94 | 17-MAR-94 | 28-JUN-94 | 29-SEP-94 | 30-MAR-95 | 11-SEP-95 |
| Type: | | | | | | | | |
| Sample Name: | EC-1 | EC-1 | MW-104 | MW-104 | MW-104 | MW-104 | MW-104 | MW104 |
| VOCs (ug/L) | | | | | | | | |
| Methylene chloride | 5 U | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Styrene | 5 U | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Tetrachloroethene | 5 U | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Toluene | 5 U | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Total Xylenes | 5 U | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Trichloroethene | 5 U | 2 U | 0.8 J | 10 U | 10 U | 1 J | 10 U | 1 J |
| Vinyl acetate | 10 U | 1 U | 1 U | N/A | N/A | N/A | N/A | N/A |
| Vinyl chloride | 10 U | 1 U | 1 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| cis-1,3-Dichloropropene | 5 U | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| trans-1,3-Dichloropropene | 5 U | 2 U | 2 U | 10 U | 10 U | 10 U | 10 U | 10 U |

N/A = Not Analyzed

# APPENDIX B-2

# GROUNDWATER FIELD PARAMETERS - NEW WELLS

APPENDIX B-2
SUMMARY OF FIELD SAMPLING PARAMETERS

OLIN CHEMICALS PHASE II RI REPORT
ROCHESTER, N.Y.

| LOCATION | TYPE | DATE | TIME | PH | CONDUCTIVITY (umhos/cm) | TEMP (C) | TURBIDITY | DEPTH (FT) | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| BR-111 | WELL | 26-Oct-95 | 1320 | 8.06 | 460 | 14.7 | N/A | 29.39 | TURBID, GRAY |
| | | | 1321 | 8.09 | 460 | 14.7 | N/A | 29.39 | TURBID, GRAY |
| BR-111D | WELL | 26-Oct-95 | 1335 | 6.98 | 44000 | 14.4 | N/A | 29.74 | SLIGHTLY TURBID, GRAY TINT |
| | | | 1336 | 7.98 | 44000 | 14.4 | N/A | 29.74 | SLIGHTLY TURBID, GRAY TINT |
| BR-112A | WELL | 27-Oct-95 | 1335 | 7.19 | 1100 | 11.2 | N/A | 32.42 | CLEAR |
| | | | 1336 | 7.18 | 1100 | 11.2 | N/A | 32.42 | CLEAR |
| BR-112D | WELL | 27-Oct-95 | 1234 | 7.36 | 1800 | 10.9 | N/A | 37.17 | SLIGHTLY TURBID |
| | | | 1235 | 7.38 | 1800 | 10.9 | N/A | 37.17 | SLIGHTLY TURBID |
| BR-113 | WELL | 26-Oct-95 | 1125 | 8.16 | 800 | 13.7 | N/A | 32.13 | TURBID, GRAY |
| | | | 1126 | 8.12 | 800 | 13.7 | N/A | 32.13 | TURBID, GRAY |
| BR-113D | WELL | 26-Oct-95 | 1138 | 7.41 | 1600 | 14.0 | N/A | 31.99 | SLIGHTLY TURBID, GRAY TINT |
| | | | 1138 | 7.42 | 1600 | 14.0 | N/A | 31.99 | SLIGHTLY TURBID, GRAY TINT |
| BR-114 | WELL | 27-Oct-95 | 1059 | 7.15 | 1500 | 13.8 | N/A | 15.15 | SLIGHTLY TURBID |
| | | | 1100 | 7.15 | 1500 | 13.8 | N/A | 15.15 | SLIGHTLY TURBID |
| MW-114 | WELL | 27-Oct-95 | 1310 | 7.80 | 1000 | 15.0 | N/A | 12.89 | TURBID |
| | | | 1311 | 7.79 | 1000 | 15.0 | N/A | 12.89 | TURBID |
| QO-1 | UARRY OUTFAL | 25-Oct-95 | 1343 | 7.72 | 140 | 11.0 | N/A | N/A | CLEAR; DIFFICULT ACCESS |
| QP-1 | QUARRY POND | 25-Oct-95 | 1413 | 7.18 | 2200 | 11.4 | N/A | N/A | CLEAR |
| | | | 1414 | 7.24 | 2200 | 11.4 | N/A | N/A | CLEAR |
| QS-4 | QUARRY SEEP | 25-Oct-95 | 1435 | 7.92 | 2000 | 10.4 | N/A | N/A | CLEAR |
| | | | 1436 | 7.95 | 2000 | 10.4 | N/A | N/A | CLEAR |
| SW-1 | CANAL WATER | 20-Nov-95 | 1202 | 7.80 | 800 | 5.8 | N/A | N/A | CLEAR |
| SW-2 | CANAL WATER | 20-Nov-95 | 1140 | 7.55 | 810 | 5.2 | N/A | N/A | CLEAR |
| | | | 1141 | 7.55 | 810 | 5.2 | N/A | N/A | CLEAR |
| SW-3 | CANAL WATER | 20-Nov-95 | 1123 | 8.19 | 800 | 8.0 | N/A | N/A | CLEAR |
| | | | 1124 | 8.20 | 800 | 8.0 | N/A | N/A | CLEAR |
| NESS-E | WELL | 20-Nov-95 | 1336 | 7.21 | 2000 | 12.0 | N/A | 31.70 | TURBID; GRAY-BLACK |
| | | | 1337 | 7.19 | 2000 | 12.0 | N/A | 31.70 | TURBID; GRAY-BLACK |
| NESS-W | WELL | 20-Nov-95 | 1438 | 7.68 | 5000 | 10.7 | N/A | 40.00 | TURBID; BLACK |
| | | | 1439 | 7.70 | 5000 | 10.7 | N/A | 40.00 | TURBID; BLACK |

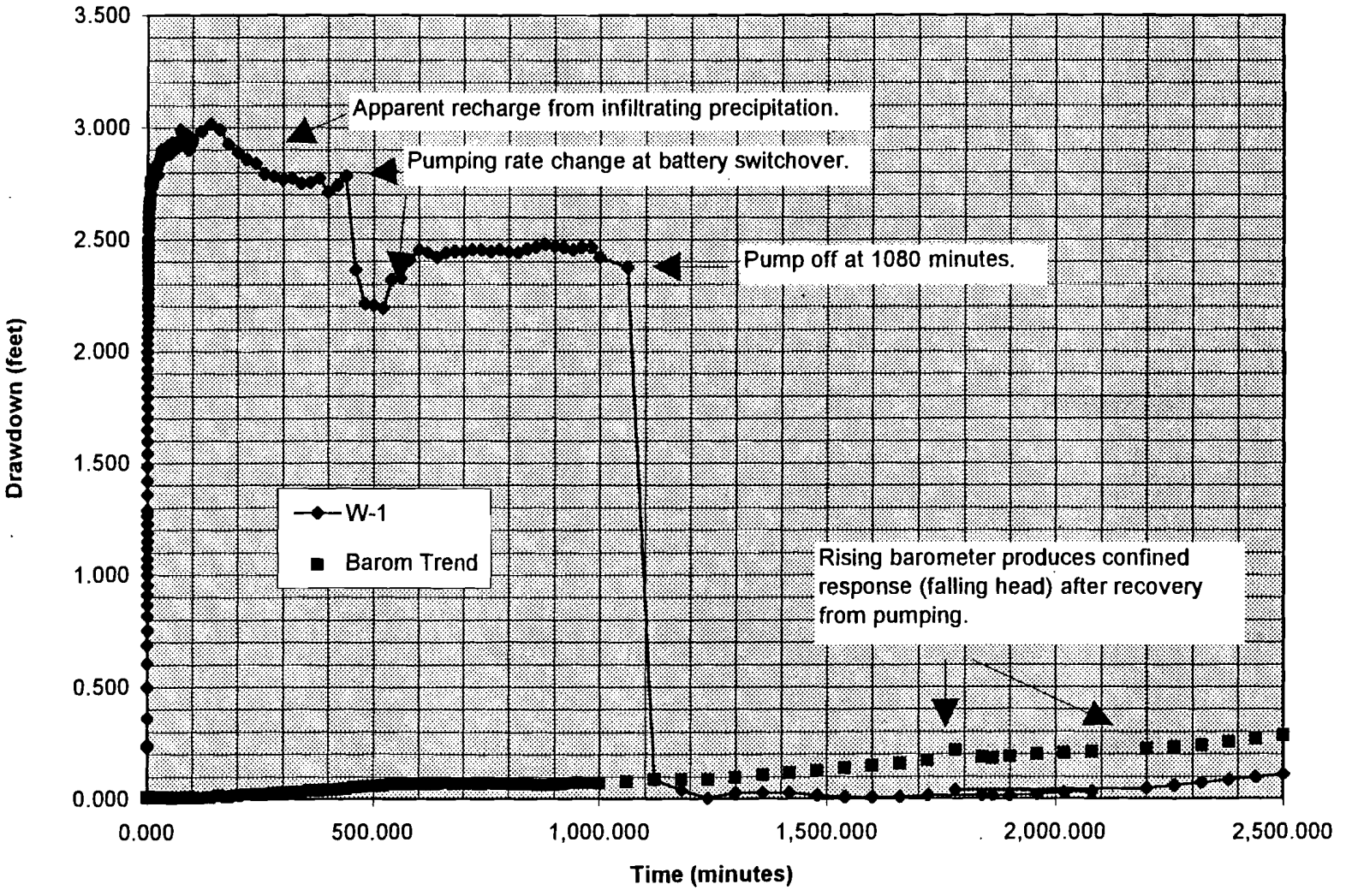
# APPENDIX C

# AQUIFER TESTING DATA

# APPENDIX C-1

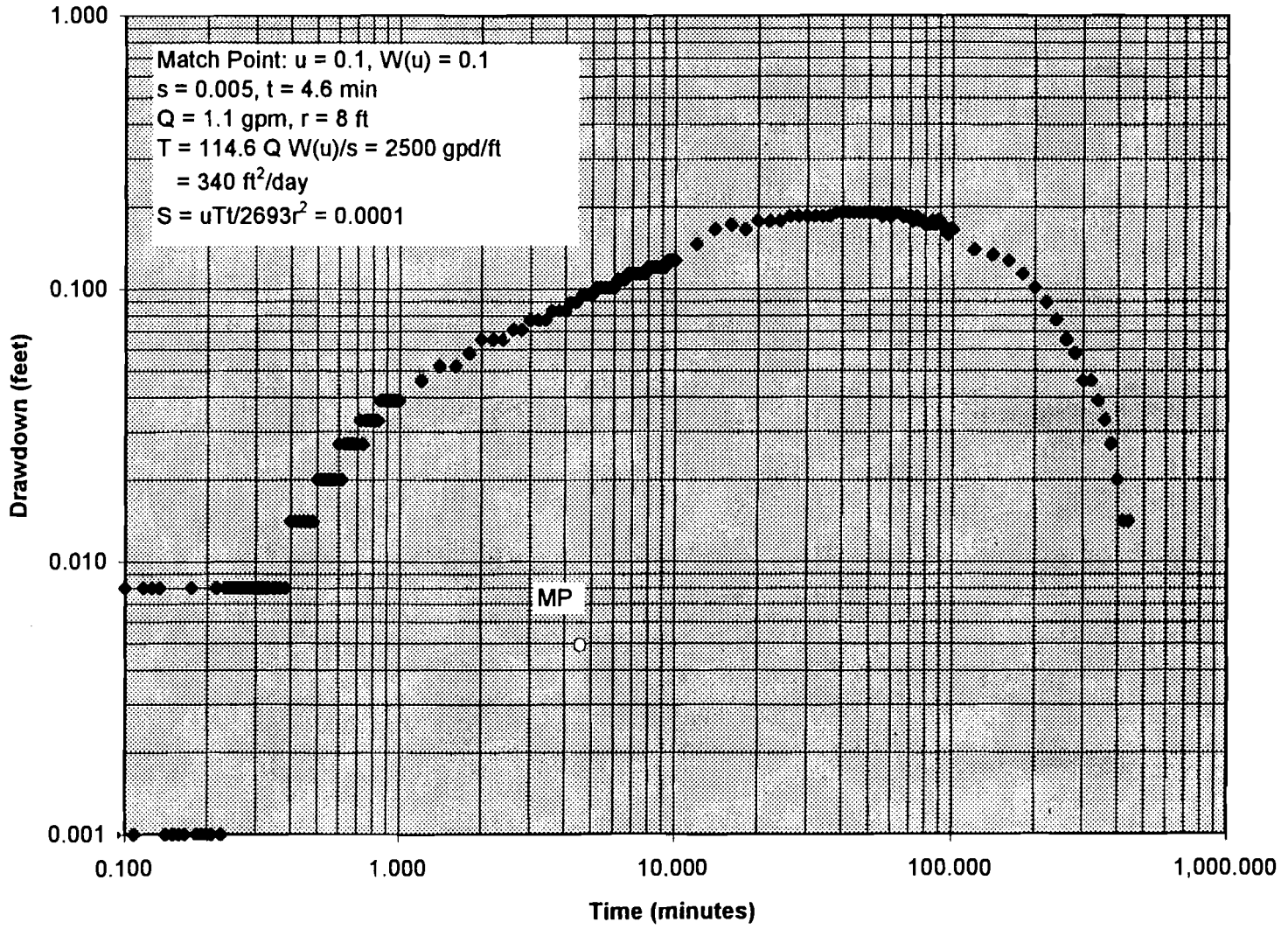
# W-1 PUMPING TEST
# DATA PLOTS AND TABLES

## W-1
## Plot of Drawdown and Barometric Trend during W-1 Discharge/Recovery Phases

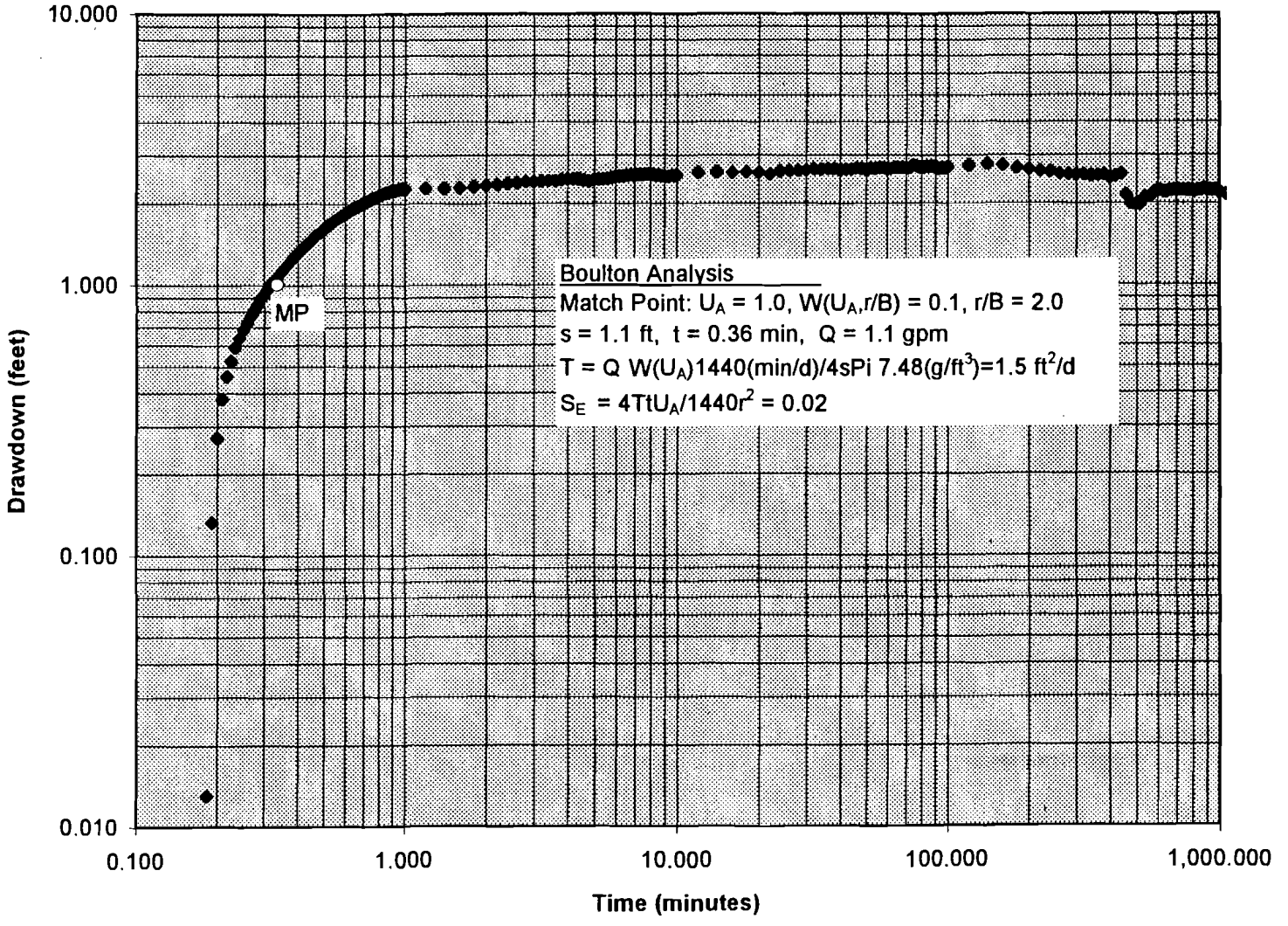



OW1.xls Linear/Barom

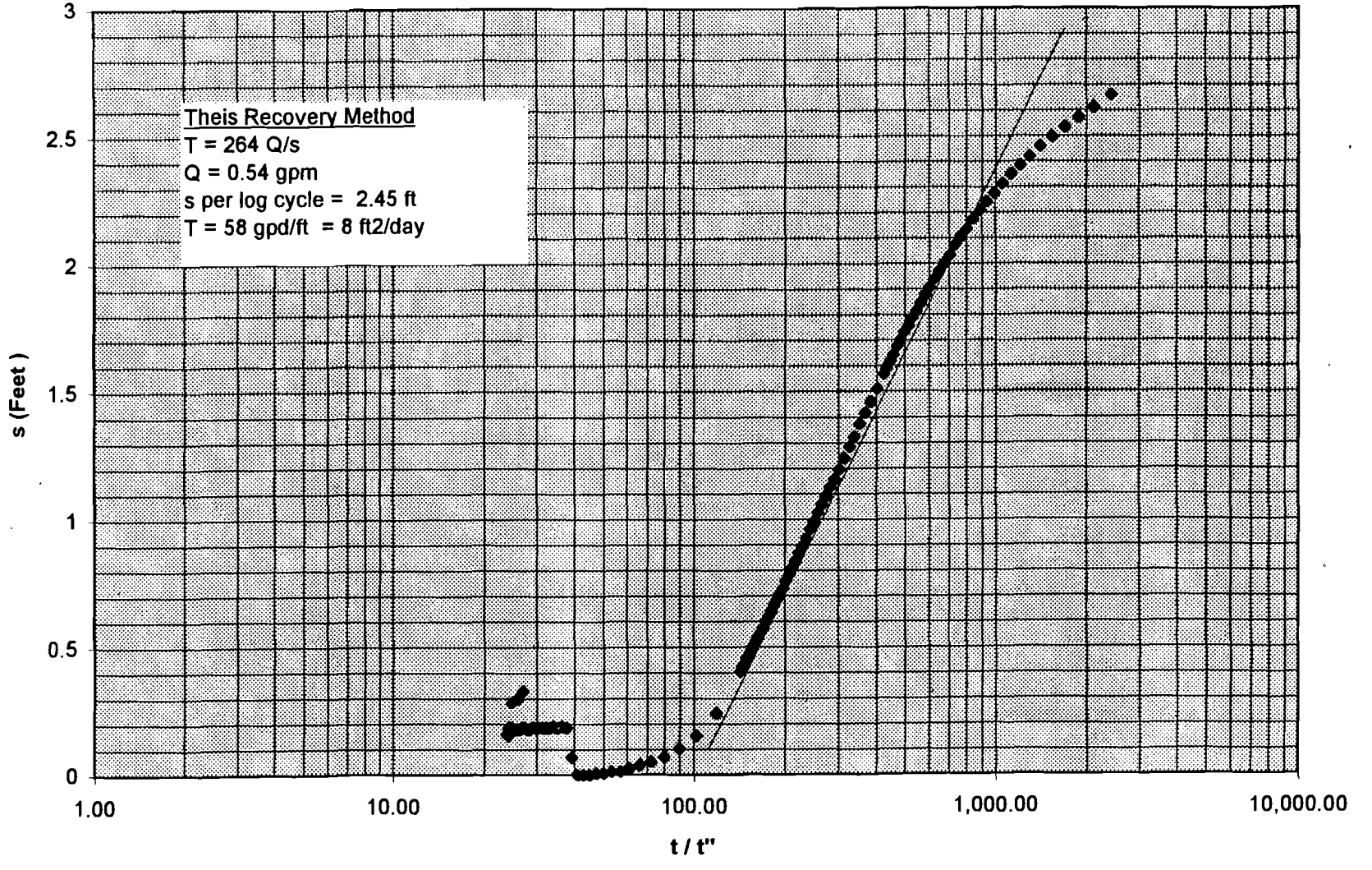
## W-1
## Log-Log Plot of Drawdown During W-1 Discharge Phase



## W-1
## Log-Log Plot of Drawdown during W-1 Discharge Phase



## W-1
## Semi-Log Plot of Recovery Data From 9/29/95 Preliminary Pumping Test




OLW1RT1.xls Recoverymethod

## W-1 Constant-Rate Discharge Test
## Automated Drawdown Data
## 0 minutes = 1300 hours on November 7, 1995

**Uncorrected Transducer Data***

| Time (min) | W-1 (ft) | B-1 (ft) | Barometric Pressure (ft) |
|---|---|---|---|
| 0.000 | 0.000 | -0.082 | 14.207 |
| 0.008 | 0.000 | -0.075 | 14.207 |
| 0.017 | 0.000 | -0.075 | 14.207 |
| 0.025 | -0.006 | -0.075 | 14.207 |
| 0.033 | -0.006 | -0.082 | 14.207 |
| 0.042 | 0.000 | -0.075 | 14.207 |
| 0.050 | 0.000 | -0.082 | 14.207 |
| 0.058 | 0.000 | -0.075 | 14.207 |
| 0.067 | 0.000 | -0.082 | 14.207 |
| 0.075 | 0.006 | -0.082 | 14.207 |
| 0.083 | 0.006 | -0.082 | 14.207 |
| 0.092 | 0.000 | -0.082 | 14.207 |
| 0.100 | 0.000 | -0.075 | 14.207 |
| 0.108 | 0.000 | -0.082 | 14.207 |
| 0.117 | 0.000 | -0.075 | 14.207 |
| 0.125 | 0.000 | -0.075 | 14.207 |
| 0.133 | 0.000 | -0.075 | 14.207 |
| 0.142 | 0.000 | -0.082 | 14.207 |
| 0.150 | 0.000 | -0.082 | 14.207 |
| 0.158 | 0.000 | -0.082 | 14.207 |
| 0.167 | 0.000 | -0.082 | 14.207 |
| 0.175 | 0.000 | -0.075 | 14.207 |
| 0.183 | 0.006 | -0.082 | 14.207 |
| 0.192 | 0.126 | -0.082 | 14.207 |
| 0.200 | 0.265 | -0.082 | 14.207 |
| 0.208 | 0.372 | -0.082 | 14.207 |
| 0.217 | 0.454 | -0.075 | 14.207 |
| 0.225 | 0.518 | -0.082 | 14.207 |
| 0.233 | 0.581 | -0.075 | 14.207 |
| 0.242 | 0.631 | -0.075 | 14.207 |
| 0.250 | 0.676 | -0.075 | 14.207 |
| 0.258 | 0.720 | -0.075 | 14.207 |
| 0.267 | 0.764 | -0.075 | 14.207 |
| 0.275 | 0.802 | -0.075 | 14.207 |
| 0.283 | 0.840 | -0.075 | 14.207 |
| 0.292 | 0.884 | -0.075 | 14.207 |
| 0.300 | 0.916 | -0.075 | 14.207 |
| 0.308 | 0.954 | -0.075 | 14.207 |
| 0.317 | 0.992 | -0.075 | 14.207 |
| 0.325 | 1.029 | -0.075 | 14.207 |
| 0.333 | 1.055 | -0.075 | 14.207 |
| 0.350 | 1.124 | -0.075 | 14.207 |
| 0.367 | 1.187 | -0.075 | 14.207 |
| 0.383 | 1.251 | -0.075 | 14.207 |
| 0.400 | 1.307 | -0.069 | 14.207 |
| 0.417 | 1.364 | -0.069 | 14.207 |
| 0.433 | 1.415 | -0.069 | 14.207 |
| 0.450 | 1.465 | -0.069 | 14.207 |
| 0.467 | 1.516 | -0.069 | 14.207 |
| 0.483 | 1.560 | -0.069 | 14.207 |
| 0.500 | 1.604 | -0.063 | 14.207 |
| 0.517 | 1.649 | -0.063 | 14.207 |
| 0.533 | 1.687 | -0.063 | 14.207 |

## W-1 Constant-Rate Discharge Test
## Automated Drawdown Data
## 0 minutes = 1300 hours on November 7, 1995

**Uncorrected Transducer Data***

| Time (min) | W-1 (ft) | B-1 (ft) | Barometric Pressure (ft) |
|---|---|---|---|
| 0.550 | 1.731 | -0.063 | 14.207 |
| 0.567 | 1.762 | -0.063 | 14.207 |
| 0.583 | 1.800 | -0.063 | 14.207 |
| 0.600 | 1.832 | -0.056 | 14.207 |
| 0.617 | 1.863 | -0.063 | 14.207 |
| 0.633 | 1.895 | -0.056 | 14.207 |
| 0.650 | 1.927 | -0.056 | 14.207 |
| 0.667 | 1.952 | -0.056 | 14.207 |
| 0.683 | 1.971 | -0.056 | 14.207 |
| 0.700 | 2.002 | -0.056 | 14.207 |
| 0.717 | 2.028 | -0.050 | 14.207 |
| 0.733 | 2.047 | -0.056 | 14.207 |
| 0.750 | 2.072 | -0.050 | 14.207 |
| 0.767 | 2.091 | -0.050 | 14.207 |
| 0.783 | 2.110 | -0.050 | 14.207 |
| 0.800 | 2.129 | -0.050 | 14.207 |
| 0.817 | 2.148 | -0.050 | 14.207 |
| 0.833 | 2.167 | -0.050 | 14.207 |
| 0.850 | 2.186 | -0.044 | 14.207 |
| 0.867 | 2.198 | -0.044 | 14.207 |
| 0.883 | 2.217 | -0.044 | 14.207 |
| 0.900 | 2.230 | -0.044 | 14.207 |
| 0.917 | 2.230 | -0.044 | 14.207 |
| 0.933 | 2.236 | -0.044 | 14.207 |
| 0.950 | 2.249 | -0.044 | 14.207 |
| 0.967 | 2.255 | -0.044 | 14.207 |
| 0.983 | 2.249 | -0.044 | 14.207 |
| 1.000 | 2.255 | -0.044 | 14.207 |
| 1.200 | 2.268 | -0.037 | 14.208 |
| 1.400 | 2.268 | -0.031 | 14.208 |
| 1.600 | 2.274 | -0.031 | 14.207 |
| 1.800 | 2.306 | -0.025 | 14.208 |
| 2.000 | 2.318 | -0.018 | 14.208 |
| 2.200 | 2.337 | -0.018 | 14.208 |
| 2.400 | 2.356 | -0.018 | 14.208 |
| 2.600 | 2.369 | -0.012 | 14.208 |
| 2.800 | 2.388 | -0.012 | 14.208 |
| 3.000 | 2.394 | -0.006 | 14.208 |
| 3.200 | 2.407 | -0.006 | 14.208 |
| 3.400 | 2.413 | -0.006 | 14.208 |
| 3.600 | 2.419 | 0.000 | 14.208 |
| 3.800 | 2.438 | 0.000 | 14.208 |
| 4.000 | 2.445 | 0.000 | 14.208 |
| 4.200 | 2.451 | 0.006 | 14.208 |
| 4.400 | 2.451 | 0.006 | 14.208 |
| 4.600 | 2.432 | 0.012 | 14.207 |
| 4.800 | 2.407 | 0.012 | 14.208 |
| 5.000 | 2.438 | 0.012 | 14.207 |
| 5.200 | 2.445 | 0.018 | 14.207 |
| 5.400 | 2.445 | 0.018 | 14.207 |
| 5.600 | 2.457 | 0.018 | 14.207 |
| 5.800 | 2.476 | 0.018 | 14.207 |
| 6.000 | 2.495 | 0.018 | 14.207 |

## W-1 Constant-Rate Discharge Test
## Automated Drawdown Data
## 0 minutes = 1300 hours on November 7, 1995

**Uncorrected Transducer Data***

| Time (min) | W-1 (ft) | B-1 (ft) | Barometric Pressure (ft) |
|---|---|---|---|
| 6.200 | 2.508 | 0.025 | 14.207 |
| 6.400 | 2.514 | 0.025 | 14.207 |
| 6.600 | 2.527 | 0.025 | 14.207 |
| 6.800 | 2.533 | 0.031 | 14.206 |
| 7.000 | 2.527 | 0.031 | 14.206 |
| 7.200 | 2.533 | 0.031 | 14.207 |
| 7.400 | 2.540 | 0.031 | 14.207 |
| 7.600 | 2.540 | 0.031 | 14.207 |
| 7.800 | 2.546 | 0.031 | 14.206 |
| 8.000 | 2.546 | 0.037 | 14.207 |
| 8.200 | 2.533 | 0.037 | 14.207 |
| 8.400 | 2.521 | 0.037 | 14.206 |
| 8.600 | 2.521 | 0.037 | 14.207 |
| 8.800 | 2.508 | 0.037 | 14.207 |
| 9.000 | 2.514 | 0.037 | 14.207 |
| 9.200 | 2.502 | 0.037 | 14.207 |
| 9.400 | 2.508 | 0.044 | 14.207 |
| 9.600 | 2.521 | 0.044 | 14.208 |
| 9.800 | 2.527 | 0.044 | 14.207 |
| 10.000 | 2.540 | 0.044 | 14.207 |
| 12.000 | 2.584 | 0.063 | 14.207 |
| 14.000 | 2.590 | 0.082 | 14.209 |
| 16.000 | 2.584 | 0.088 | 14.209 |
| 18.000 | 2.596 | 0.082 | 14.209 |
| 20.000 | 2.584 | 0.094 | 14.209 |
| 22.000 | 2.552 | 0.094 | 14.209 |
| 24.000 | 2.603 | 0.094 | 14.208 |
| 26.000 | 2.622 | 0.101 | 14.209 |
| 28.000 | 2.628 | 0.101 | 14.208 |
| 30.000 | 2.647 | 0.101 | 14.207 |
| 32.000 | 2.666 | 0.101 | 14.207 |
| 34.000 | 2.660 | 0.101 | 14.206 |
| 36.000 | 2.666 | 0.101 | 14.204 |
| 38.000 | 2.672 | 0.107 | 14.204 |
| 40.000 | 2.641 | 0.107 | 14.206 |
| 42.000 | 2.660 | 0.107 | 14.206 |
| 44.000 | 2.660 | 0.107 | 14.206 |
| 46.000 | 2.685 | 0.107 | 14.206 |
| 48.000 | 2.672 | 0.107 | 14.207 |
| 50.000 | 2.647 | 0.107 | 14.204 |
| 52.000 | 2.679 | 0.107 | 14.202 |
| 54.000 | 2.666 | 0.107 | 14.202 |
| 56.000 | 2.697 | 0.101 | 14.202 |
| 58.000 | 2.691 | 0.107 | 14.201 |
| 60.000 | 2.672 | 0.101 | 14.200 |
| 62.000 | 2.672 | 0.107 | 14.201 |
| 64.000 | 2.697 | 0.107 | 14.202 |
| 66.000 | 2.679 | 0.101 | 14.203 |
| 68.000 | 2.697 | 0.101 | 14.204 |
| 70.000 | 2.685 | 0.101 | 14.203 |
| 72.000 | 2.685 | 0.094 | 14.203 |
| 74.000 | 2.754 | 0.101 | 14.203 |
| 76.000 | 2.742 | 0.094 | 14.202 |

## W-1 Constant-Rate Discharge Test
## Automated Drawdown Data
## 0 minutes = 1300 hours on November 7, 1995

**Uncorrected Transducer Data***

| Time (min) | W-1 (ft) | B-1 (ft) | Barometric Pressure (ft) |
|---|---|---|---|
| 78.000 | 2.716 | 0.094 | 14.200 |
| 80.000 | 2.716 | 0.088 | 14.200 |
| 82.000 | 2.716 | 0.088 | 14.202 |
| 84.000 | 2.729 | 0.094 | 14.202 |
| 86.000 | 2.729 | 0.088 | 14.203 |
| 88.000 | 2.723 | 0.094 | 14.204 |
| 90.000 | 2.729 | 0.094 | 14.206 |
| 92.000 | 2.666 | 0.088 | 14.207 |
| 94.000 | 2.685 | 0.082 | 14.203 |
| 96.000 | 2.691 | 0.075 | 14.203 |
| 98.000 | 2.691 | 0.082 | 14.206 |
| 100.000 | 2.710 | 0.082 | 14.206 |
| 120.000 | 2.748 | 0.056 | 14.204 |
| 140.000 | 2.780 | 0.050 | 14.208 |
| 160.000 | 2.754 | 0.044 | 14.214 |
| 180.000 | 2.691 | 0.031 | 14.211 |
| 200.000 | 2.653 | 0.018 | 14.215 |
| 220.000 | 2.622 | 0.006 | 14.219 |
| 240.000 | 2.603 | -0.006 | 14.219 |
| 260.000 | 2.558 | -0.018 | 14.223 |
| 280.000 | 2.546 | -0.025 | 14.225 |
| 300.000 | 2.533 | -0.037 | 14.226 |
| 320.000 | 2.540 | -0.037 | 14.230 |
| 340.000 | 2.514 | -0.044 | 14.233 |
| 360.000 | 2.521 | -0.050 | 14.236 |
| 380.000 | 2.540 | -0.056 | 14.237 |
| 400.000 | 2.476 | -0.063 | 14.240 |
| 420.000 | 2.508 | -0.069 | 14.243 |
| 440.000 | 2.546 | -0.069 | 14.245 |
| 460.000 | 2.129 | -0.088 | 14.253 |
| 480.000 | 1.977 | -0.107 | 14.254 |
| 500.000 | 1.971 | -0.120 | 14.257 |
| 520.000 | 1.958 | -0.126 | 14.260 |
| 540.000 | 2.085 | -0.126 | 14.264 |
| 560.000 | 2.091 | -0.120 | 14.264 |
| 580.000 | 2.173 | -0.126 | 14.265 |
| 600.000 | 2.217 | -0.113 | 14.267 |
| 620.000 | 2.205 | -0.113 | 14.268 |
| 640.000 | 2.186 | -0.120 | 14.268 |
| 660.000 | 2.205 | -0.120 | 14.271 |
| 680.000 | 2.211 | -0.120 | 14.268 |
| 700.000 | 2.211 | -0.120 | 14.269 |
| 720.000 | 2.217 | -0.126 | 14.269 |
| 740.000 | 2.217 | -0.126 | 14.268 |
| 760.000 | 2.211 | -0.126 | 14.269 |
| 780.000 | 2.217 | -0.132 | 14.267 |
| 800.000 | 2.211 | -0.132 | 14.268 |
| 820.000 | 2.205 | -0.132 | 14.266 |
| 840.000 | 2.224 | -0.132 | 14.264 |
| 860.000 | 2.230 | -0.145 | 14.263 |
| 880.000 | 2.243 | -0.132 | 14.263 |
| 900.000 | 2.236 | -0.126 | 14.265 |
| 920.000 | 2.230 | -0.120 | 14.268 |

## W-1 Constant-Rate Discharge Test
## Automated Drawdown Data
## 0 minutes = 1300 hours on November 7, 1995

**Uncorrected Transducer Data***

| Time (min) | W-1 (ft) | B-1 (ft) | Barometric Pressure (ft) |
|---|---|---|---|
| 940.000 | 2.217 | -0.120 | 14.271 |
| 960.000 | 2.230 | -0.120 | 14.273 |
| 980.000 | 2.230 | -0.120 | 14.272 |
| 1,000.000 | 2.186 | -0.107 | 14.273 |
| 1,060.000 | 2.141 | -0.069 | 14.277 |
| 1,120.000 | -0.151 | -0.246 | 14.286 |
| 1,180.000 | -0.195 | -0.296 | 14.286 |
| 1,240.000 | -0.233 | -0.322 | 14.283 |
| 1,300.000 | -0.208 | -0.315 | 14.295 |
| 1,360.000 | -0.208 | -0.322 | 14.306 |
| 1,420.000 | -0.208 | -0.322 | 14.315 |
| 1,480.000 | -0.221 | -0.328 | 14.324 |
| 1,540.000 | -0.227 | -0.322 | 14.335 |
| 1,600.000 | -0.227 | -0.315 | 14.345 |
| 1,660.000 | -0.227 | -0.309 | 14.356 |
| 1,720.000 | -0.221 | -0.303 | 14.370 |
| 1,780.000 | -0.221 | -0.296 | 14.381 |
| 1,840.000 | -0.221 | -0.290 | 14.385 |
| 1,900.000 | -0.221 | -0.284 | 14.389 |
| 1,960.000 | -0.214 | -0.277 | 14.397 |
| 2,020.000 | -0.208 | -0.271 | 14.402 |
| 2,080.000 | -0.202 | -0.271 | 14.408 |
| 2,140.000 | -0.195 | -0.265 | 14.415 |
| 2,200.000 | -0.189 | -0.258 | 14.422 |
| 2,260.000 | -0.176 | -0.246 | 14.430 |
| 2,320.000 | -0.164 | -0.233 | 14.438 |
| 2,380.000 | -0.151 | -0.221 | 14.452 |
| 2,440.000 | -0.139 | -0.214 | 14.467 |
| 2,500.000 | -0.126 | -0.202 | 14.481 |
| 2,560.000 | -0.120 | -0.189 | 14.492 |

*The data shown on this table was shifted to plot from 0.001 at time = 0 to create the time-drawdown plots.

**W-1 Preliminary Pumping Test**
**Recovery Data - September 29,1995**
**Pumping interval = 141 minutes**
**Average Discharge Rate = 0.54 gpm**

| Time (min) | t/t'* | s (feet) |
|---|---|---|
| 0.0583 | 2,418.58 | 2.661 |
| 0.0666 | 2,117.18 | 2.61 |
| 0.075 | 1,880.08 | 2.572 |
| 0.0833 | 1,692.76 | 2.534 |
| 0.0916 | 1,539.39 | 2.496 |
| 0.1 | 1,410.10 | 2.458 |
| 0.1083 | 1,302.05 | 2.42 |
| 0.1166 | 1,209.38 | 2.383 |
| 0.125 | 1,128.13 | 2.351 |
| 0.1333 | 1,057.90 | 2.313 |
| 0.1416 | 995.90 | 2.275 |
| 0.15 | 940.15 | 2.243 |
| 0.1583 | 890.87 | 2.206 |
| 0.1666 | 846.51 | 2.174 |
| 0.175 | 805.89 | 2.136 |
| 0.1833 | 769.41 | 2.104 |
| 0.1916 | 736.10 | 2.073 |
| 0.2 | 705.20 | 2.035 |
| 0.2083 | 677.12 | 2.003 |
| 0.2166 | 651.19 | 1.972 |
| 0.225 | 626.89 | 1.94 |
| 0.2333 | 604.61 | 1.908 |
| 0.2416 | 583.85 | 1.877 |
| 0.25 | 564.25 | 1.845 |
| 0.2583 | 546.14 | 1.814 |
| 0.2666 | 529.15 | 1.788 |
| 0.275 | 513.00 | 1.757 |
| 0.2833 | 497.99 | 1.732 |
| 0.2916 | 483.83 | 1.7 |
| 0.3 | 470.30 | 1.675 |
| 0.3083 | 457.66 | 1.643 |
| 0.3166 | 445.67 | 1.618 |
| 0.325 | 434.17 | 1.592 |
| 0.3333 | 423.38 | 1.567 |
| 0.35 | 403.21 | 1.51 |
| 0.3666 | 384.98 | 1.46 |
| 0.3833 | 368.24 | 1.415 |
| 0.4 | 352.90 | 1.371 |
| 0.4166 | 338.87 | 1.321 |
| 0.4333 | 325.84 | 1.283 |
| 0.45 | 313.78 | 1.239 |
| 0.4666 | 302.65 | 1.194 |
| 0.4833 | 292.23 | 1.156 |
| 0.5 | 282.50 | 1.125 |
| 0.5166 | 273.46 | 1.087 |
| 0.5333 | 264.92 | 1.055 |

**W-1 Preliminary Pumping Test**
**Recovery Data - September 29,1995**
**Pumping interval = 141 minutes**
**Average Discharge Rate = 0.54 gpm**

| Time (min) | t/t'* | s (feet) |
|---|---|---|
| 0.55 | 256.91 | 1.024 |
| 0.5666 | 249.42 | 0.986 |
| 0.5833 | 242.31 | 0.96 |
| 0.6 | 235.60 | 0.923 |
| 0.6166 | 229.29 | 0.891 |
| 0.6333 | 223.28 | 0.866 |
| 0.65 | 217.57 | 0.834 |
| 0.6666 | 212.19 | 0.809 |
| 0.6833 | 207.03 | 0.783 |
| 0.7 | 202.13 | 0.758 |
| 0.7166 | 197.48 | 0.727 |
| 0.7333 | 193.01 | 0.701 |
| 0.75 | 188.75 | 0.682 |
| 0.7666 | 184.70 | 0.663 |
| 0.7833 | 180.79 | 0.638 |
| 0.8 | 177.05 | 0.619 |
| 0.8166 | 173.48 | 0.6 |
| 0.8333 | 170.04 | 0.575 |
| 0.85 | 166.73 | 0.556 |
| 0.8666 | 163.57 | 0.537 |
| 0.8833 | 160.51 | 0.518 |
| 0.9 | 157.57 | 0.505 |
| 0.9166 | 154.75 | 0.486 |
| 0.9333 | 152.01 | 0.467 |
| 0.95 | 149.37 | 0.455 |
| 0.9666 | 146.84 | 0.436 |
| 0.9833 | 144.38 | 0.423 |
| 1 | 142.00 | 0.404 |
| 1.2 | 118.70 | 0.24 |
| 1.4 | 102.11 | 0.151 |
| 1.6 | 89.73 | 0.101 |
| 1.8 | 80.13 | 0.069 |
| 2 | 72.50 | 0.05 |
| 2.2 | 66.29 | 0.038 |
| 2.4 | 61.15 | 0.025 |
| 2.6 | 56.83 | 0.012 |
| 2.8 | 53.16 | 0.012 |
| 3 | 50.00 | 0.006 |
| 3.2 | 47.26 | 0.006 |
| 3.4 | 44.87 | 0 |
| 3.6 | 42.77 | 0 |
| 3.8 | 40.91 | 0 |
| 4 | 39.25 | 0.069 |
| 4.2 | 37.77 | 0.183 |
| 4.4 | 36.45 | 0.189 |
| 4.6 | 35.25 | 0.183 |
| 4.8 | 34.18 | 0.189 |

**W-1 Preliminary Pumping Test**
**Recovery Data - September 29,1995**
**Pumping interval = 141 minutes**
**Average Discharge Rate = 0.54 gpm**

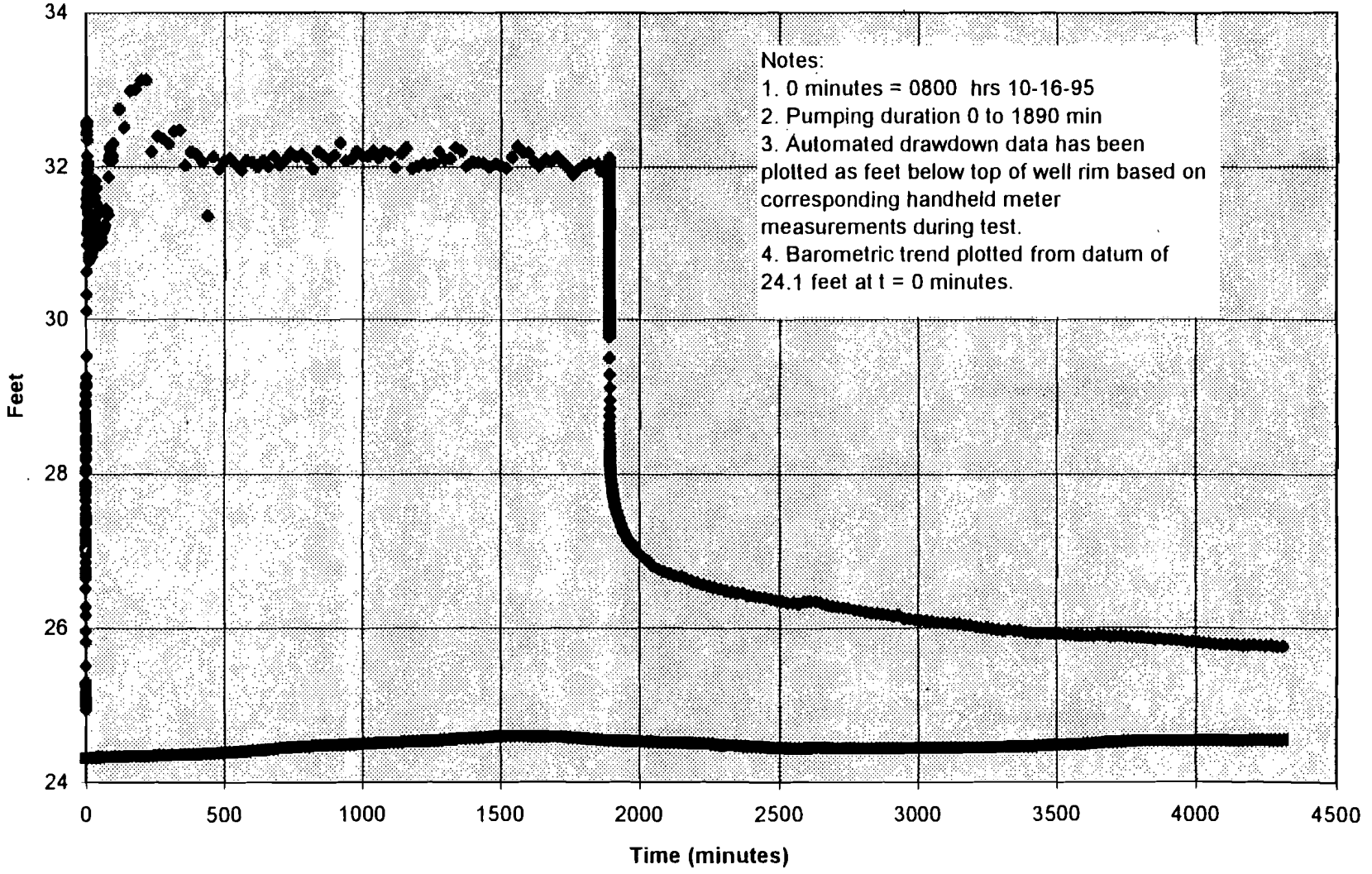
| Time (min) | t/t"* | s (feet) |
|---|---|---|
| 5 | 33.20 | 0.183 |
| 5.2 | 32.32 | 0.183 |
| 5.4 | 31.51 | 0.183 |
| 5.6 | 30.78 | 0.183 |
| 5.8 | 30.11 | 0.183 |
| 6 | 29.50 | 0.183 |
| 6.2 | 28.94 | 0.183 |
| 6.4 | 28.43 | 0.177 |
| 6.6 | 27.96 | 0.177 |
| 6.8 | 27.54 | 0.183 |
| 7 | 27.14 | 0.183 |
| 7.2 | 26.78 | 0.183 |
| 7.4 | 26.45 | 0.177 |
| 7.6 | 26.15 | 0.177 |
| 7.8 | 25.88 | 0.177 |
| 8 | 25.63 | 0.177 |
| 8.2 | 25.40 | 0.177 |
| 8.4 | 25.19 | 0.177 |
| 8.6 | 25.00 | 0.177 |
| 8.8 | 24.82 | 0.177 |
| 9 | 24.67 | 0.183 |
| 9.2 | 24.53 | 0.183 |
| 9.4 | 24.40 | 0.183 |
| 9.6 | 24.29 | 0.183 |
| 9.8 | 24.19 | 0.183 |
| 10 | 24.10 | 0.183 |
| 12 | 23.75 | 0.158 |
| 14 | 24.07 | 0.151 |
| 16 | 24.81 | 0.284 |
| 18 | 25.83 | 0.297 |
| 20 | 27.05 | 0.328 |

*t/t" = time since pumping started/time since pumping stopped

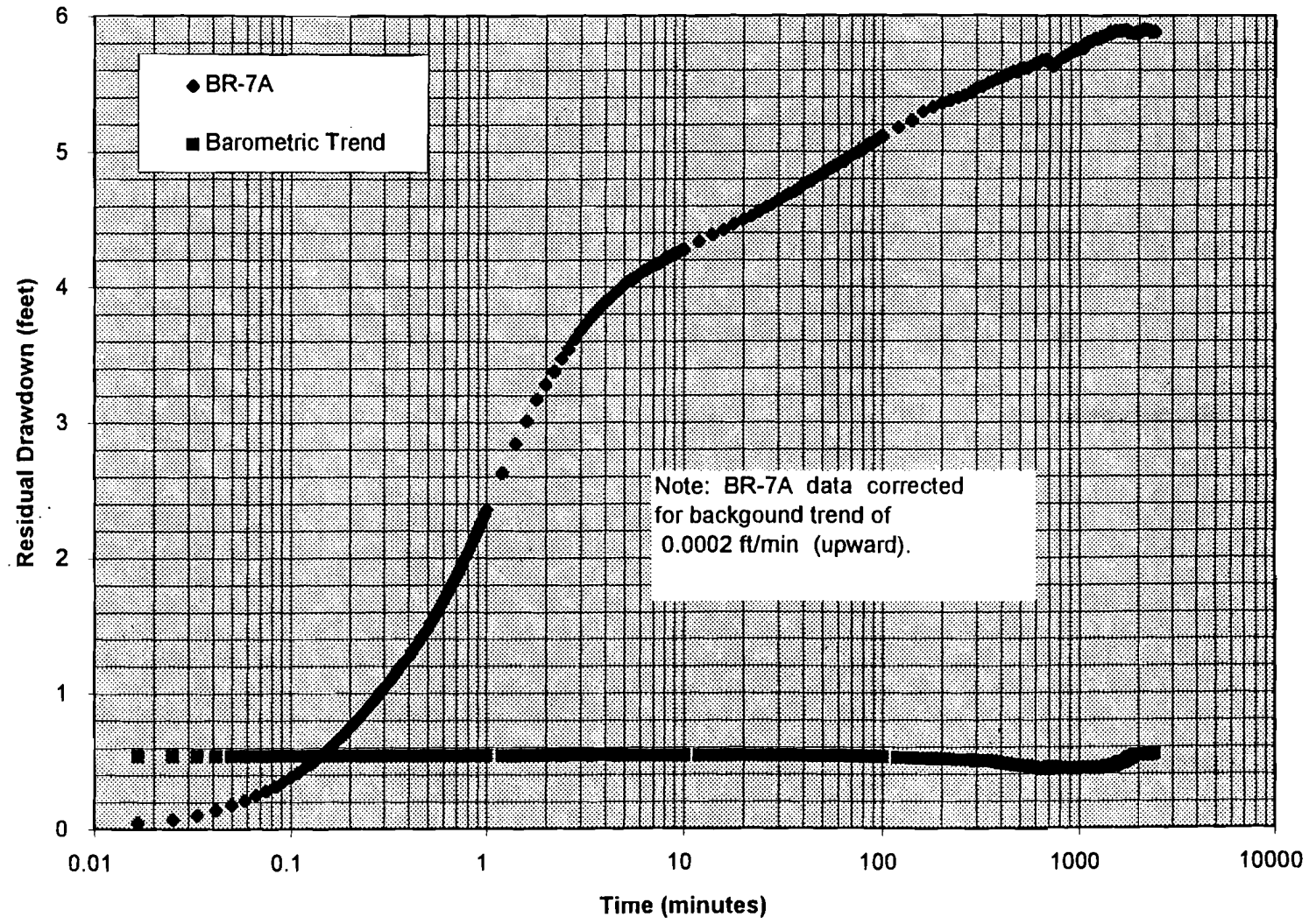
# APPENDIX C-2

# BR-7A PUMPING TEST
# DATA PLOTS AND TABLES

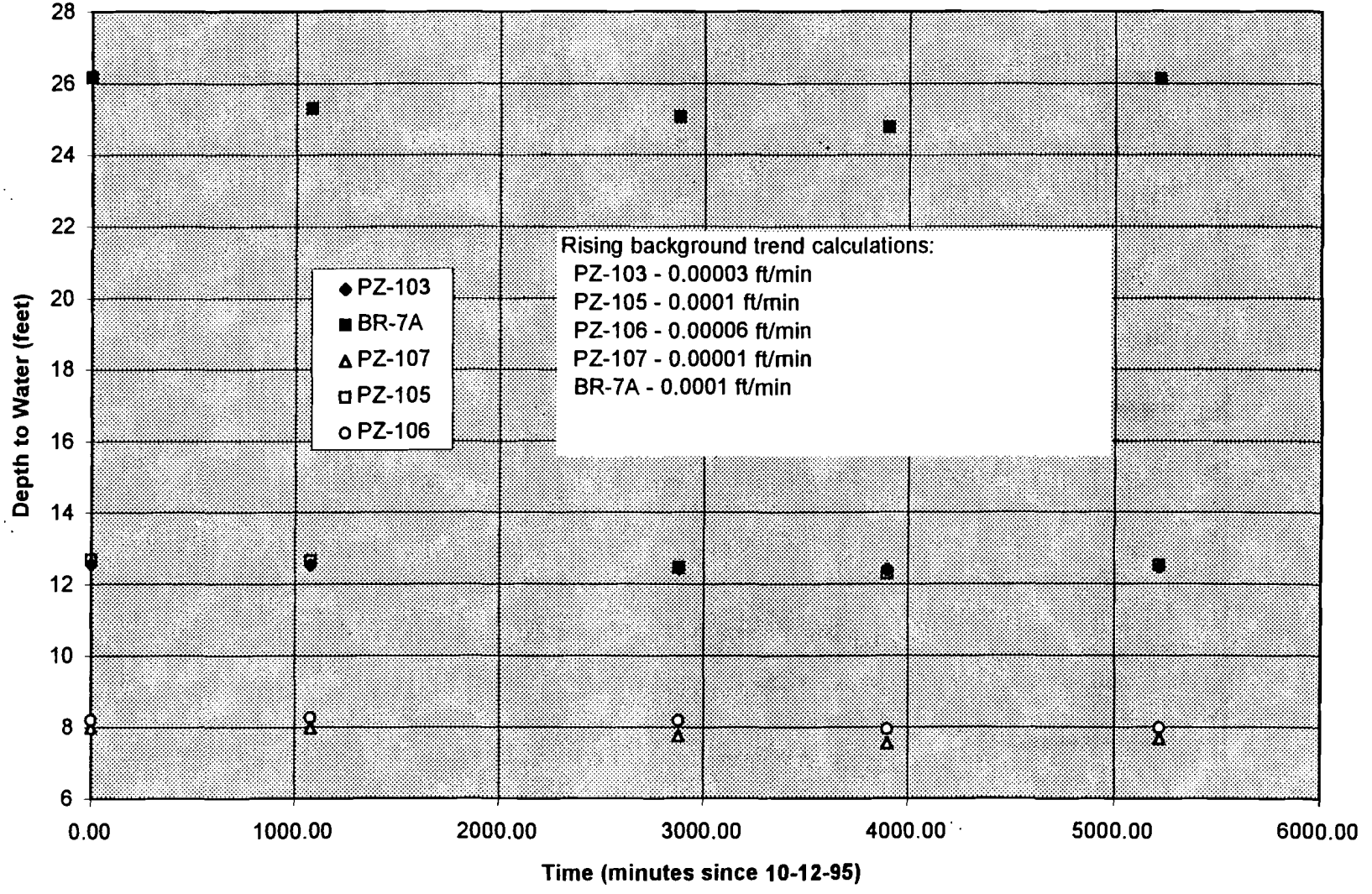
# BR-7A
## Plot of Water Level and Barometric Trend during BR-7A Discharge Test



## BR-7A Recovery Phase
## Semi-Log Plot of Residual Drawdown from Pumping Head

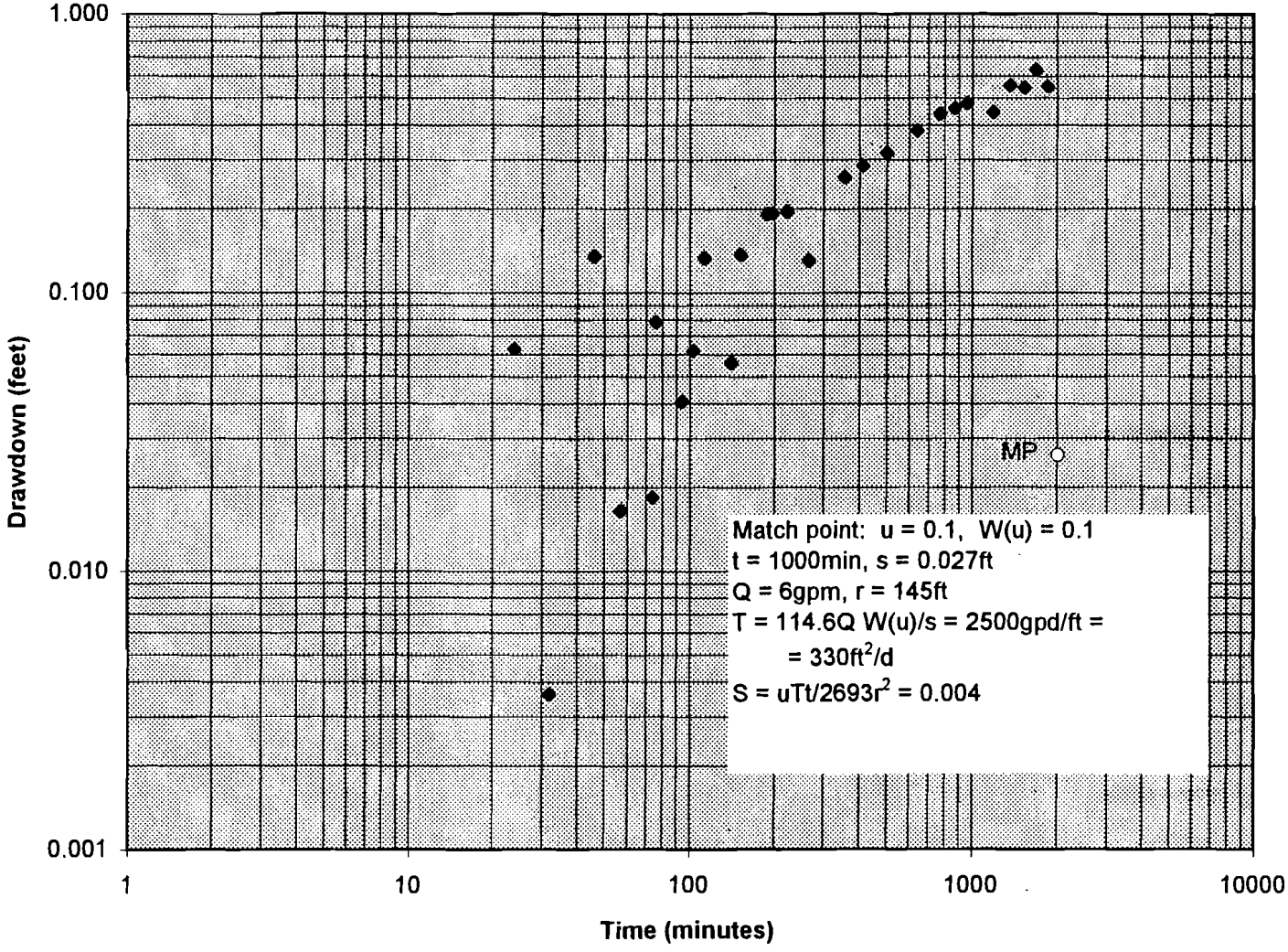


## BR-7A Constant-Rate Discharge Test
## Pre-test Water Level Measurements

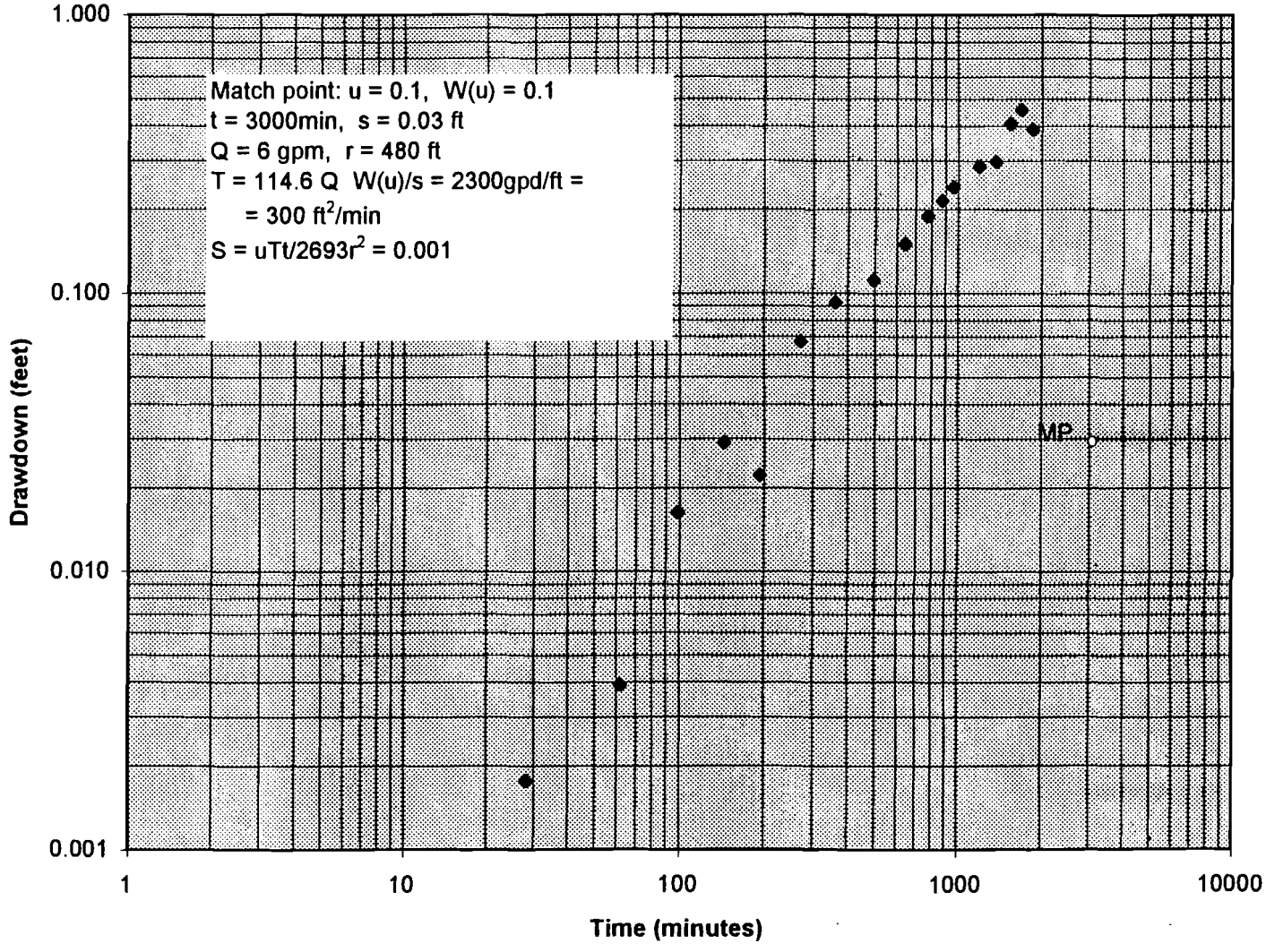



br7awldat.xls chart1

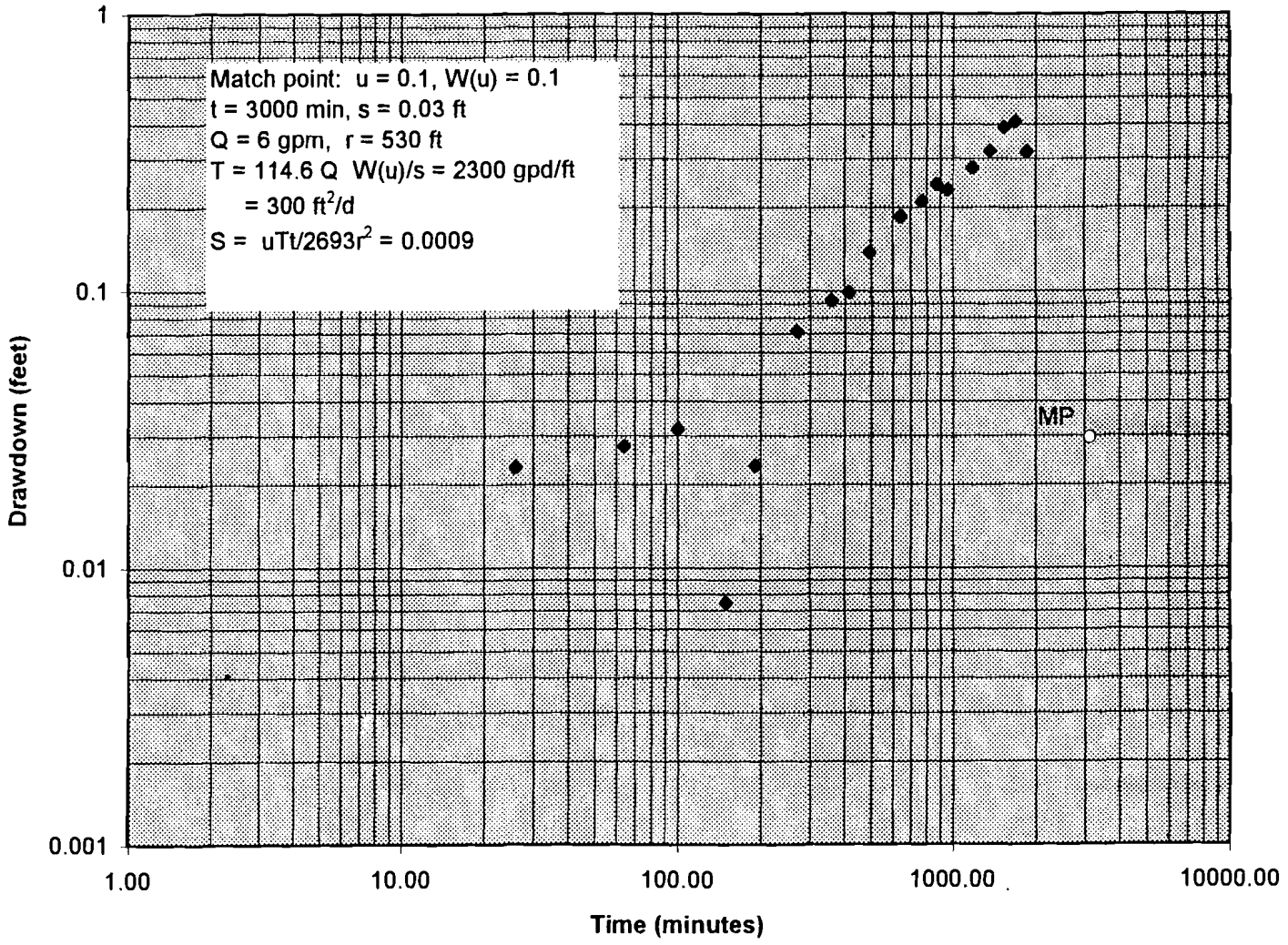
## PZ-105
## Log-Log Plot of Drawdown during BR-7A Discharge Phase



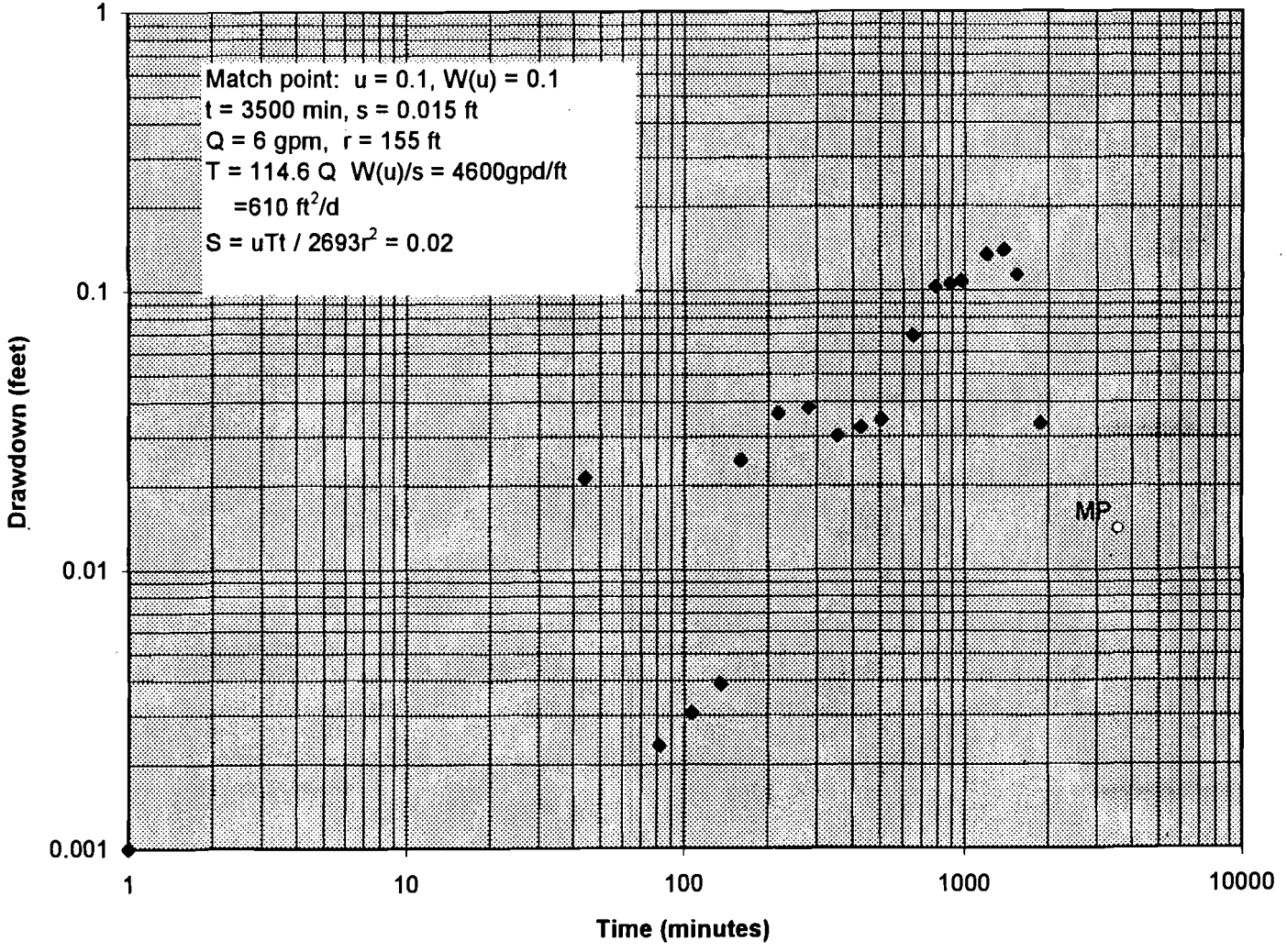
## PZ-106
## Log-Log Plot of Drawdown during BR-7A Discharge Phase



## PZ-107
## Log-Log Plot of Drawdown during BR-7A Discharge Test

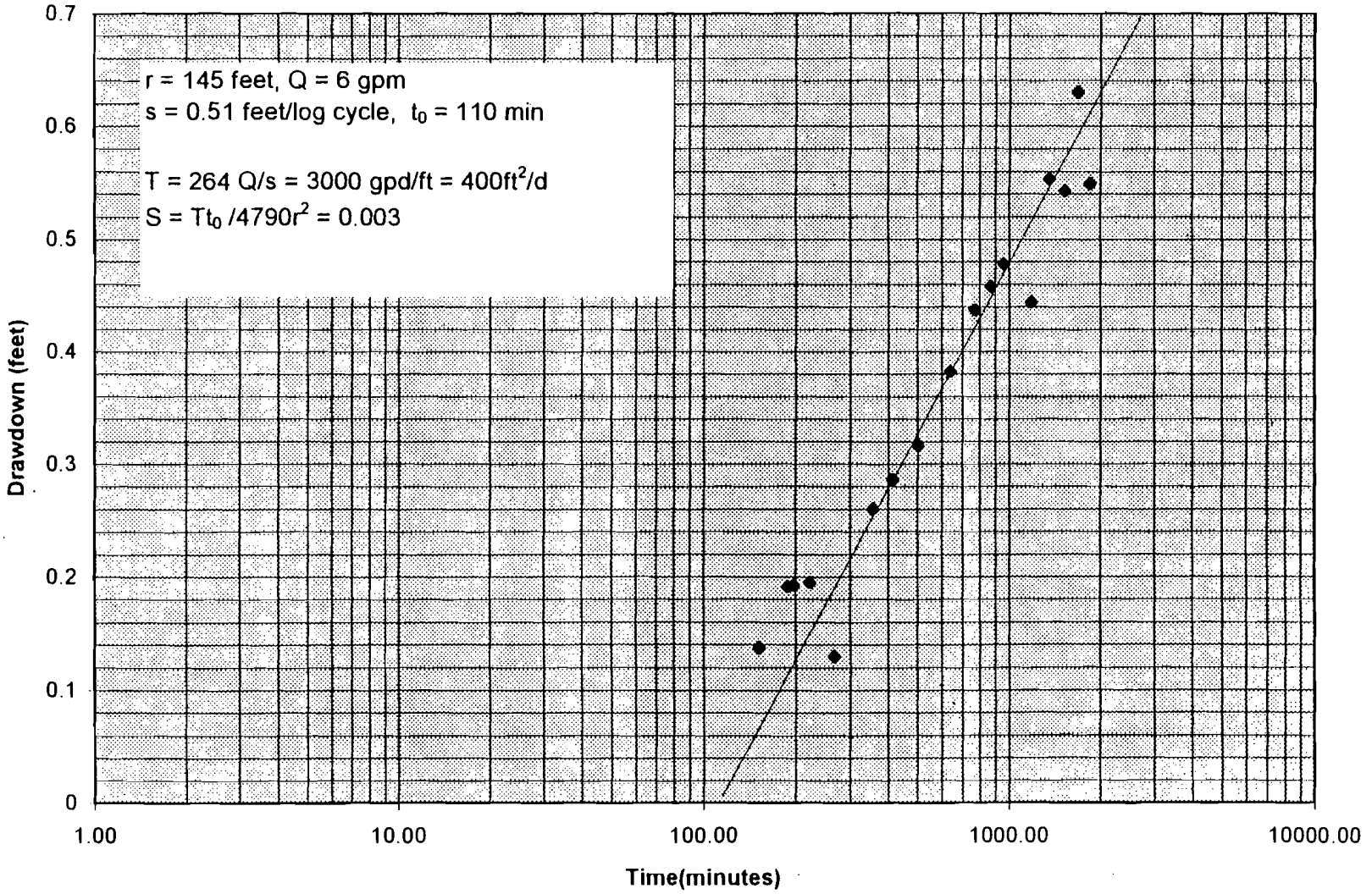


## PZ-103
## Log-Log Plot of Drawdown during BR-7A Discharge Phase




br7wldat.xls 103Log

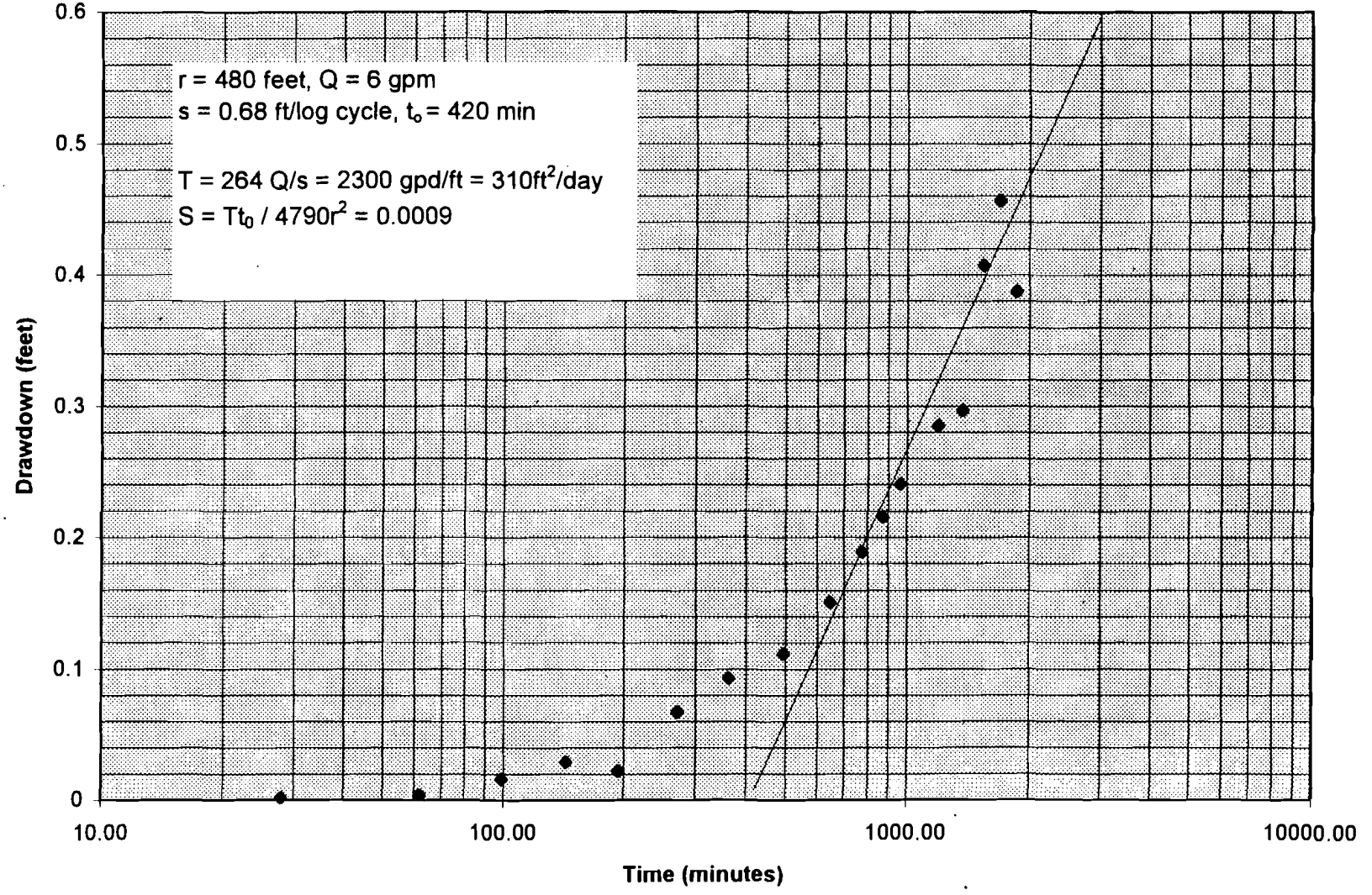
## PZ-105
## Semi-Log Plot of Drawdown during BR-7A Discharge Phase



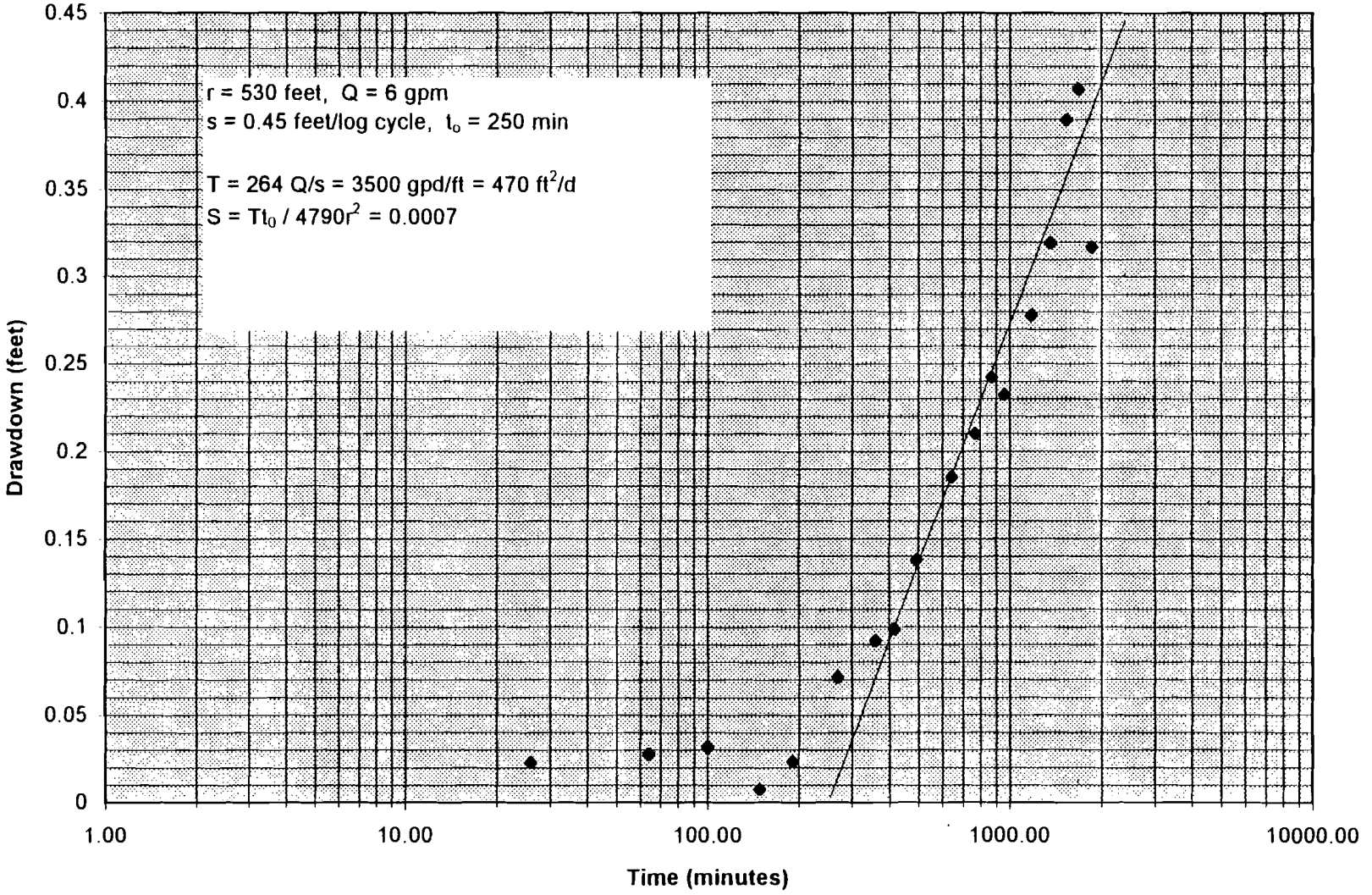

br7wldat xls 105Slog

**PZ-106**

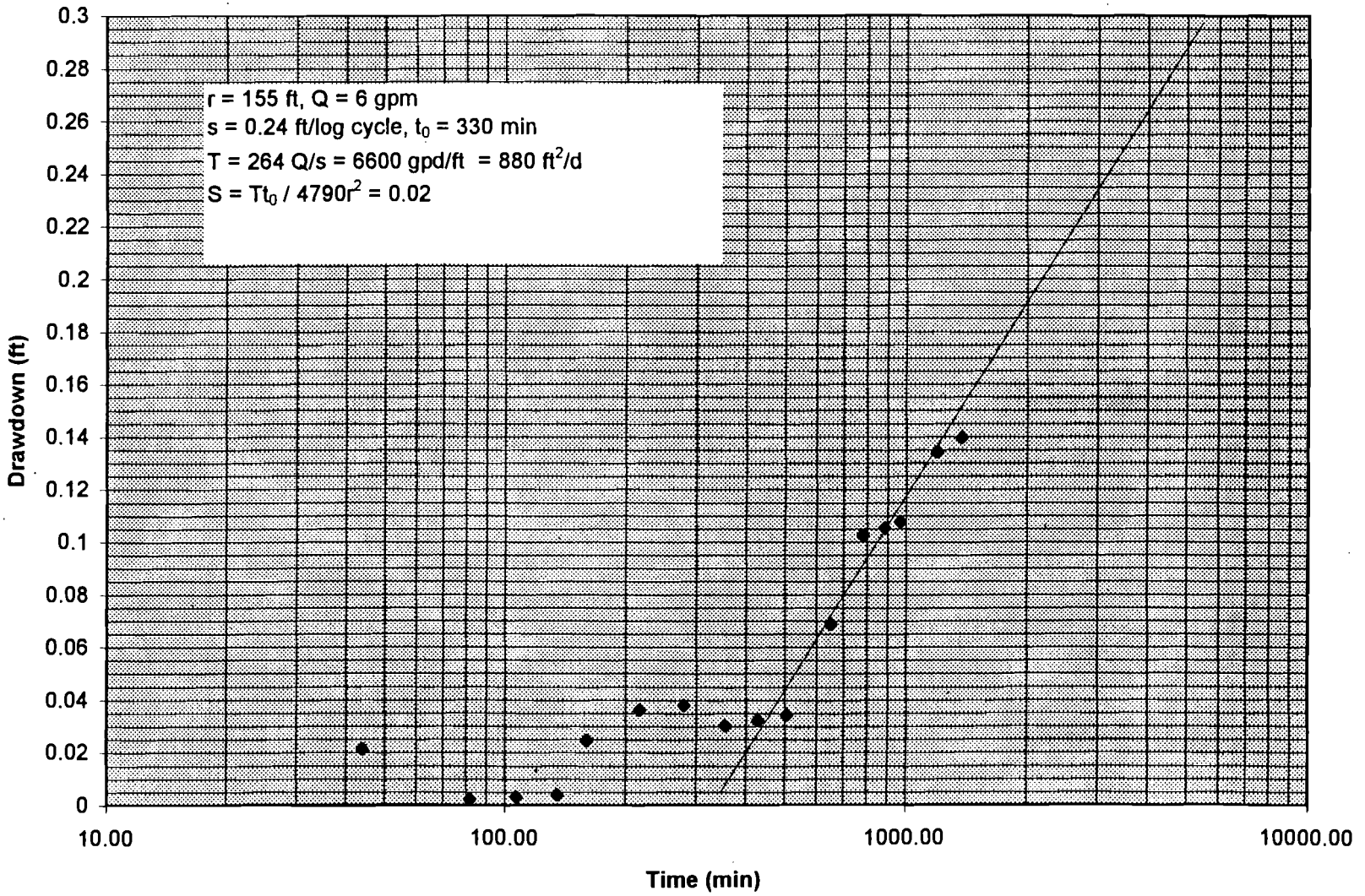
**Semi-Log Plot of Drawdown during BR-7A Discharge Phase**



## PZ-107
## Semi-Log Plot of Drawdown during BR-7A Discharge Phase



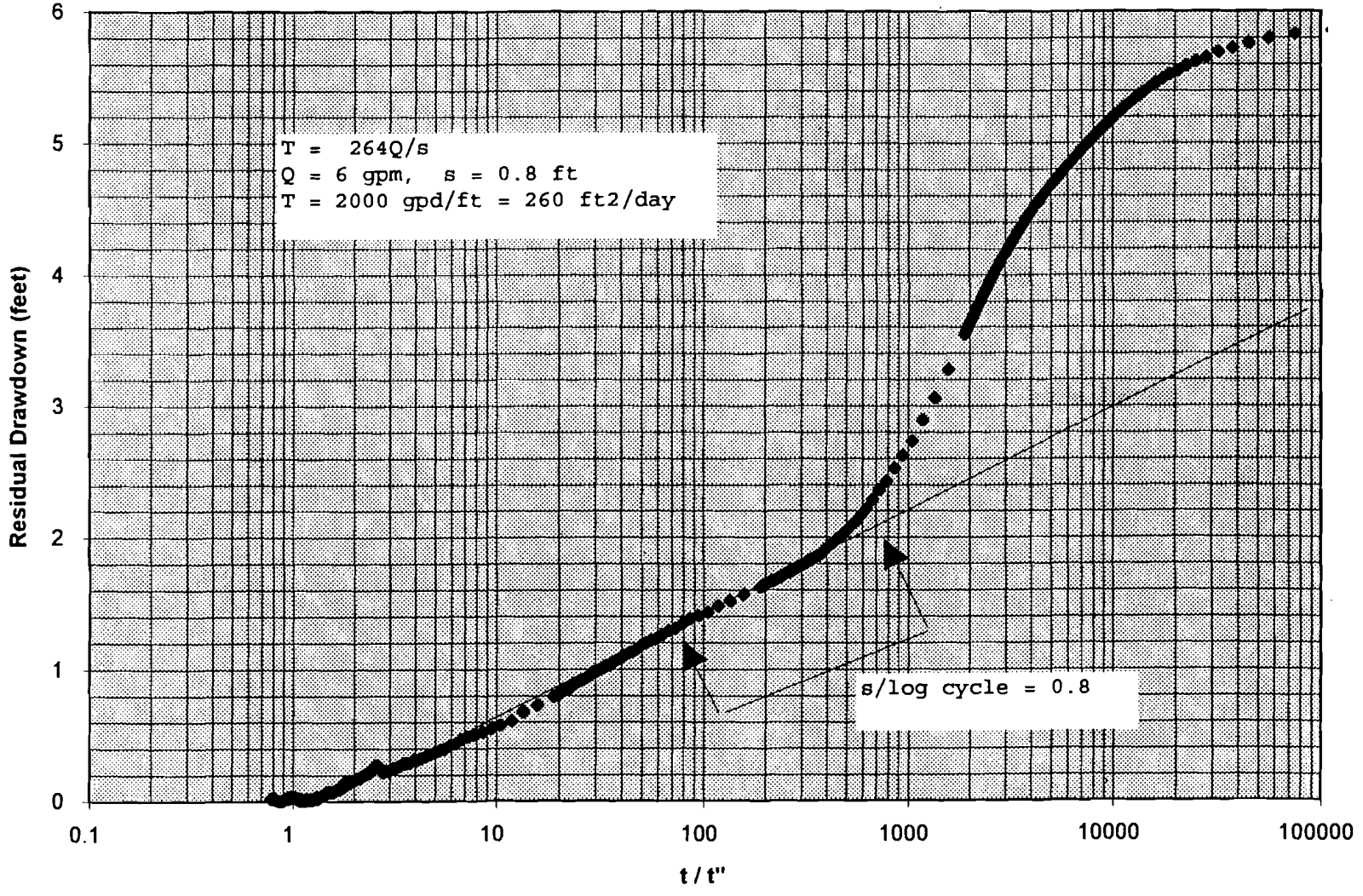
## PZ-103
## Semi-Log Plot of Drawdown during BR-7A Discharge Phase




br7wldat xls 103Slog

## BR-7A

## Semi-Log Plot of Residual Drawdown - BR-7A Recovery Phase



## BR-7A Constant-Rate Discharge Test
## Automated Drawdown Data - Discharge Phase

| Time (minutes) | BR-7A (feet) | Barometric Trend | Time (minutes) | BR-7A (feet) | Barometric Trend |
|---|---|---|---|---|---|
| 0 | 26.711 | 24.31 | 0.4333 | 27.735 | 24.311 |
| 0.0083 | 25.308 | 24.309 | 0.45 | 27.885 | 24.311 |
| 0.0166 | 25.195 | 24.309 | 0.4666 | 27.779 | 24.311 |
| 0.025 | 25.125 | 24.31 | 0.4833 | 27.822 | 24.311 |
| 0.0333 | 25.005 | 24.31 | 0.5 | 27.854 | 24.311 |
| 0.0416 | 24.942 | 24.31 | 0.5166 | 28.062 | 24.311 |
| 0.05 | 24.992 | 24.309 | 0.5333 | 28.037 | 24.313 |
| 0.0583 | 25.075 | 24.31 | 0.55 | 28.018 | 24.313 |
| 0.0666 | 25.043 | 24.31 | 0.5666 | 28.176 | 24.309 |
| 0.075 | 24.999 | 24.31 | 0.5833 | 28.075 | 24.31 |
| 0.0833 | 25.296 | 24.31 | 0.6 | 28.195 | 24.311 |
| 0.0916 | 25.239 | 24.31 | 0.6166 | 28.233 | 24.311 |
| 0.1 | 25.188 | 24.31 | 0.6333 | 28.315 | 24.311 |
| 0.1083 | 25.1 | 24.31 | 0.65 | 28.384 | 24.31 |
| 0.1166 | 25.188 | 24.31 | 0.6666 | 28.416 | 24.31 |
| 0.125 | 25.277 | 24.31 | 0.6833 | 28.41 | 24.31 |
| 0.1333 | 25.15 | 24.309 | 0.7 | 28.473 | 24.311 |
| 0.1416 | 25.511 | 24.31 | 0.7166 | 28.454 | 24.311 |
| 0.15 | 25.826 | 24.31 | 0.7333 | 28.568 | 24.31 |
| 0.1583 | 26.168 | 24.31 | 0.75 | 28.593 | 24.311 |
| 0.1666 | 26.275 | 24.31 | 0.7666 | 28.606 | 24.311 |
| 0.175 | 25.966 | 24.31 | 0.7833 | 28.713 | 24.309 |
| 0.1833 | 26.509 | 24.31 | 0.8 | 28.65 | 24.311 |
| 0.1916 | 26.705 | 24.31 | 0.8166 | 28.789 | 24.31 |
| 0.2 | 26.654 | 24.31 | 0.8333 | 28.745 | 24.31 |
| 0.2083 | 26.768 | 24.31 | 0.85 | 28.89 | 24.31 |
| 0.2166 | 26.85 | 24.309 | 0.8666 | 28.909 | 24.31 |
| 0.225 | 26.945 | 24.309 | 0.8833 | 29.01 | 24.31 |
| 0.2333 | 27.002 | 24.31 | 0.9 | 29.029 | 24.31 |
| 0.2416 | 27.052 | 24.309 | 0.9166 | 28.928 | 24.31 |
| 0.25 | 27.115 | 24.309 | 0.9333 | 29.13 | 24.311 |
| 0.2583 | 27.179 | 24.31 | 0.95 | 29.136 | 24.31 |
| 0.2666 | 27.021 | 24.309 | 0.9666 | 29.168 | 24.31 |
| 0.275 | 27.109 | 24.309 | 0.9833 | 29.13 | 24.31 |
| 0.2833 | 27.128 | 24.31 | 1 | 29.256 | 24.31 |
| 0.2916 | 27.198 | 24.31 | 1.2 | 29.522 | 24.31 |
| 0.3 | 27.261 | 24.309 | 1.4 | 30.116 | 24.311 |
| 0.3083 | 27.198 | 24.309 | 1.6 | 30.331 | 24.311 |
| 0.3166 | 27.236 | 24.309 | 1.8 | 30.628 | 24.31 |
| 0.325 | 27.362 | 24.309 | 2 | 30.975 | 24.31 |
| 0.3333 | 27.419 | 24.309 | 2.2 | 31.133 | 24.311 |
| 0.35 | 27.4 | 24.31 | 2.4 | 31.481 | 24.31 |
| 0.3666 | 27.476 | 24.31 | 2.6 | 31.582 | 24.311 |
| 0.3833 | 27.551 | 24.31 | 2.8 | 31.803 | 24.311 |
| 0.4 | 27.558 | 24.31 | 3 | 31.935 | 24.31 |
| 0.4166 | 27.659 | 24.31 | 3.2 | 32.144 | 24.311 |

| Time (minutes) | BR-7A (feet) | Barometric Trend |
|---|---|---|
| 3.4 | 32.353 | 24.311 |
| 3.6 | 32.416 | 24.311 |
| 3.8 | 32.46 | 24.31 |
| 4 | 32.536 | 24.31 |
| 4.2 | 32.593 | 24.309 |
| 4.4 | 32.548 | 24.31 |
| 4.6 | 32.567 | 24.31 |
| 4.8 | 32.593 | 24.31 |
| 5 | 32.346 | 24.31 |
| 5.2 | 32.056 | 24.31 |
| 5.4 | 32.024 | 24.311 |
| 5.6 | 31.961 | 24.311 |
| 5.8 | 31.822 | 24.311 |
| 6 | 31.695 | 24.311 |
| 6.2 | 31.651 | 24.31 |
| 6.4 | 31.575 | 24.311 |
| 6.6 | 31.525 | 24.311 |
| 6.8 | 31.386 | 24.311 |
| 7 | 31.417 | 24.311 |
| 7.2 | 31.417 | 24.311 |
| 7.4 | 31.247 | 24.311 |
| 7.6 | 31.285 | 24.311 |
| 7.8 | 31.297 | 24.311 |
| 8 | 31.171 | 24.313 |
| 8.2 | 31.234 | 24.313 |
| 8.4 | 31.19 | 24.311 |
| 8.6 | 31.234 | 24.311 |
| 8.8 | 31.045 | 24.311 |
| 9 | 30.962 | 24.311 |
| 9.2 | 30.988 | 24.313 |
| 9.4 | 30.95 | 24.311 |
| 9.6 | 30.811 | 24.311 |
| 9.8 | 30.962 | 24.31 |
| 10 | 30.855 | 24.311 |
| 12 | 30.767 | 24.314 |
| 14 | 31.057 | 24.315 |
| 16 | 31.247 | 24.314 |
| 18 | 30.943 | 24.315 |
| 20 | 30.83 | 24.315 |
| 22 | 30.887 | 24.316 |
| 24 | 31.051 | 24.316 |
| 26 | 31.076 | 24.315 |
| 28 | 31.184 | 24.316 |
| 30 | 31.316 | 24.318 |
| 32 | 31.607 | 24.318 |
| 34 | 31.828 | 24.32 |
| 36 | 31.727 | 24.319 |
| 38 | 31.525 | 24.319 |
| 40 | 31.398 | 24.32 |
| 42 | 31.373 | 24.32 |
| 44 | 31.203 | 24.32 |
| 46 | 30.969 | 24.321 |
| 48 | 30.988 | 24.321 |
| 50 | 31.032 | 24.323 |
| 52 | 31.12 | 24.323 |
| 54 | 31.133 | 24.324 |
| 56 | 31.076 | 24.323 |
| 58 | 31.019 | 24.325 |
| 60 | 31.152 | 24.324 |
| 62 | 31.152 | 24.324 |
| 64 | 31.215 | 24.324 |
| 66 | 31.184 | 24.326 |
| 68 | 31.24 | 24.326 |
| 70 | 31.43 | 24.325 |
| 72 | 31.443 | 24.326 |
| 74 | 31.417 | 24.327 |
| 76 | 31.417 | 24.326 |
| 78 | 31.379 | 24.326 |
| 80 | 31.379 | 24.326 |
| 82 | 31.872 | 24.327 |
| 84 | 32.087 | 24.328 |
| 86 | 32.144 | 24.327 |
| 88 | 32.251 | 24.328 |
| 90 | 32.15 | 24.327 |
| 92 | 32.176 | 24.328 |
| 94 | 32.15 | 24.328 |
| 96 | 32.087 | 24.329 |
| 98 | 32.15 | 24.328 |
| 100 | 32.308 | 24.328 |
| 120 | 32.751 | 24.332 |
| 140 | 32.517 | 24.336 |
| 160 | 32.984 | 24.337 |
| 180 | 33.01 | 24.34 |
| 200 | 33.123 | 24.342 |
| 220 | 33.123 | 24.346 |
| 240 | 32.201 | 24.349 |
| 260 | 32.403 | 24.353 |
| 280 | 32.371 | 24.357 |
| 300 | 32.308 | 24.355 |
| 320 | 32.466 | 24.356 |
| 340 | 32.479 | 24.356 |
| 360 | 32.024 | 24.359 |
| 380 | 32.195 | 24.358 |
| 400 | 32.169 | 24.363 |
| 420 | 32.068 | 24.366 |
| 440 | 31.36 | 24.369 |
| 460 | 32.131 | 24.372 |
| 480 | 31.973 | 24.376 |

| Time (minutes) | BR-7A (feet) | Barometric Trend |
|---|---|---|
| 500 | 32.081 | 24.381 |
| 520 | 32.112 | 24.386 |
| 540 | 32.043 | 24.392 |
| 560 | 31.961 | 24.397 |
| 580 | 32.087 | 24.401 |
| 600 | 32.062 | 24.407 |
| 620 | 32.005 | 24.412 |
| 640 | 32.087 | 24.418 |
| 660 | 32.005 | 24.426 |
| 680 | 32.144 | 24.433 |
| 700 | 32.024 | 24.436 |
| 720 | 32.093 | 24.441 |
| 740 | 32.182 | 24.445 |
| 760 | 32.131 | 24.45 |
| 780 | 32.169 | 24.455 |
| 800 | 32.112 | 24.46 |
| 820 | 31.973 | 24.465 |
| 840 | 32.195 | 24.47 |
| 860 | 32.144 | 24.473 |
| 880 | 32.1 | 24.476 |
| 900 | 32.15 | 24.478 |
| 920 | 32.315 | 24.482 |
| 940 | 32.081 | 24.484 |
| 960 | 32.106 | 24.488 |
| 980 | 32.201 | 24.491 |
| 1000 | 32.15 | 24.493 |
| 1020 | 32.138 | 24.496 |
| 1040 | 32.213 | 24.499 |
| 1060 | 32.119 | 24.502 |
| 1080 | 32.213 | 24.507 |
| 1100 | 32.176 | 24.511 |
| 1120 | 31.992 | 24.513 |
| 1140 | 32.176 | 24.516 |
| 1160 | 32.251 | 24.52 |
| 1180 | 31.98 | 24.523 |
| 1200 | 32.005 | 24.526 |
| 1220 | 32.049 | 24.529 |
| 1240 | 32.024 | 24.532 |
| 1260 | 32.049 | 24.536 |
| 1280 | 32.201 | 24.544 |
| 1300 | 32.1 | 24.546 |
| 1320 | 32.112 | 24.551 |
| 1340 | 32.258 | 24.561 |
| 1360 | 32.207 | 24.565 |
| 1380 | 32.018 | 24.567 |
| 1400 | 32.062 | 24.57 |
| 1420 | 32.056 | 24.572 |
| 1440 | 32.043 | 24.575 |
| 1460 | 31.999 | 24.579 |
| 1480 | 32.037 | 24.582 |
| 1500 | 32.018 | 24.591 |
| 1520 | 31.986 | 24.597 |
| 1540 | 32.125 | 24.597 |
| 1560 | 32.264 | 24.599 |
| 1580 | 32.188 | 24.596 |
| 1600 | 32.188 | 24.595 |
| 1620 | 32.068 | 24.592 |
| 1640 | 32.018 | 24.592 |
| 1660 | 32.106 | 24.589 |
| 1680 | 32.068 | 24.588 |
| 1700 | 32.138 | 24.587 |
| 1720 | 32.068 | 24.581 |
| 1740 | 31.999 | 24.576 |
| 1760 | 31.904 | 24.569 |
| 1780 | 31.973 | 24.567 |
| 1800 | 32.024 | 24.562 |
| 1820 | 32.049 | 24.558 |
| 1848 | 32.043 | 24.551 |
| 1860 | 31.948 | 24.548 |
| 1880 | 32.011 | 24.544 |
| 1890 | 32.072 | 24.54 |
| Recovery Phase | | |
| 1890.008 | 32.122 | 24.54 |
| 1890.017 | 32.078 | 24.54 |
| 1890.025 | 32.053 | 24.54 |
| 1890.033 | 32.021 | 24.54 |
| 1890.042 | 31.983 | 24.54 |
| 1890.05 | 31.945 | 24.54 |
| 1890.058 | 31.914 | 24.54 |
| 1890.067 | 31.876 | 24.54 |
| 1890.075 | 31.844 | 24.54 |
| 1890.083 | 31.813 | 24.54 |
| 1890.092 | 31.775 | 24.54 |
| 1890.1 | 31.743 | 24.54 |
| 1890.108 | 31.712 | 24.54 |
| 1890.117 | 31.68 | 24.54 |
| 1890.125 | 31.648 | 24.54 |
| 1890.133 | 31.617 | 24.54 |
| 1890.142 | 31.585 | 24.54 |
| 1890.15 | 31.554 | 24.54 |
| 1890.158 | 31.522 | 24.54 |
| 1890.167 | 31.497 | 24.54 |
| 1890.175 | 31.465 | 24.54 |
| 1890.183 | 31.44 | 24.54 |
| 1890.192 | 31.408 | 24.54 |
| 1890.2 | 31.377 | 24.54 |
| 1890.208 | 31.351 | 24.54 |
| 1890.217 | 31.326 | 24.54 |

| Time (minutes) | BR-7A (feet) | Barometric Trend |
|---|---|---|
| 1890.225 | 31.301 | 24.54 |
| 1890.233 | 31.276 | 24.54 |
| 1890.242 | 31.25 | 24.54 |
| 1890.25 | 31.225 | 24.54 |
| 1890.258 | 31.2 | 24.54 |
| 1890.267 | 31.181 | 24.54 |
| 1890.275 | 31.156 | 24.54 |
| 1890.283 | 31.13 | 24.54 |
| 1890.292 | 31.111 | 24.54 |
| 1890.3 | 31.086 | 24.54 |
| 1890.308 | 31.067 | 24.54 |
| 1890.317 | 31.048 | 24.54 |
| 1890.325 | 31.029 | 24.54 |
| 1890.333 | 31.004 | 24.54 |
| 1890.35 | 30.966 | 24.54 |
| 1890.367 | 30.928 | 24.54 |
| 1890.383 | 30.89 | 24.54 |
| 1890.4 | 30.859 | 24.54 |
| 1890.417 | 30.821 | 24.54 |
| 1890.433 | 30.783 | 24.54 |
| 1890.45 | 30.751 | 24.54 |
| 1890.467 | 30.713 | 24.54 |
| 1890.483 | 30.682 | 24.54 |
| 1890.5 | 30.65 | 24.54 |
| 1890.517 | 30.612 | 24.54 |
| 1890.533 | 30.581 | 24.54 |
| 1890.55 | 30.549 | 24.54 |
| 1890.567 | 30.511 | 24.54 |
| 1890.583 | 30.48 | 24.54 |
| 1890.6 | 30.448 | 24.54 |
| 1890.617 | 30.416 | 24.54 |
| 1890.633 | 30.385 | 24.54 |
| 1890.65 | 30.359 | 24.54 |
| 1890.667 | 30.322 | 24.54 |
| 1890.683 | 30.29 | 24.54 |
| 1890.7 | 30.265 | 24.54 |
| 1890.717 | 30.233 | 24.54 |
| 1890.733 | 30.202 | 24.54 |
| 1890.75 | 30.176 | 24.54 |
| 1890.767 | 30.145 | 24.539 |
| 1890.783 | 30.119 | 24.54 |
| 1890.8 | 30.088 | 24.54 |
| 1890.817 | 30.063 | 24.54 |
| 1890.833 | 30.031 | 24.54 |
| 1890.85 | 30.006 | 24.54 |
| 1890.867 | 29.98 | 24.54 |
| 1890.883 | 29.955 | 24.54 |
| 1890.9 | 29.924 | 24.54 |
| 1890.917 | 29.898 | 24.54 |
| 1890.933 | 29.873 | 24.54 |
| 1890.95 | 29.848 | 24.54 |
| 1890.967 | 29.822 | 24.54 |
| 1890.983 | 29.797 | 24.54 |
| 1891 | 29.772 | 24.54 |
| 1891.2 | 29.5 | 24.54 |
| 1891.4 | 29.285 | 24.54 |
| 1891.6 | 29.115 | 24.54 |
| 1891.8 | 28.957 | 24.54 |
| 1892 | 28.843 | 24.54 |
| 1892.2 | 28.748 | 24.541 |
| 1892.4 | 28.653 | 24.54 |
| 1892.6 | 28.584 | 24.541 |
| 1892.8 | 28.508 | 24.541 |
| 1893 | 28.445 | 24.541 |
| 1893.2 | 28.394 | 24.541 |
| 1893.4 | 28.344 | 24.54 |
| 1893.6 | 28.306 | 24.541 |
| 1893.8 | 28.268 | 24.541 |
| 1894 | 28.236 | 24.541 |
| 1894.2 | 28.211 | 24.541 |
| 1894.4 | 28.18 | 24.541 |
| 1894.6 | 28.154 | 24.54 |
| 1894.8 | 28.129 | 24.541 |
| 1895 | 28.104 | 24.54 |
| 1895.2 | 28.085 | 24.54 |
| 1895.4 | 28.072 | 24.54 |
| 1895.6 | 28.06 | 24.54 |
| 1895.8 | 28.047 | 24.54 |
| 1896 | 28.028 | 24.54 |
| 1896.2 | 28.015 | 24.54 |
| 1896.4 | 28.003 | 24.54 |
| 1896.6 | 27.99 | 24.54 |
| 1896.8 | 27.977 | 24.54 |
| 1897 | 27.965 | 24.54 |
| 1897.2 | 27.958 | 24.54 |
| 1897.4 | 27.952 | 24.54 |
| 1897.6 | 27.946 | 24.54 |
| 1897.8 | 27.933 | 24.54 |
| 1898 | 27.921 | 24.54 |
| 1898.2 | 27.914 | 24.54 |
| 1898.4 | 27.902 | 24.54 |
| 1898.6 | 27.895 | 24.54 |
| 1898.8 | 27.889 | 24.539 |
| 1899 | 27.883 | 24.54 |
| 1899.2 | 27.876 | 24.539 |
| 1899.4 | 27.87 | 24.54 |
| 1899.6 | 27.857 | 24.54 |
| 1899.8 | 27.851 | 24.539 |

| Time (minutes) | BR-7A (feet) | Barometric Trend |
|---|---|---|
| 1900 | 27.845 | 24.54 |
| 1902 | 27.788 | 24.54 |
| 1904 | 27.737 | 24.54 |
| 1906 | 27.699 | 24.54 |
| 1908 | 27.655 | 24.54 |
| 1910 | 27.624 | 24.54 |
| 1912 | 27.598 | 24.54 |
| 1914 | 27.56 | 24.54 |
| 1916 | 27.529 | 24.54 |
| 1918 | 27.51 | 24.539 |
| 1920 | 27.478 | 24.538 |
| 1922 | 27.453 | 24.538 |
| 1924 | 27.434 | 24.538 |
| 1926 | 27.415 | 24.537 |
| 1928 | 27.396 | 24.537 |
| 1930 | 27.365 | 24.536 |
| 1932 | 27.346 | 24.536 |
| 1934 | 27.333 | 24.536 |
| 1936 | 27.314 | 24.536 |
| 1938 | 27.295 | 24.535 |
| 1940 | 27.282 | 24.535 |
| 1942 | 27.263 | 24.534 |
| 1944 | 27.244 | 24.534 |
| 1946 | 27.238 | 24.534 |
| 1948 | 27.219 | 24.533 |
| 1950 | 27.207 | 24.533 |
| 1952 | 27.194 | 24.533 |
| 1954 | 27.188 | 24.533 |
| 1956 | 27.169 | 24.532 |
| 1958 | 27.156 | 24.532 |
| 1960 | 27.143 | 24.53 |
| 1962 | 27.131 | 24.532 |
| 1964 | 27.124 | 24.532 |
| 1966 | 27.112 | 24.532 |
| 1968 | 27.105 | 24.53 |
| 1970 | 27.099 | 24.529 |
| 1972 | 27.08 | 24.529 |
| 1974 | 27.061 | 24.529 |
| 1976 | 27.061 | 24.528 |
| 1978 | 27.049 | 24.528 |
| 1980 | 27.042 | 24.528 |
| 1982 | 27.03 | 24.527 |
| 1984 | 27.023 | 24.527 |
| 1986 | 27.011 | 24.526 |
| 1988 | 27.004 | 24.525 |
| 1990 | 26.998 | 24.525 |
| 2010 | 26.929 | 24.52 |
| 2030 | 26.872 | 24.519 |
| 2050 | 26.802 | 24.515 |
| 2070 | 26.764 | 24.512 |
| 2090 | 26.733 | 24.508 |
| 2110 | 26.707 | 24.507 |
| 2130 | 26.682 | 24.506 |
| 2150 | 26.663 | 24.506 |
| 2170 | 26.638 | 24.504 |
| 2190 | 26.6 | 24.498 |
| 2210 | 26.581 | 24.498 |
| 2230 | 26.556 | 24.495 |
| 2250 | 26.537 | 24.492 |
| 2270 | 26.518 | 24.487 |
| 2290 | 26.499 | 24.481 |
| 2310 | 26.48 | 24.475 |
| 2330 | 26.461 | 24.471 |
| 2350 | 26.448 | 24.468 |
| 2370 | 26.448 | 24.465 |
| 2390 | 26.417 | 24.46 |
| 2410 | 26.41 | 24.459 |
| 2430 | 26.404 | 24.459 |
| 2450 | 26.385 | 24.451 |
| 2470 | 26.373 | 24.446 |
| 2490 | 26.354 | 24.443 |
| 2510 | 26.347 | 24.441 |
| 2530 | 26.328 | 24.439 |
| 2550 | 26.322 | 24.436 |
| 2570 | 26.309 | 24.435 |
| 2590 | 26.341 | 24.436 |
| 2610 | 26.347 | 24.449 |
| 2630 | 26.347 | 24.452 |
| 2650 | 26.328 | 24.45 |
| 2670 | 26.297 | 24.443 |
| 2690 | 26.284 | 24.439 |
| 2710 | 26.271 | 24.44 |
| 2730 | 26.259 | 24.439 |
| 2750 | 26.246 | 24.441 |
| 2770 | 26.227 | 24.439 |
| 2790 | 26.221 | 24.438 |
| 2810 | 26.208 | 24.438 |
| 2830 | 26.196 | 24.438 |
| 2850 | 26.189 | 24.44 |
| 2870 | 26.177 | 24.442 |
| 2890 | 26.164 | 24.443 |
| 2910 | 26.151 | 24.443 |
| 2930 | 26.164 | 24.444 |
| 2950 | 26.12 | 24.444 |
| 2970 | 26.12 | 24.444 |
| 2990 | 26.101 | 24.443 |
| 3010 | 26.095 | 24.444 |
| 3030 | 26.089 | 24.441 |

| Time (minutes) | BR-7A (feet) | Barometric Trend |
|---|---|---|
| 3050 | 26.077 | 24.442 |
| 3070 | 26.064 | 24.441 |
| 3090 | 26.058 | 24.439 |
| 3110 | 26.051 | 24.443 |
| 3130 | 26.051 | 24.44 |
| 3150 | 26.045 | 24.444 |
| 3170 | 26.032 | 24.443 |
| 3190 | 26.026 | 24.444 |
| 3210 | 26.013 | 24.444 |
| 3230 | 26.001 | 24.444 |
| 3250 | 26.001 | 24.442 |
| 3270 | 25.982 | 24.449 |
| 3290 | 25.969 | 24.45 |
| 3310 | 25.956 | 24.449 |
| 3330 | 25.969 | 24.454 |
| 3350 | 25.956 | 24.454 |
| 3370 | 25.956 | 24.456 |
| 3390 | 25.938 | 24.456 |
| 3410 | 25.931 | 24.461 |
| 3430 | 25.931 | 24.464 |
| 3450 | 25.925 | 24.466 |
| 3470 | 25.925 | 24.471 |
| 3490 | 25.919 | 24.477 |
| 3510 | 25.919 | 24.481 |
| 3530 | 25.906 | 24.481 |
| 3550 | 25.906 | 24.483 |
| 3570 | 25.9 | 24.486 |
| 3590 | 25.893 | 24.487 |
| 3610 | 25.887 | 24.49 |
| 3630 | 25.887 | 24.494 |
| 3650 | 25.9 | 24.502 |
| 3670 | 25.893 | 24.504 |
| 3690 | 25.881 | 24.508 |
| 3710 | 25.887 | 24.513 |
| 3730 | 25.887 | 24.516 |
| 3750 | 25.881 | 24.52 |
| 3770 | 25.881 | 24.523 |
| 3790 | 25.874 | 24.526 |
| 3810 | 25.874 | 24.532 |
| 3830 | 25.862 | 24.532 |
| 3850 | 25.855 | 24.532 |
| 3870 | 25.862 | 24.533 |
| 3890 | 25.849 | 24.534 |
| 3910 | 25.843 | 24.535 |
| 3930 | 25.836 | 24.535 |
| 3950 | 25.83 | 24.534 |
| 3970 | 25.817 | 24.535 |
| 3990 | 25.817 | 24.536 |
| 4010 | 25.811 | 24.537 |
| 4030 | 25.799 | 24.537 |
| 4050 | 25.799 | 24.535 |
| 4070 | 25.792 | 24.535 |
| 4090 | 25.786 | 24.534 |
| 4110 | 25.786 | 24.535 |
| 4130 | 25.786 | 24.535 |
| 4150 | 25.78 | 24.535 |
| 4170 | 25.78 | 24.539 |
| 4190 | 25.78 | 24.541 |
| 4210 | 25.786 | 24.545 |
| 4230 | 25.78 | 24.547 |
| 4250 | 25.773 | 24.547 |
| 4270 | 25.767 | 24.546 |
| 4290 | 25.761 | 24.544 |
| 4310 | 25.761 | 24.547 |

**BR-7A Constant-Rate Discharge Test**
**Drawdown Data - Handheld Slope Meter Measurements**
**0 minutes = 0800 hours on October 16, 1995**

| PZ-103 | | | PZ-105 | | | PZ-106 | | | PZ-107 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (min) | Drawdown | Adjusted Drawdown[1] | Time (min) | Drawdown | Adjusted Drawdown[2] | Time (min) | Drawdown | Adjusted Drawdown[3] | Time (min) | Drawdown | Adjusted Drawdown[4] |
| 0.00 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00001 | 0 |
| 44 | 0.02 | 0.021 | 24 | 0.06 | 0.063 | 28 | 0 | 0.002 | 26 | 0.02 | 0.023 |
| 82 | 0 | 0.002 | 32 | 0 | 0.004 | 62 | 0 | 0.004 | 64 | 0.02 | 0.027 |
| 107 | 0 | 0.003 | 46 | 0.13 | 0.135 | 99 | 0.01 | 0.016 | 100 | 0.02 | 0.032 |
| 136 | 0 | 0.004 | 57 | 0.01 | 0.016 | 144 | 0.02 | 0.029 | 149 | -0.01 | 0.007 |
| 160 | 0.02 | 0.025 | 74 | 0.01 | 0.018 | 194 | 0.01 | 0.022 | 191 | 0.001 | 0.023 |
| 217 | 0.03 | 0.036 | 76 | 0.07 | 0.079 | 271 | 0.05 | 0.067 | 270 | 0.04 | 0.072 |
| 280 | 0.03 | 0.038 | 94 | 0.03 | 0.041 | 362 | 0.07 | 0.093 | 360 | 0.05 | 0.092 |
| 355 | 0.02 | 0.030 | 103 | 0.05 | 0.062 | 496 | 0.08 | 0.111 | 416 | 0.05 | 0.099 |
| 428 | 0.02 | 0.032 | 113 | 0.12 | 0.133 | 645 | 0.11 | 0.151 | 494 | 0.08 | 0.138 |
| 505 | 0.02 | 0.034 | 141 | 0.04 | 0.056 | 776 | 0.14 | 0.189 | 643 | 0.11 | 0.185 |
| 653 | 0.05 | 0.069 | 152 | 0.12 | 0.137 | 876 | 0.16 | 0.215 | 771 | 0.12 | 0.210 |
| 783 | 0.08 | 0.102 | 189 | 0.17 | 0.191 | 963 | 0.18 | 0.241 | 874 | 0.14 | 0.242 |
| 886 | 0.08 | 0.105 | 198 | 0.17 | 0.192 | 1190 | 0.21 | 0.285 | 960 | 0.12 | 0.232 |
| 970 | 0.08 | 0.108 | 223 | 0.17 | 0.195 | 1370 | 0.21 | 0.296 | 1180 | 0.14 | 0.278 |
| 1198 | 0.1 | 0.134 | 267 | 0.1 | 0.130 | 1540 | 0.31 | 0.407 | 1365 | 0.16 | 0.320 |
| 1380 | 0.1 | 0.139 | 356 | 0.22 | 0.260 | 1688 | 0.35 | 0.456 | 1537 | 0.21 | 0.390 |
| 1528 | 0.07 | 0.114 | 413 | 0.24 | 0.287 | 1859 | 0.27 | 0.387 | 1685 | 0.21 | 0.407 |
| 1867 | -0.02 | 0.033 | 501 | 0.26 | 0.317 | | | | 1857 | 0.1 | 0.317 |
| | | | 640 | 0.31 | 0.382 | | | | | | |
| | | | 770 | 0.35 | 0.437 | | | | | | |
| | | | 871 | 0.36 | 0.458 | | | | | | |
| | | | 960 | 0.37 | 0.478 | | | | | | |
| | | | 1185 | 0.31 | 0.444 | | | | | | |
| | | | 1360 | 0.4 | 0.554 | | | | | | |
| | | | 1532 | 0.37 | 0.543 | | | | | | |
| | | | 1683 | 0.44 | 0.630 | | | | | | |
| | | | 1853 | 0.34 | 0.549 | | | | | | |

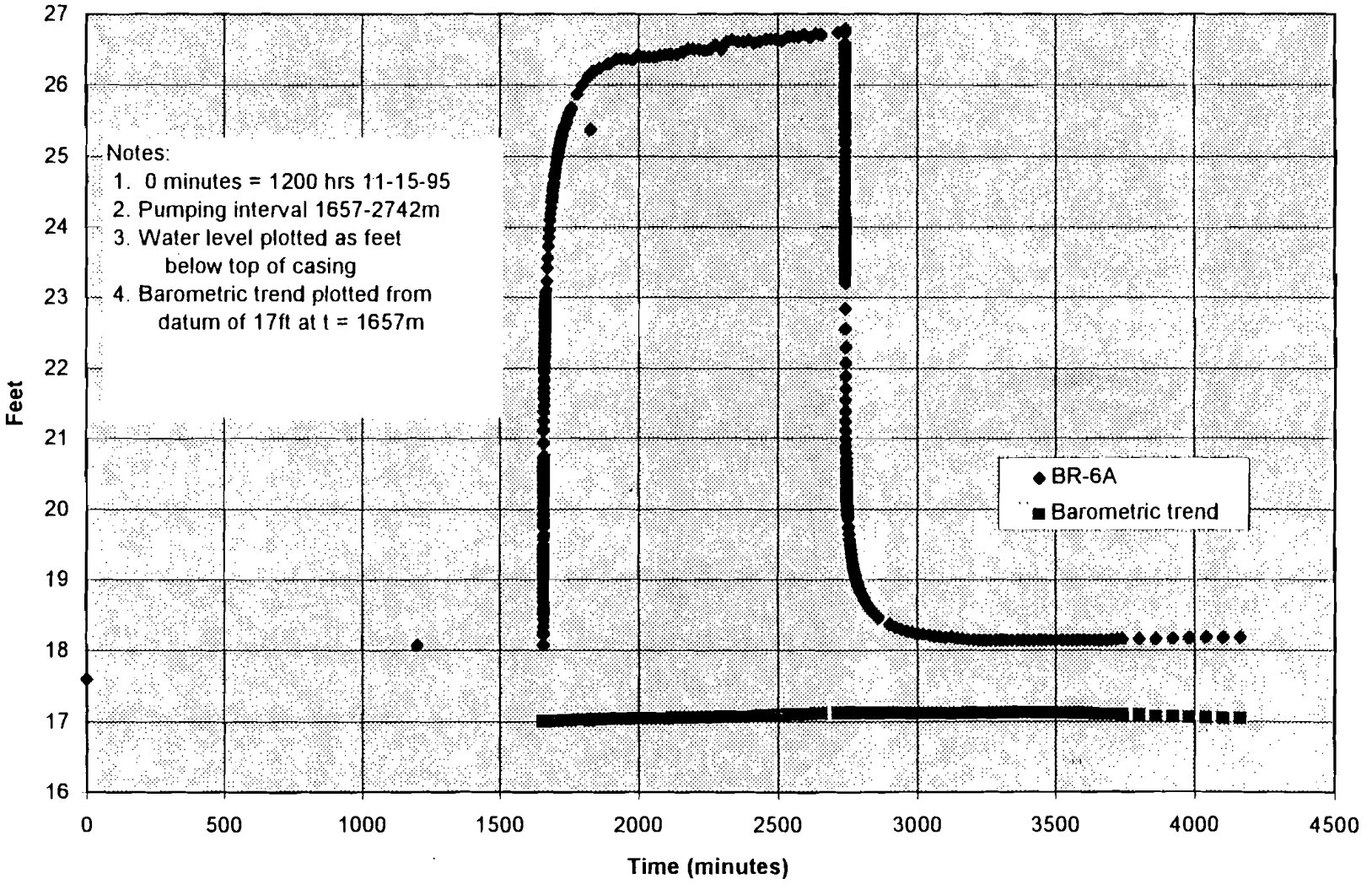
Notes:

1. PZ-103 drawdown data adjusted for rising water level trend of 0.00003 ft/min.
2. PZ-105 drawdown data adjusted for rising water level trend of 0.0001 ft/min.
3. PZ-106 drawdown data adjusted for rising water level trend of 0.00006 ft/min.
4. PZ-107 drawdown data adjusted for rising water level trend of 0.0001 ft/min.

# APPENDIX C-3

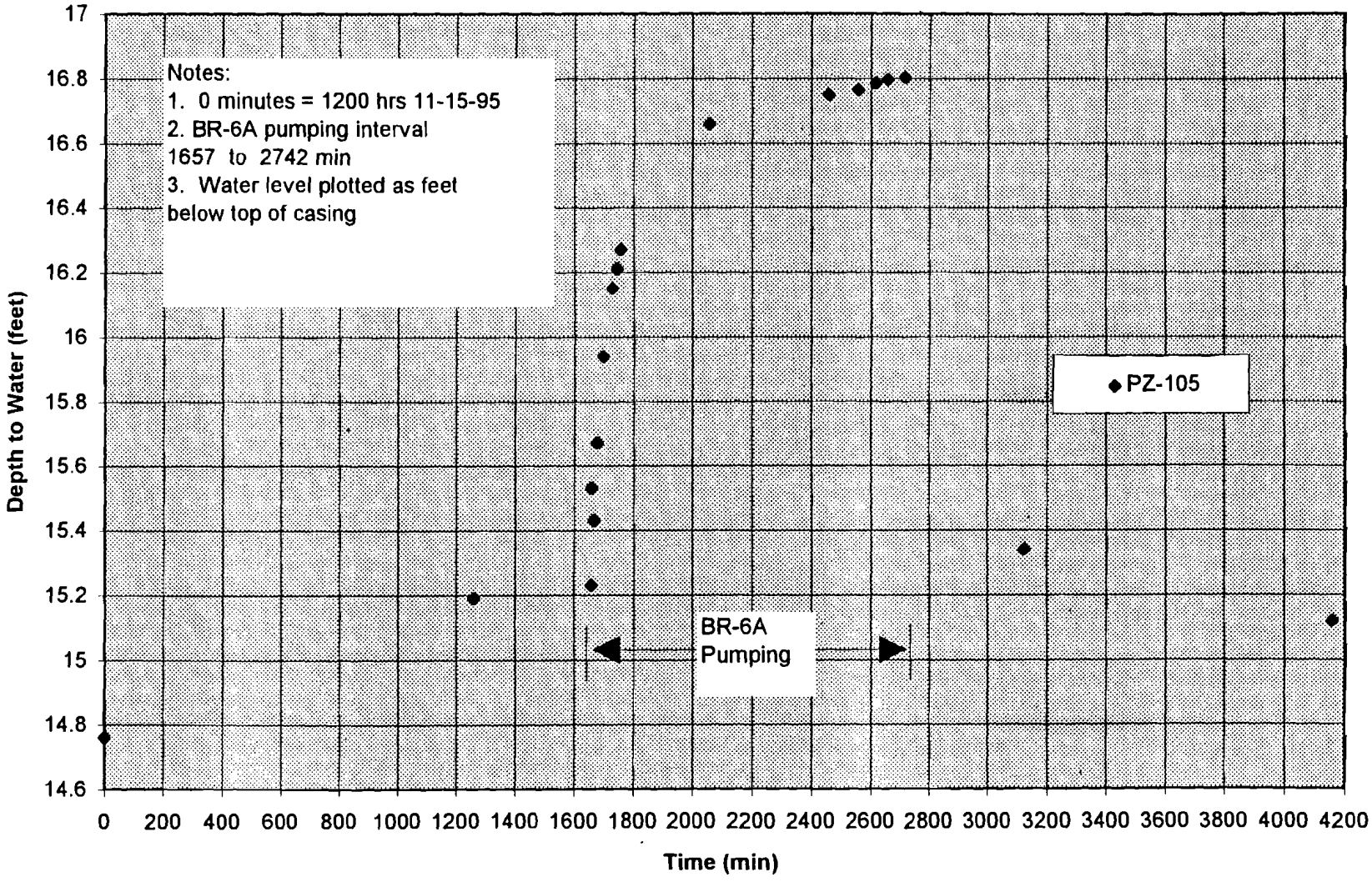
# BR-6A PUMPING TEST
# DATA PLOTS AND TABLES

## BR-6A
## Plot of Drawdown and Barometric Trend during BR-6A Discharge Test




BR6ADDWN XLS 6aTrend

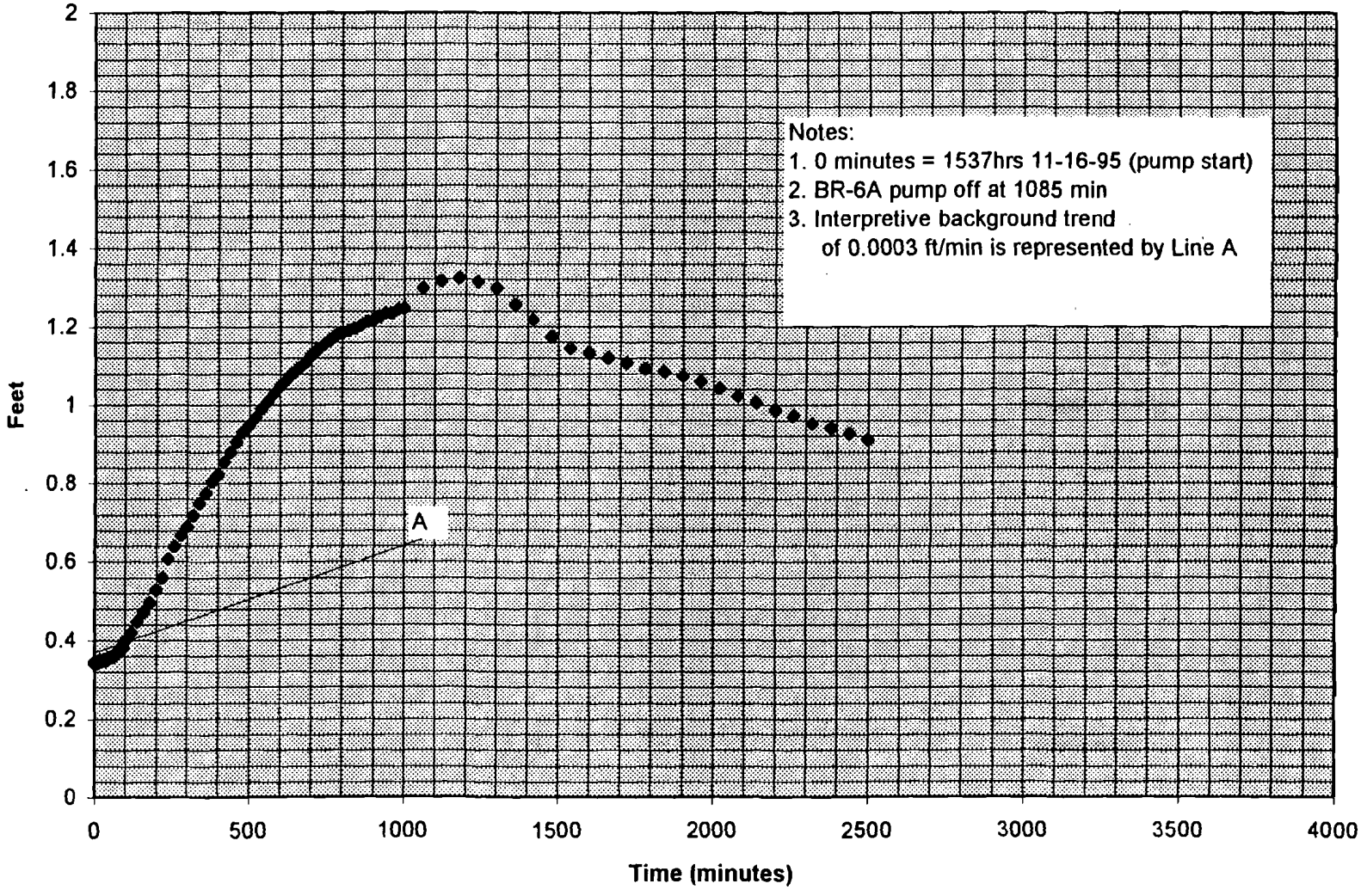
## PZ-105
## Plot of measured Water Levels - BR-6A Discharge Test




br6addwn xls pz105trend

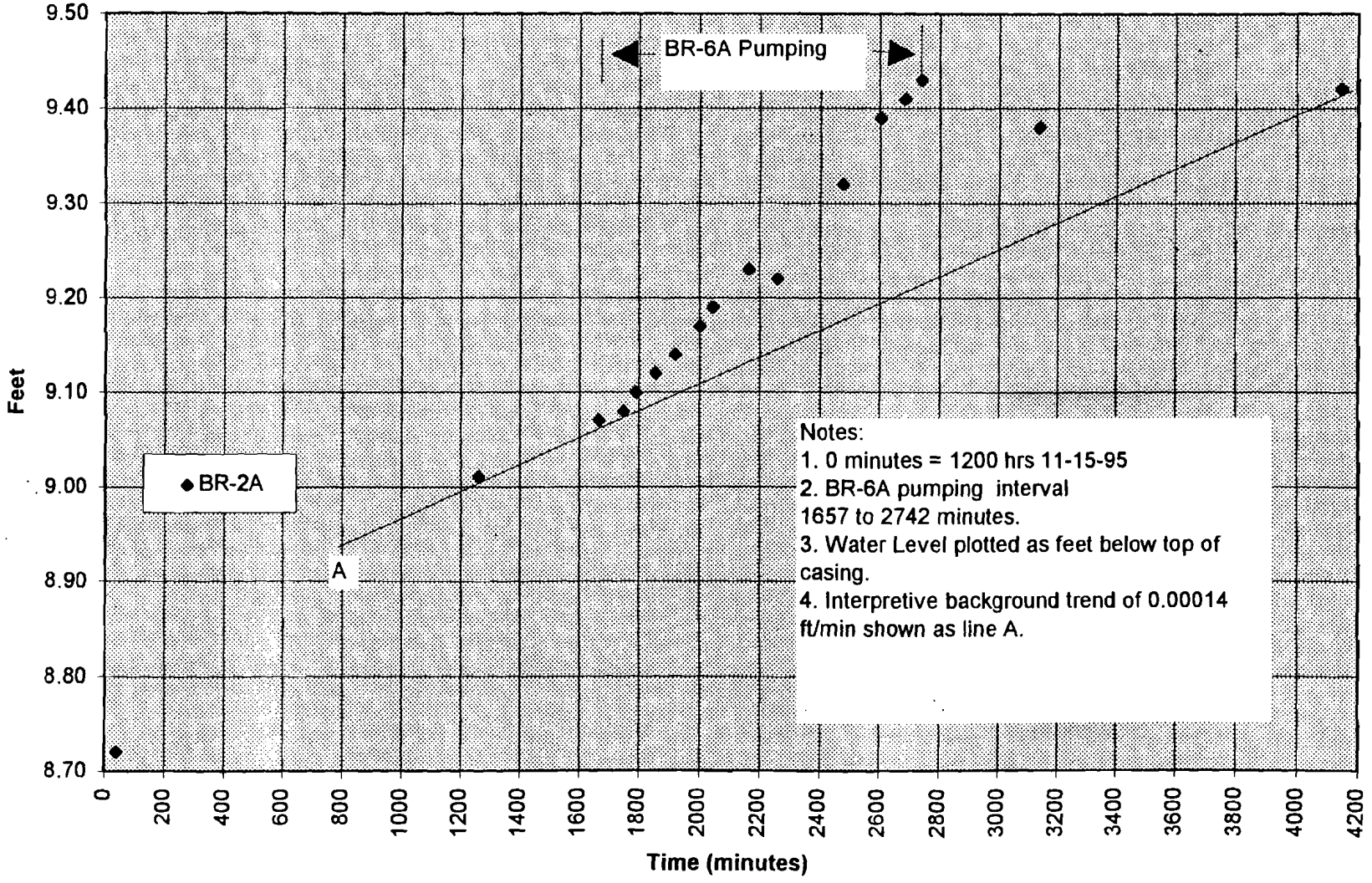
**PZ-106**

**Plot of Water Level during BR-6A Constant Discharge Test**



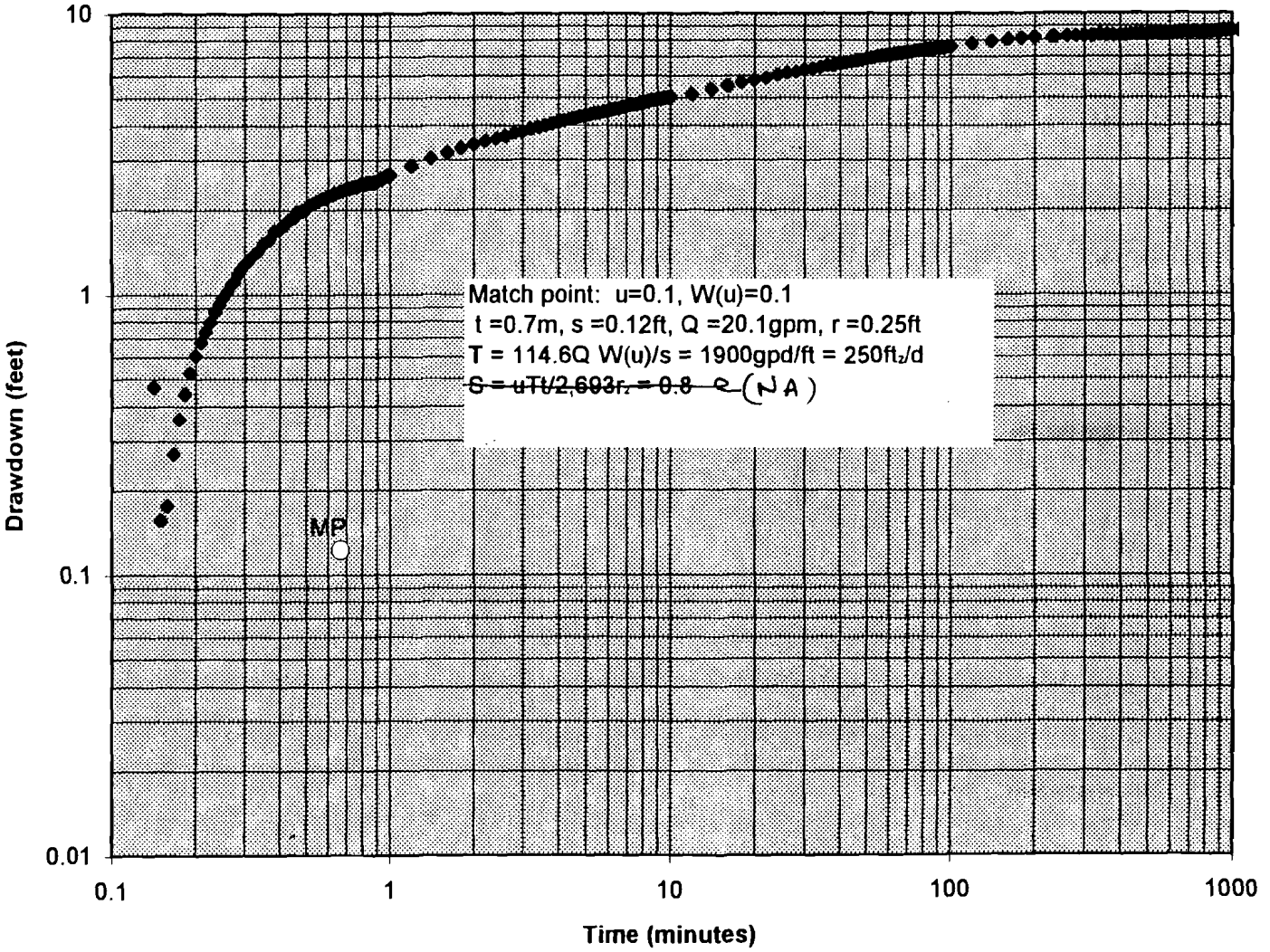

PZ106 XLS Trend

## BR-2A
## Plot of Water level during BR-6A Constant Discharge Test



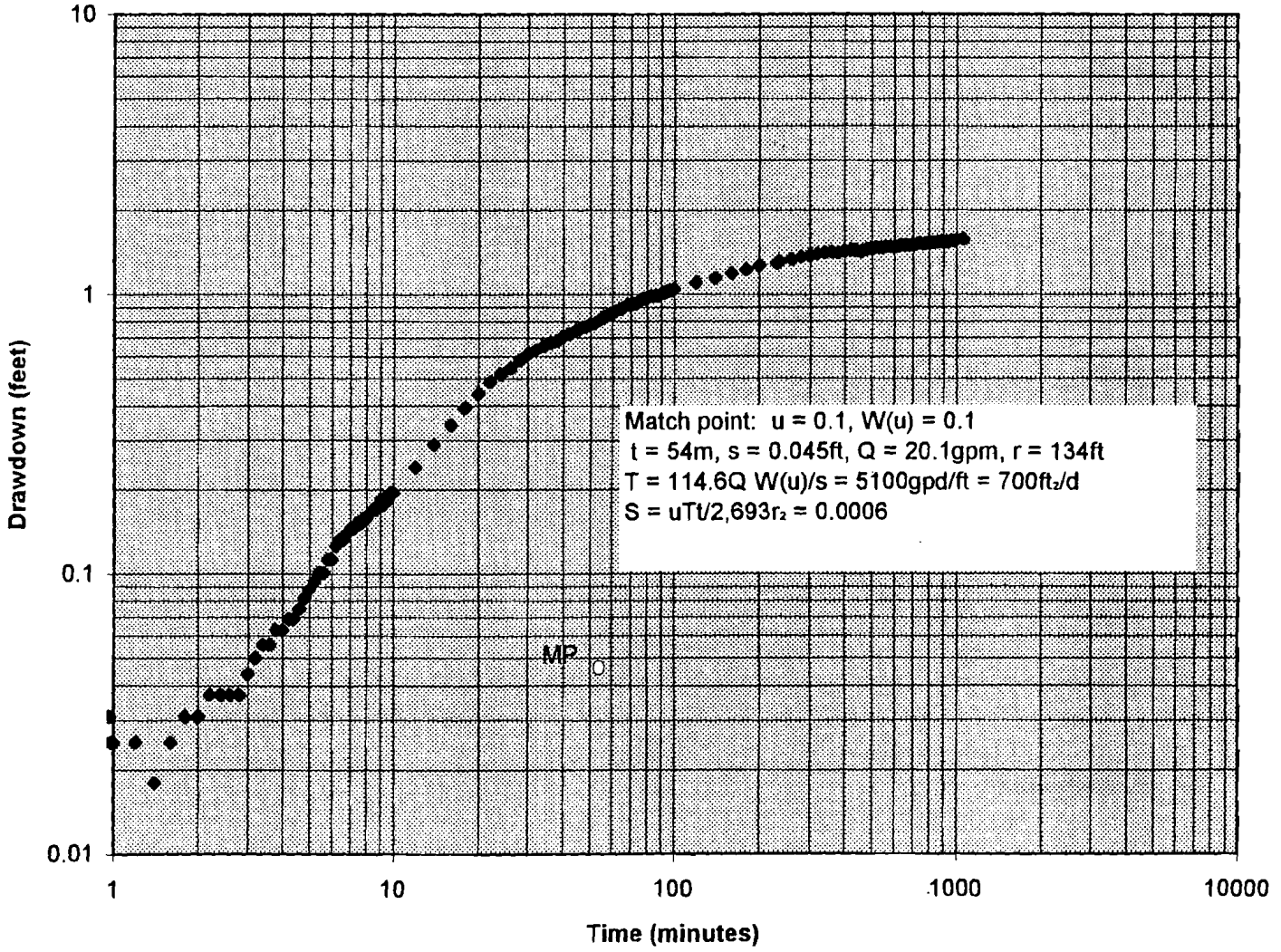
**BR-6A**

**Log-Log Plot of BR-6A Drawdown during Discharge Phase**



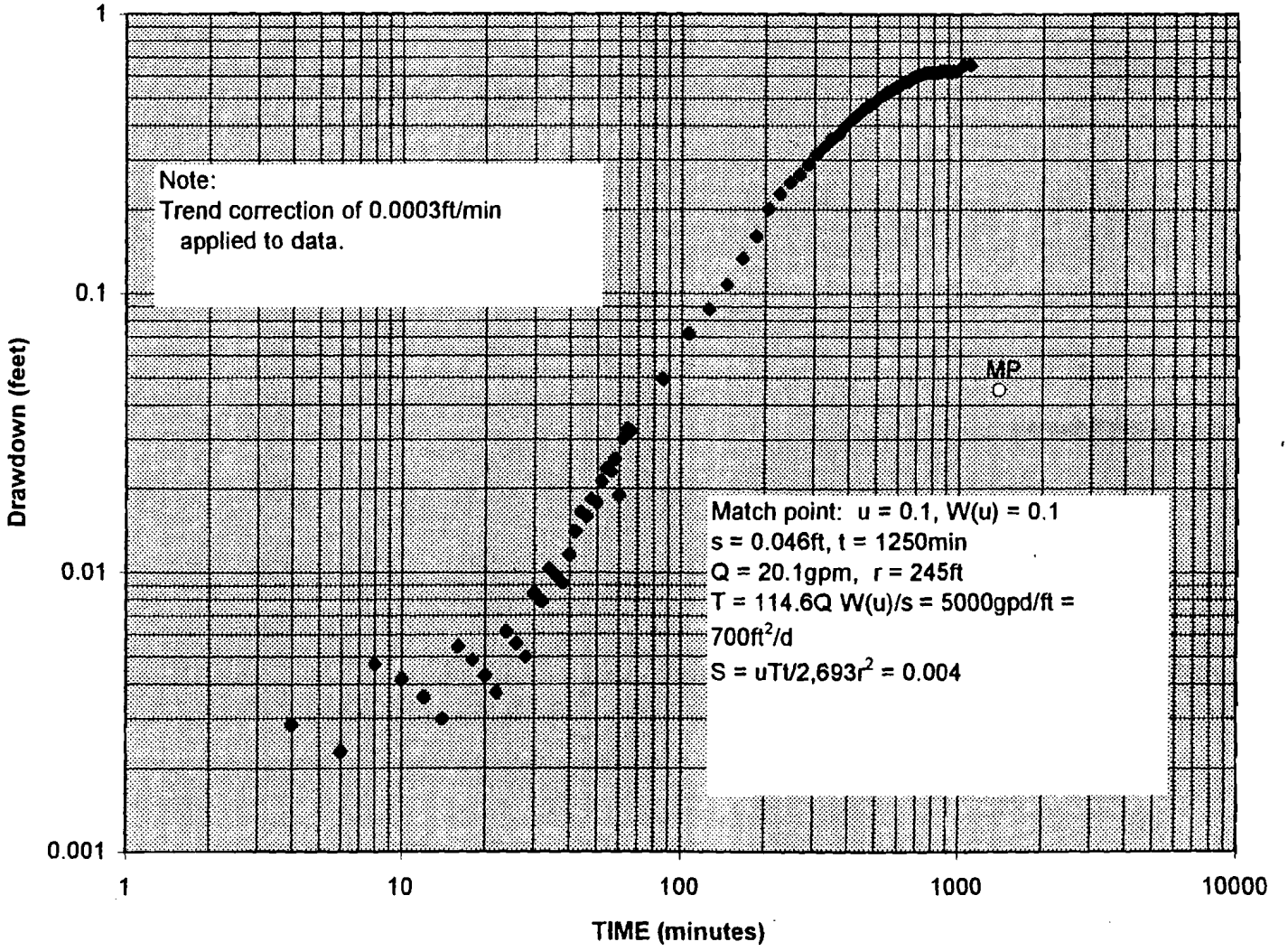

BR6ADDWN.XLS BR6Alog

## PZ-105
## Log-Log Plot of Drawdown during BR-6A Discharge Phase



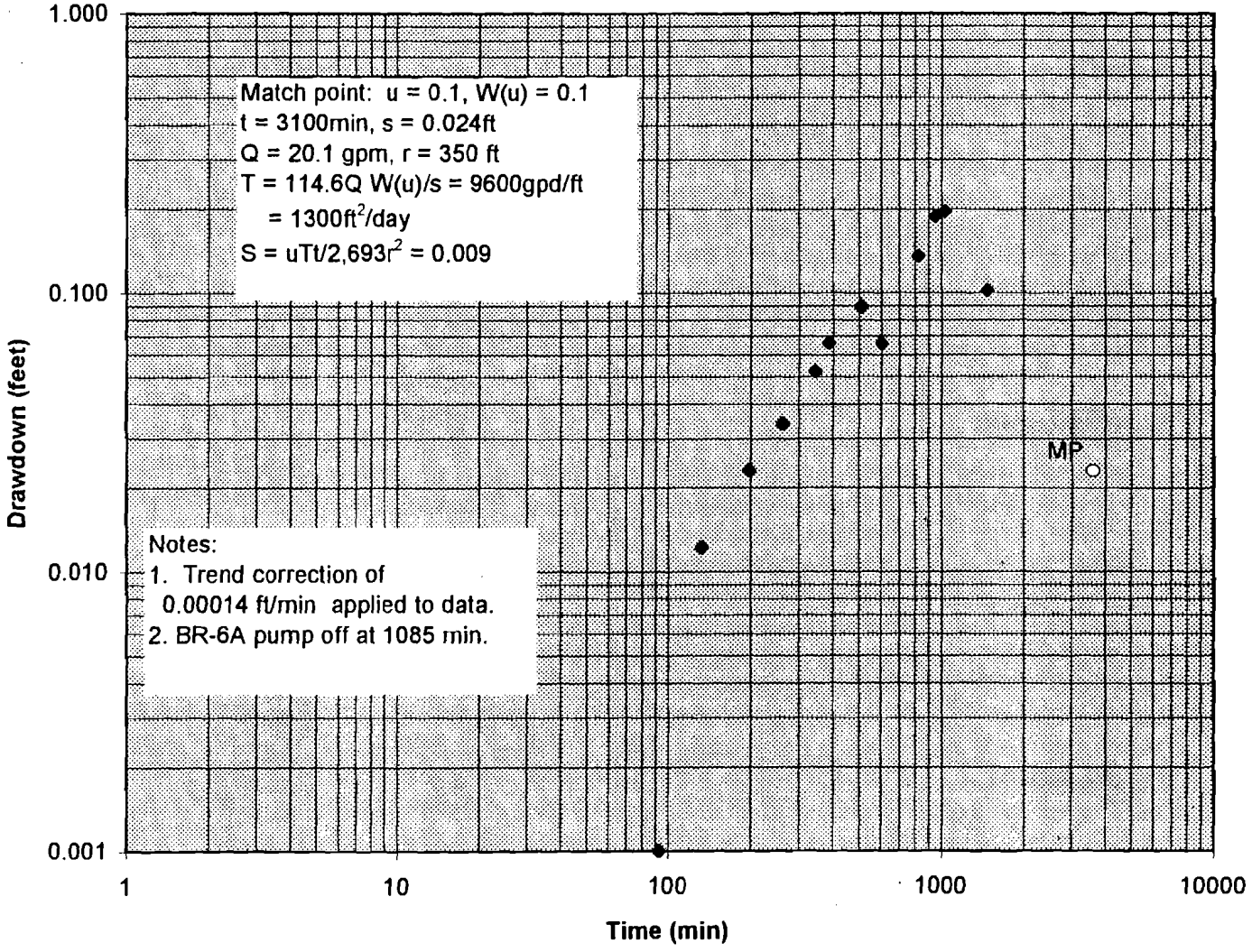

BR6ADDWN.XLS 105LOG

## PZ-106
## Log-Log Plot of Drawdown during BR-6A Discharge Phase

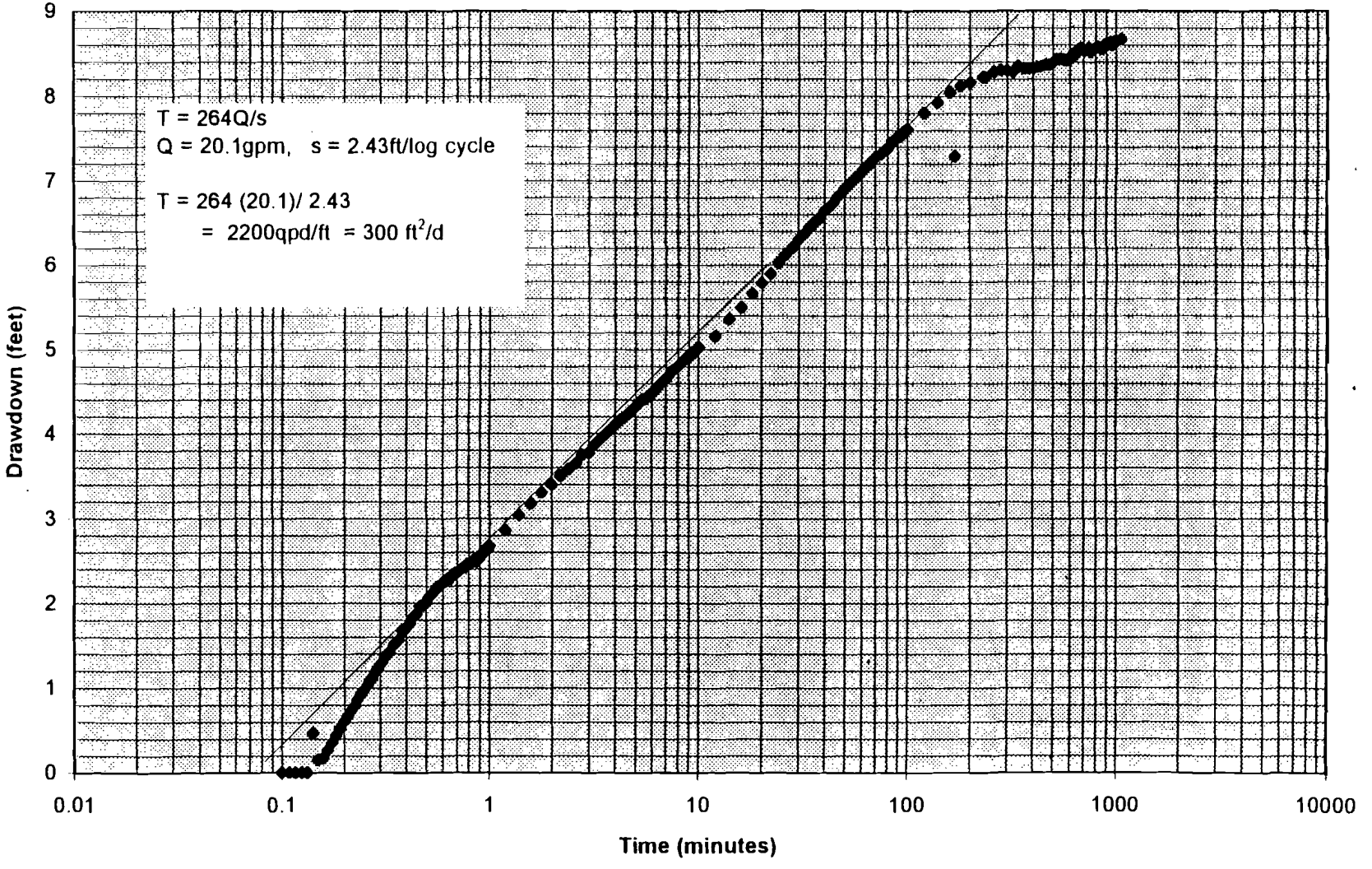



6a.xls logA

## BR-2A
## Log-Log Plot of Drawdown during BR-6A Discharge Phase

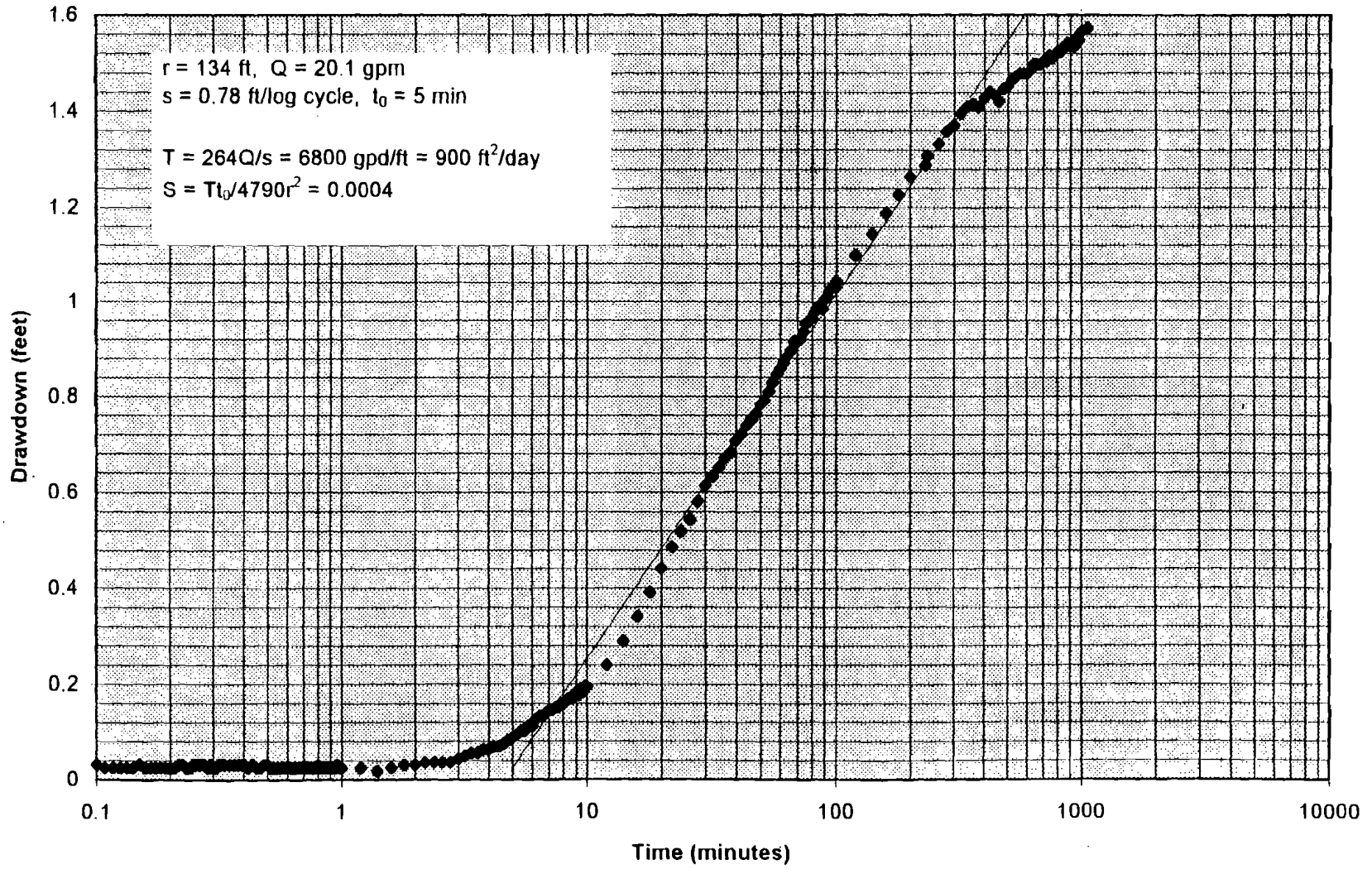


## BR-6A
## Semi-Log Plot of Drawdown during Discharge Phase



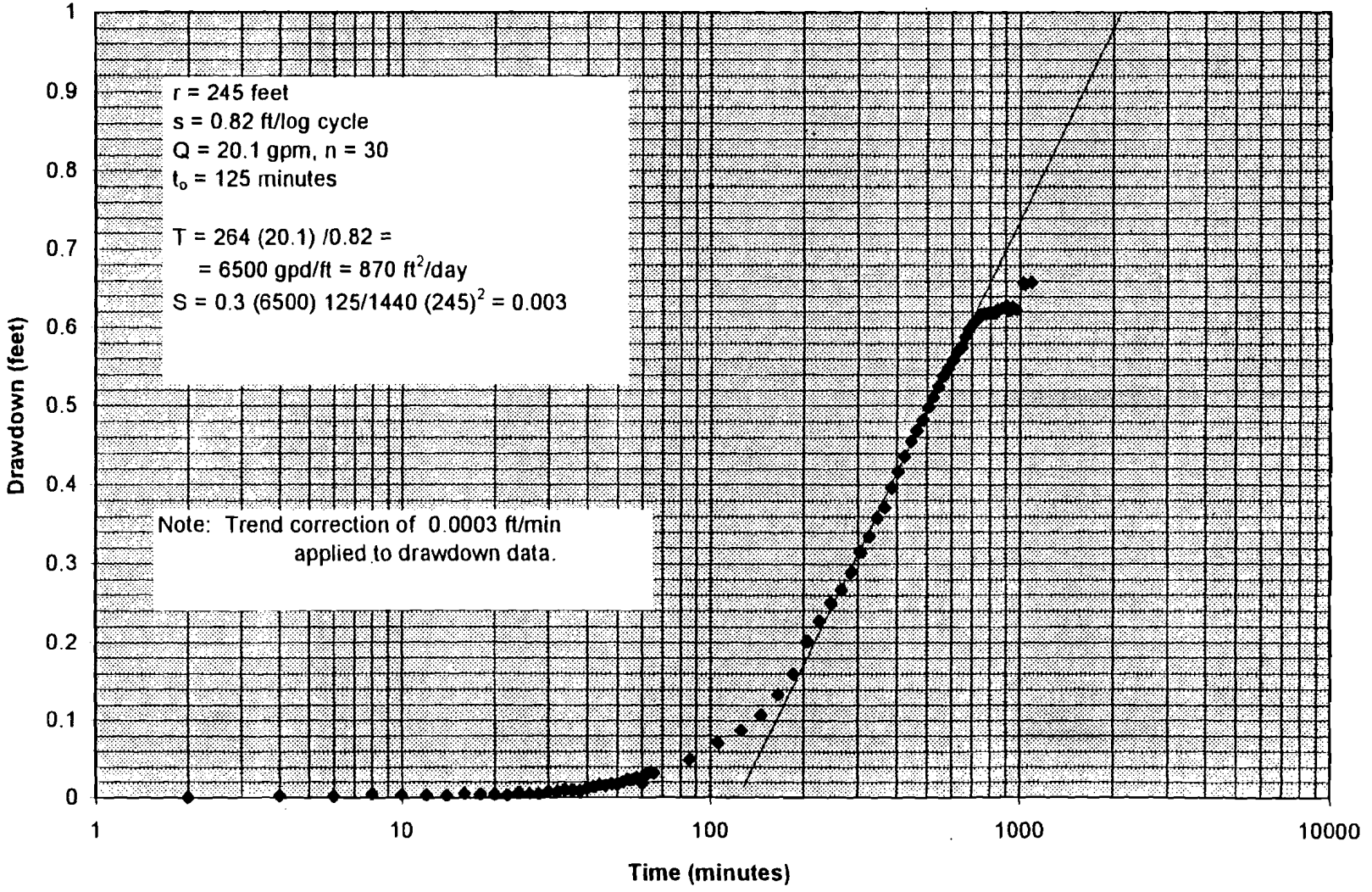

BR6ADDWN XLS br6aSLog

## PZ-105
## Semi-Log Plot of Drawdown during BR-6A Discharge Phase




BR6ADDWN.XLS 105Slog

## PZ-106
## Semi-Log Plot of Drawdown during BR-6A Discharge Phase




pz106a xls SlogA

## BR-6A Constant-Rate Discharge Test
## Automated Drawdown Data - Discharge Phase
## 0 minutes = 1537 hours on November 16, 1995

| Time (minutes) | BR-6A | PZ-105 | PZ-107 | Barometric Trend |
|---|---|---|---|---|
| 0 | 0.006 | 0.025 | 0.069 | 0.001 |
| 0.1 | 0.006 | 0.031 | 0.063 | 0.001 |
| 0.1083 | 0.006 | 0.025 | 0.060 | 0.001 |
| 0.1166 | 0.006 | 0.025 | 0.060 | 0.001 |
| 0.125 | 0.006 | 0.025 | 0.060 | 0.001 |
| 0.1333 | 0.006 | 0.025 | 0.060 | 0.001 |
| 0.1416 | 0.467 | 0.025 | 0.060 | 0.001 |
| 0.15 | 0.157 | 0.031 | 0.060 | 0.001 |
| 0.1583 | 0.176 | 0.025 | 0.060 | 0.001 |
| 0.1666 | 0.271 | 0.025 | 0.060 | 0.001 |
| 0.175 | 0.36 | 0.025 | 0.060 | 0.001 |
| 0.1833 | 0.442 | 0.025 | 0.060 | 0.001 |
| 0.1916 | 0.524 | 0.025 | 0.060 | 0.001 |
| 0.2 | 0.606 | 0.025 | 0.060 | 0.001 |
| 0.2083 | 0.676 | 0.025 | 0.060 | 0.001 |
| 0.2166 | 0.739 | 0.031 | 0.060 | 0.001 |
| 0.225 | 0.796 | 0.031 | 0.056 | 0.001 |
| 0.2333 | 0.871 | 0.025 | 0.060 | 0.001 |
| 0.2416 | 0.928 | 0.025 | 0.060 | 0.001 |
| 0.25 | 0.979 | 0.031 | 0.060 | 0.001 |
| 0.2583 | 1.029 | 0.031 | 0.056 | 0.001 |
| 0.2666 | 1.086 | 0.031 | 0.056 | 0.001 |
| 0.275 | 1.118 | 0.031 | 0.056 | 0.001 |
| 0.2833 | 1.181 | 0.025 | 0.056 | 0.001 |
| 0.2916 | 1.232 | 0.031 | 0.060 | 0.001 |
| 0.3 | 1.276 | 0.025 | 0.056 | 0.001 |
| 0.3083 | 1.307 | 0.025 | 0.056 | 0.001 |
| 0.3166 | 1.358 | 0.031 | 0.056 | 0.001 |
| 0.325 | 1.396 | 0.031 | 0.056 | 0.001 |
| 0.3333 | 1.421 | 0.031 | 0.056 | 0.001 |
| 0.35 | 1.516 | 0.031 | 0.056 | 0.001 |
| 0.3666 | 1.566 | 0.031 | 0.056 | 0.001 |
| 0.3833 | 1.68 | 0.031 | 0.056 | 0.001 |
| 0.4 | 1.712 | 0.031 | 0.056 | 0.001 |
| 0.4166 | 1.762 | 0.025 | 0.060 | 0.001 |
| 0.4333 | 1.838 | 0.031 | 0.060 | 0.001 |
| 0.45 | 1.87 | 0.025 | 0.056 | 0.001 |
| 0.4666 | 1.958 | 0.025 | 0.056 | 0.001 |
| 0.4833 | 1.971 | 0.031 | 0.056 | 0.001 |
| 0.5 | 2.009 | 0.031 | 0.056 | 0.001 |
| 0.5166 | 2.072 | 0.025 | 0.056 | 0.001 |
| 0.5333 | 2.11 | 0.025 | 0.056 | 0.001 |
| 0.55 | 2.148 | 0.025 | 0.056 | 0.001 |
| 0.5666 | 2.192 | 0.025 | 0.060 | 0.001 |

## BR-6A Constant-Rate Discharge Test
## Automated Drawdown Data - Discharge Phase
## 0 minutes = 1537 hours on November 16, 1995

| Time (minutes) | BR-6A | PZ-105 | PZ-107 | Barometric Trend |
|---|---|---|---|---|
| 0.5833 | 2.205 | 0.025 | 0.060 | 0.001 |
| 0.6 | 2.243 | 0.025 | 0.060 | 0.001 |
| 0.6166 | 2.255 | 0.025 | 0.060 | 0.001 |
| 0.6333 | 2.293 | 0.025 | 0.060 | 0.001 |
| 0.65 | 2.293 | 0.025 | 0.056 | 0.001 |
| 0.6666 | 2.331 | 0.025 | 0.056 | 0.001 |
| 0.6833 | 2.35 | 0.025 | 0.060 | 0.001 |
| 0.7 | 2.363 | 0.025 | 0.056 | 0.001 |
| 0.7166 | 2.382 | 0.025 | 0.060 | 0.001 |
| 0.7333 | 2.401 | 0.025 | 0.060 | 0.001 |
| 0.75 | 2.419 | 0.025 | 0.060 | 0.001 |
| 0.7666 | 2.426 | 0.025 | 0.060 | 0.002 |
| 0.7833 | 2.464 | 0.025 | 0.060 | 0.001 |
| 0.8 | 2.464 | 0.031 | 0.060 | 0.001 |
| 0.8166 | 2.47 | 0.025 | 0.060 | 0.001 |
| 0.8333 | 2.489 | 0.025 | 0.060 | 0.001 |
| 0.85 | 2.514 | 0.025 | 0.060 | 0.001 |
| 0.8666 | 2.495 | 0.025 | 0.060 | 0.001 |
| 0.8833 | 2.533 | 0.025 | 0.060 | 0.001 |
| 0.9 | 2.533 | 0.025 | 0.060 | 0.001 |
| 0.9166 | 2.571 | 0.025 | 0.060 | 0.001 |
| 0.9333 | 2.584 | 0.025 | 0.060 | 0.001 |
| 0.95 | 2.603 | 0.031 | 0.060 | 0.001 |
| 0.9666 | 2.641 | 0.031 | 0.060 | 0.001 |
| 0.9833 | 2.634 | 0.025 | 0.060 | 0.001 |
| 1 | 2.672 | 0.025 | 0.060 | 0.001 |
| 1.2 | 2.862 | 0.025 | 0.063 | 0.001 |
| 1.4 | 3.045 | 0.018 | 0.066 | 0.002 |
| 1.6 | 3.178 | 0.025 | 0.069 | 0.001 |
| 1.8 | 3.304 | 0.031 | 0.069 | 0.001 |
| 2 | 3.399 | 0.031 | 0.069 | 0.001 |
| 2.2 | 3.5 | 0.037 | 0.072 | 0.001 |
| 2.4 | 3.582 | 0.037 | 0.072 | 0.001 |
| 2.6 | 3.652 | 0.037 | 0.072 | 0.001 |
| 2.8 | 3.753 | 0.037 | 0.075 | 0.002 |
| 3 | 3.778 | 0.044 | 0.075 | 0.002 |
| 3.2 | 3.873 | 0.05 | 0.079 | 0.002 |
| 3.4 | 3.942 | 0.056 | 0.082 | 0.001 |
| 3.6 | 3.993 | 0.056 | 0.082 | 0.002 |
| 3.8 | 4.05 | 0.063 | 0.085 | 0.002 |
| 4 | 4.1 | 0.063 | 0.085 | 0.002 |
| 4.2 | 4.157 | 0.069 | 0.085 | 0.002 |
| 4.4 | 4.195 | 0.069 | 0.085 | 0.001 |
| 4.6 | 4.233 | 0.075 | 0.088 | 0.002 |

## BR-6A Constant-Rate Discharge Test
## Automated Drawdown Data - Discharge Phase
## 0 minutes = 1537 hours on November 16, 1995

| Time (minutes) | BR-6A | PZ-105 | PZ-107 | Barometric Trend |
|---|---|---|---|---|
| 4.8 | 4.283 | 0.082 | 0.091 | 0.002 |
| 5 | 4.328 | 0.088 | 0.091 | 0.002 |
| 5.2 | 4.359 | 0.094 | 0.094 | 0.002 |
| 5.4 | 4.41 | 0.101 | 0.094 | 0.002 |
| 5.6 | 4.416 | 0.101 | 0.098 | 0.002 |
| 5.8 | 4.454 | 0.113 | 0.098 | 0.002 |
| 6 | 4.486 | 0.113 | 0.098 | 0.002 |
| 6.2 | 4.524 | 0.126 | 0.098 | 0.002 |
| 6.4 | 4.561 | 0.132 | 0.101 | 0.002 |
| 6.6 | 4.599 | 0.132 | 0.101 | 0.002 |
| 6.8 | 4.631 | 0.139 | 0.101 | 0.002 |
| 7 | 4.656 | 0.145 | 0.101 | 0.002 |
| 7.2 | 4.694 | 0.145 | 0.104 | 0.002 |
| 7.4 | 4.732 | 0.151 | 0.104 | 0.002 |
| 7.6 | 4.757 | 0.151 | 0.104 | 0.002 |
| 7.8 | 4.776 | 0.158 | 0.104 | 0.002 |
| 8 | 4.802 | 0.158 | 0.104 | 0.002 |
| 8.2 | 4.827 | 0.164 | 0.107 | 0.002 |
| 8.4 | 4.865 | 0.17 | 0.107 | 0.002 |
| 8.6 | 4.89 | 0.17 | 0.110 | 0.002 |
| 8.8 | 4.896 | 0.176 | 0.110 | 0.002 |
| 9 | 4.934 | 0.183 | 0.113 | 0.002 |
| 9.2 | 4.96 | 0.176 | 0.113 | 0.002 |
| 9.4 | 4.96 | 0.189 | 0.113 | 0.002 |
| 9.6 | 4.985 | 0.183 | 0.116 | 0.002 |
| 9.8 | 5.01 | 0.195 | 0.116 | 0.001 |
| 10 | 5.029 | 0.195 | 0.116 | 0.002 |
| 12 | 5.162 | 0.24 | 0.129 | 0.003 |
| 14 | 5.358 | 0.29 | 0.142 | 0.003 |
| 16 | 5.497 | 0.341 | 0.148 | 0.003 |
| 18 | 5.661 | 0.391 | 0.154 | 0.004 |
| 20 | 5.787 | 0.442 | 0.164 | 0.004 |
| 22 | 5.901 | 0.486 | 0.167 | 0.004 |
| 24 | 6.027 | 0.518 | 0.170 | 0.005 |
| 26 | 6.122 | 0.543 | 0.177 | 0.005 |
| 28 | 6.198 | 0.581 | 0.183 | 0.007 |
| 30 | 6.299 | 0.613 | 0.186 | 0.007 |
| 32 | 6.369 | 0.632 | 0.192 | 0.005 |
| 34 | 6.444 | 0.651 | 0.192 | 0.007 |
| 36 | 6.508 | 0.67 | 0.196 | 0.007 |
| 38 | 6.558 | 0.682 | 0.202 | 0.005 |
| 40 | 6.647 | 0.707 | 0.205 | 0.007 |
| 42 | 6.691 | 0.72 | 0.208 | 0.007 |
| 44 | 6.741 | 0.739 | 0.215 | 0.008 |

## BR-6A Constant-Rate Discharge Test
## Automated Drawdown Data - Discharge Phase
## 0 minutes = 1537 hours on November 16, 1995

| Time (minutes) | BR-6A | PZ-105 | PZ-107 | Barometric Trend |
|---|---|---|---|---|
| 46 | 6.811 | 0.752 | 0.218 | 0.008 |
| 48 | 6.849 | 0.764 | 0.221 | 0.008 |
| 50 | 6.906 | 0.783 | 0.221 | 0.009 |
| 52 | 6.95 | 0.79 | 0.227 | 0.009 |
| 54 | 6.994 | 0.809 | 0.230 | 0.009 |
| 56 | 7.032 | 0.828 | 0.233 | 0.009 |
| 58 | 7.064 | 0.847 | 0.240 | 0.009 |
| 60 | 7.101 | 0.859 | 0.240 | 0.01 |
| 62 | 7.146 | 0.872 | 0.243 | 0.01 |
| 64 | 7.177 | 0.884 | 0.246 | 0.01 |
| 66 | 7.203 | 0.897 | 0.246 | 0.01 |
| 68 | 7.247 | 0.916 | 0.249 | 0.011 |
| 70 | 7.278 | 0.916 | 0.252 | 0.011 |
| 72 | 7.297 | 1.12 | 0.256 | 0.011 |
| 74 | 7.316 | 0.935 | 0.259 | 0.012 |
| 76 | 7.342 | 0.954 | 0.259 | 0.012 |
| 78 | 7.373 | 0.96 | 0.262 | 0.012 |
| 80 | 7.38 | 0.967 | 0.265 | 0.013 |
| 82 | 7.417 | 0.979 | 0.268 | 0.013 |
| 84 | 7.462 | 0.986 | 0.271 | 0.013 |
| 86 | 7.474 | 0.992 | 0.271 | 0.013 |
| 88 | 7.5 | 0.986 | 0.275 | 0.014 |
| 90 | 7.531 | 1.005 | 0.278 | 0.014 |
| 92 | 7.525 | 1.011 | 0.278 | 0.014 |
| 94 | 7.544 | 1.023 | 0.281 | 0.014 |
| 96 | 7.582 | 1.03 | 0.284 | 0.015 |
| 98 | 7.594 | 1.03 | 0.287 | 0.015 |
| 100 | 7.607 | 1.042 | 0.290 | 0.016 |
| 120 | 7.803 | 1.099 | 0.313 | 0.02 |
| 140 | 7.929 | 1.144 | 0.332 | 0.021 |
| 160 | 8.049 | 1.188 | 0.350 | 0.024 |
| 180 | 8.125 | 1.226 | 0.366 | 0.025 |
| 200 | 8.163 | 1.264 | 0.382 | 0.026 |
| 230 | 8.226 | 1.289 | 0.398 | 0.026 |
| 235 | 8.226 | 1.308 | 0.426 | 0.03 |
| 260 | 8.283 | 1.333 | 0.452 | 0.032 |
| 280 | 8.302 | 1.358 | 0.467 | 0.033 |
| 300 | 8.302 | 1.371 | 0.486 | 0.035 |
| 320 | 8.283 | 1.396 | 0.518 | 0.04 |
| 340 | 8.353 | 1.409 | 0.537 | 0.042 |
| 360 | 8.327 | 1.415 | 0.566 | 0.042 |
| 380 | 8.327 | 1.409 | 0.584 | 0.043 |
| 400 | 8.327 | 1.428 | 0.610 | 0.044 |
| 420 | 8.34 | 1.441 | 0.632 | 0.046 |

## BR-6A Constant-Rate Discharge Test
## Automated Drawdown Data - Discharge Phase
## 0 minutes = 1537 hours on November 16, 1995

| Time (minutes) | BR-6A | PZ-105 | PZ-107 | Barometric Trend |
|---|---|---|---|---|
| 440 | 8.353 | 1.434 | 0.641 | 0.047 |
| 460 | 8.365 | 1.422 | 0.670 | 0.048 |
| 480 | 8.365 | 1.447 | 0.686 | 0.051 |
| 500 | 8.39 | 1.453 | 0.698 | 0.052 |
| 520 | 8.428 | 1.466 | 0.714 | 0.052 |
| 540 | 8.435 | 1.472 | 0.720 | 0.053 |
| 560 | 8.428 | 1.479 | 0.739 | 0.054 |
| 580 | 8.416 | 1.479 | 0.752 | 0.056 |
| 600 | 8.435 | 1.479 | 0.765 | 0.058 |
| 620 | 8.492 | 1.485 | 0.784 | 0.062 |
| 640 | 8.492 | 1.497 | 0.796 | 0.065 |
| 660 | 8.542 | 1.497 | 0.815 | 0.068 |
| 680 | 8.561 | 1.497 | 0.831 | 0.069 |
| 700 | 8.542 | 1.504 | 0.844 | 0.069 |
| 720 | 8.536 | 1.504 | 0.850 | 0.07 |
| 740 | 8.561 | 1.516 | 0.875 | 0.075 |
| 760 | 8.523 | 1.51 | 0.888 | 0.076 |
| 780 | 8.548 | 1.516 | 0.907 | 0.079 |
| 800 | 8.567 | 1.523 | 0.913 | 0.083 |
| 820 | 8.58 | 1.523 | 0.929 | 0.084 |
| 840 | 8.567 | 1.529 | 0.942 | 0.087 |
| 860 | 8.555 | 1.535 | 0.958 | 0.091 |
| 880 | 8.605 | 1.542 | 0.964 | 0.094 |
| 900 | 8.612 | 1.535 | 0.983 | 0.097 |
| 920 | 8.605 | 1.535 | 0.986 | 0.097 |
| 940 | 8.637 | 1.535 | 1.008 | 0.102 |
| 960 | 8.599 | 1.554 | 1.037 | 0.108 |
| 980 | 8.643 | 1.548 | 1.046 | 0.112 |
| 1000 | 8.637 | 1.567 | 1.056 | 0.116 |
| 1060 | 8.668 | 1.573 | 1.059 | 0.12 |

## BR-6A Constant Rate Discharge Test
## Automated Drawdown Data - Recovery Phase
## 0 minutes = 0942 hours on November 17,1995

| Time (minutes) | BR-6A | PZ-105 | PZ-107 | Barometric Trend |
|---|---|---|---|---|
| 0 | 8.675 | 1.567 | 1.1 | 0.18 |
| 0.0083 | 8.706 | 1.573 | 1.097 | 0.18 |
| 0.0166 | 8.7 | 1.567 | 1.094 | 0.18 |
| 0.025 | 8.7 | 1.567 | 1.094 | 0.18 |
| 0.0333 | 8.706 | 1.567 | 1.09 | 0.18 |
| 0.0416 | 8.694 | 1.567 | 1.09 | 0.18 |
| 0.05 | 8.694 | 1.567 | 1.09 | 0.18 |
| 0.0583 | 8.687 | 1.567 | 1.09 | 0.18 |
| 0.0666 | 8.668 | 1.567 | 1.09 | 0.18 |
| 0.075 | 8.7 | 1.567 | 1.09 | 0.18 |
| 0.0833 | 8.694 | 1.573 | 1.09 | 0.18 |
| 0.0916 | 8.662 | 1.573 | 1.09 | 0.18 |
| 0.1 | 8.7 | 1.567 | 1.087 | 0.18 |
| 0.1083 | 8.681 | 1.573 | 1.09 | 0.18 |
| 0.1166 | 8.675 | 1.567 | 1.09 | 0.18 |
| 0.125 | 8.492 | 1.567 | 1.09 | 0.18 |
| 0.1333 | 8.675 | 1.567 | 1.09 | 0.18 |
| 0.1416 | 8.511 | 1.567 | 1.09 | 0.18 |
| 0.15 | 8.479 | 1.567 | 1.09 | 0.18 |
| 0.1583 | 8.428 | 1.567 | 1.09 | 0.18 |
| 0.1666 | 8.359 | 1.567 | 1.09 | 0.18 |
| 0.175 | 8.296 | 1.567 | 1.09 | 0.18 |
| 0.1833 | 8.233 | 1.573 | 1.09 | 0.18 |
| 0.1916 | 8.163 | 1.573 | 1.09 | 0.18 |
| 0.2 | 8.093 | 1.567 | 1.09 | 0.18 |
| 0.2083 | 8.043 | 1.573 | 1.09 | 0.18 |
| 0.2166 | 7.973 | 1.573 | 1.09 | 0.18 |
| 0.225 | 7.917 | 1.567 | 1.087 | 0.18 |
| 0.2333 | 7.879 | 1.567 | 1.087 | 0.18 |
| 0.2416 | 7.822 | 1.567 | 1.087 | 0.18 |
| 0.25 | 7.778 | 1.567 | 1.087 | 0.18 |
| 0.2583 | 7.733 | 1.567 | 1.087 | 0.18 |
| 0.2666 | 7.683 | 1.567 | 1.087 | 0.18 |
| 0.275 | 7.651 | 1.567 | 1.087 | 0.18 |
| 0.2833 | 7.588 | 1.567 | 1.087 | 0.18 |
| 0.2916 | 7.544 | 1.567 | 1.087 | 0.18 |
| 0.3 | 7.506 | 1.567 | 1.087 | 0.18 |
| 0.3083 | 7.443 | 1.567 | 1.087 | 0.18 |
| 0.3166 | 7.411 | 1.567 | 1.087 | 0.18 |
| 0.325 | 7.367 | 1.567 | 1.087 | 0.18 |
| 0.3333 | 7.316 | 1.567 | 1.087 | 0.18 |
| 0.35 | 7.234 | 1.567 | 1.087 | 0.18 |
| 0.3666 | 7.152 | 1.567 | 1.087 | 0.18 |
| 0.3833 | 7.095 | 1.573 | 1.084 | 0.18 |

## BR-6A Constant Rate Discharge Test
## Automated Drawdown Data - Recovery Phase
## 0 minutes = 0942 hours on November 17,1995

| Time (minutes) | BR-6A | PZ-105 | PZ-107 | Barometric Trend |
|---|---|---|---|---|
| 0.4 | 7 | 1.567 | 1.084 | 0.18 |
| 0.4166 | 6.918 | 1.567 | 1.087 | 0.18 |
| 0.4333 | 6.842 | 1.567 | 1.087 | 0.18 |
| 0.45 | 6.773 | 1.567 | 1.087 | 0.18 |
| 0.4666 | 6.697 | 1.567 | 1.084 | 0.18 |
| 0.4833 | 6.621 | 1.567 | 1.084 | 0.18 |
| 0.5 | 6.564 | 1.567 | 1.084 | 0.18 |
| 0.5166 | 6.482 | 1.567 | 1.084 | 0.18 |
| 0.5333 | 6.413 | 1.567 | 1.084 | 0.18 |
| 0.55 | 6.35 | 1.567 | 1.084 | 0.18 |
| 0.5666 | 6.293 | 1.567 | 1.084 | 0.181 |
| 0.5833 | 6.236 | 1.567 | 1.084 | 0.18 |
| 0.6 | 6.166 | 1.567 | 1.084 | 0.18 |
| 0.6166 | 6.116 | 1.567 | 1.084 | 0.181 |
| 0.6333 | 6.059 | 1.567 | 1.084 | 0.181 |
| 0.65 | 6.015 | 1.567 | 1.084 | 0.181 |
| 0.6666 | 5.952 | 1.567 | 1.084 | 0.181 |
| 0.6833 | 5.901 | 1.567 | 1.084 | 0.18 |
| 0.7 | 5.85 | 1.567 | 1.084 | 0.18 |
| 0.7166 | 5.806 | 1.567 | 1.084 | 0.18 |
| 0.7333 | 5.756 | 1.567 | 1.084 | 0.18 |
| 0.75 | 5.705 | 1.567 | 1.084 | 0.181 |
| 0.7666 | 5.661 | 1.567 | 1.084 | 0.18 |
| 0.7833 | 5.623 | 1.567 | 1.084 | 0.181 |
| 0.8 | 5.579 | 1.567 | 1.084 | 0.181 |
| 0.8166 | 5.535 | 1.567 | 1.084 | 0.18 |
| 0.8333 | 5.509 | 1.567 | 1.084 | 0.18 |
| 0.85 | 5.459 | 1.567 | 1.084 | 0.18 |
| 0.8666 | 5.433 | 1.567 | 1.084 | 0.18 |
| 0.8833 | 5.389 | 1.567 | 1.084 | 0.181 |
| 0.9 | 5.364 | 1.567 | 1.084 | 0.18 |
| 0.9166 | 5.326 | 1.567 | 1.084 | 0.179 |
| 0.9333 | 5.275 | 1.567 | 1.084 | 0.18 |
| 0.95 | 5.244 | 1.567 | 1.084 | 0.181 |
| 0.9666 | 5.212 | 1.573 | 1.084 | 0.181 |
| 0.9833 | 5.174 | 1.567 | 1.084 | 0.181 |
| 1 | 5.13 | 1.567 | 1.084 | 0.181 |
| 1.2 | 4.77 | 1.567 | 1.084 | 0.18 |
| 1.4 | 4.479 | 1.567 | 1.081 | 0.181 |
| 1.6 | 4.22 | 1.561 | 1.081 | 0.181 |
| 1.8 | 3.999 | 1.567 | 1.084 | 0.181 |
| 2 | 3.81 | 1.561 | 1.084 | 0.18 |
| 2.2 | 3.633 | 1.561 | 1.081 | 0.181 |
| 2.4 | 3.468 | 1.561 | 1.081 | 0.18 |

## BR-6A Constant Rate Discharge Test
## Automated Drawdown Data - Recovery Phase
## 0 minutes = 0942 hours on November 17,1995

| Time (minutes) | BR-6A | PZ-105 | PZ-107 | Barometric Trend |
|---|---|---|---|---|
| 2.6 | 3.31 | 1.561 | 1.081 | 0.18 |
| 2.8 | 3.165 | 1.561 | 1.081 | 0.181 |
| 3 | 3.032 | 1.561 | 1.081 | 0.181 |
| 3.2 | 2.912 | 1.561 | 1.081 | 0.181 |
| 3.4 | 2.811 | 1.561 | 1.081 | 0.181 |
| 3.6 | 2.723 | 1.561 | 1.081 | 0.181 |
| 3.8 | 2.634 | 1.554 | 1.081 | 0.181 |
| 4 | 2.571 | 1.554 | 1.078 | 0.181 |
| 4.2 | 2.502 | 1.548 | 1.081 | 0.181 |
| 4.4 | 2.438 | 1.548 | 1.081 | 0.182 |
| 4.6 | 2.388 | 1.548 | 1.081 | 0.182 |
| 4.8 | 2.337 | 1.548 | 1.081 | 0.182 |
| 5 | 2.306 | 1.548 | 1.081 | 0.18 |
| 5.2 | 2.274 | 1.548 | 1.081 | 0.18 |
| 5.4 | 2.243 | 1.542 | 1.081 | 0.181 |
| 5.6 | 2.211 | 1.535 | 1.081 | 0.181 |
| 5.8 | 2.186 | 1.542 | 1.081 | 0.181 |
| 6 | 2.154 | 1.535 | 1.078 | 0.182 |
| 6.2 | 2.129 | 1.535 | 1.078 | 0.181 |
| 6.4 | 2.104 | 1.529 | 1.078 | 0.181 |
| 6.6 | 2.072 | 1.529 | 1.078 | 0.18 |
| 6.8 | 2.053 | 1.529 | 1.078 | 0.182 |
| 7 | 2.034 | 1.523 | 1.078 | 0.181 |
| 7.2 | 2.009 | 1.516 | 1.078 | 0.182 |
| 7.4 | 1.99 | 1.516 | 1.078 | 0.182 |
| 7.6 | 1.971 | 1.516 | 1.078 | 0.183 |
| 7.8 | 1.958 | 1.51 | 1.075 | 0.181 |
| 8 | 1.939 | 1.51 | 1.075 | 0.182 |
| 8.2 | 1.92 | 1.504 | 1.075 | 0.181 |
| 8.4 | 1.908 | 1.51 | 1.078 | 0.182 |
| 8.6 | 1.889 | 1.504 | 1.075 | 0.182 |
| 8.8 | 1.876 | 1.497 | 1.075 | 0.181 |
| 9 | 1.857 | 1.497 | 1.075 | 0.181 |
| 9.2 | 1.845 | 1.497 | 1.075 | 0.182 |
| 9.4 | 1.832 | 1.491 | 1.075 | 0.182 |
| 9.6 | 1.813 | 1.491 | 1.075 | 0.182 |
| 9.8 | 1.807 | 1.491 | 1.075 | 0.182 |
| 10 | 1.788 | 1.491 | 1.075 | 0.182 |
| 12 | 1.668 | 1.46 | 1.071 | 0.183 |
| 14 | 1.573 | 1.434 | 1.068 | 0.183 |
| 16 | 1.484 | 1.409 | 1.062 | 0.183 |
| 18 | 1.415 | 1.384 | 1.059 | 0.183 |
| 20 | 1.352 | 1.358 | 1.052 | 0.184 |
| 22 | 1.295 | 1.327 | 1.046 | 0.184 |

## BR-6A Constant Rate Discharge Test
## Automated Drawdown Data - Recovery Phase
## 0 minutes = 0942 hours on November 17,1995

| Time (minutes) | BR-6A | PZ-105 | PZ-107 | Barometric Trend |
|---|---|---|---|---|
| 24 | 1.238 | 1.308 | 1.043 | 0.184 |
| 26 | 1.187 | 1.289 | 1.04 | 0.184 |
| 28 | 1.143 | 1.27 | 1.033 | 0.185 |
| 30 | 1.099 | 1.245 | 1.03 | 0.185 |
| 32 | 1.061 | 1.219 | 1.024 | 0.184 |
| 34 | 1.029 | 1.2 | 1.021 | 0.184 |
| 36 | 0.992 | 1.188 | 1.015 | 0.184 |
| 38 | 0.96 | 1.163 | 1.011 | 0.184 |
| 40 | 0.928 | 1.15 | 1.008 | 0.184 |
| 42 | 0.903 | 1.131 | 1.002 | 0.184 |
| 44 | 0.878 | 1.112 | 0.999 | 0.184 |
| 46 | 0.852 | 1.099 | 0.999 | 0.184 |
| 48 | 0.827 | 1.074 | 0.996 | 0.184 |
| 50 | 0.808 | 1.068 | 0.992 | 0.184 |
| 52 | 0.789 | 1.049 | 0.989 | 0.184 |
| 54 | 0.77 | 1.042 | 0.989 | 0.183 |
| 56 | 0.751 | 1.03 | 0.986 | 0.184 |
| 58 | 0.732 | 1.017 | 0.983 | 0.184 |
| 60 | 0.72 | 1.005 | 0.98 | 0.184 |
| 62 | 0.701 | 0.986 | 0.98 | 0.184 |
| 64 | 0.682 | 0.96 | 0.98 | 0.184 |
| 66 | 0.663 | 0.96 | 0.977 | 0.184 |
| 68 | 0.644 | 0.948 | 0.977 | 0.184 |
| 70 | 0.631 | 0.935 | 0.973 | 0.184 |
| 72 | 0.612 | 0.916 | 0.97 | 0.184 |
| 74 | 0.6 | 0.916 | 0.973 | 0.184 |
| 76 | 0.593 | 0.903 | 0.97 | 0.184 |
| 78 | 0.581 | 0.897 | 0.97 | 0.185 |
| 80 | 0.574 | 0.891 | 0.967 | 0.184 |
| 82 | 0.556 | 0.872 | 0.964 | 0.184 |
| 84 | 0.543 | 0.853 | 0.964 | 0.184 |
| 86 | 0.53 | 0.847 | 0.961 | 0.183 |
| 88 | 0.518 | 0.84 | 0.961 | 0.183 |
| 90 | 0.511 | 0.828 | 0.961 | 0.183 |
| 92 | 0.499 | 0.815 | 0.958 | 0.183 |
| 94 | 0.492 | 1.036 | 0.958 | 0.182 |
| 96 | 0.486 | 1.017 | 0.954 | 0.182 |
| 98 | 0.473 | 1.011 | 0.951 | 0.181 |
| 100 | 0.461 | 0.998 | 0.951 | 0.181 |
| 120 | 0.385 | 9.392 | 0.939 | 0.184 |
| 140 | 23.289 | 9.392 | 0.939 | 0.183 |
| 160 | 0.296 | 9.392 | 0.935 | 0.182 |
| 180 | 0.259 | 9.392 | 0.932 | 0.181 |
| 200 | 0.227 | 9.392 | 0.929 | 0.179 |

## BR-6A Constant Rate Discharge Test
## Automated Drawdown Data - Recovery Phase
## 0 minutes = 0942 hours on November 17,1995

| Time (minutes) | BR-6A | PZ-105 | PZ-107 | Barometric Trend |
|---|---|---|---|---|
| 220 | 0.195 | 9.392 | 0.929 | 0.177 |
| 240 | 0.176 | 9.392 | 0.923 | 0.174 |
| 260 | 0.157 | 9.392 | 0.923 | 0.172 |
| 280 | 0.145 | 9.392 | 0.923 | 0.171 |
| 300 | 0.139 | 9.392 | 0.926 | 0.171 |
| 320 | 0.126 | 9.392 | 0.929 | 0.172 |
| 340 | 0.12 | 9.392 | 0.935 | 0.173 |
| 360 | 0.113 | 9.392 | 0.939 | 0.176 |
| 380 | 0.107 | 9.392 | 0.942 | 0.176 |
| 400 | 0.094 | 9.392 | 0.916 | 0.174 |
| 420 | 0.088 | 9.392 | 0.916 | 0.176 |
| 440 | 0.082 | 9.392 | 0.923 | 0.178 |
| 460 | 0.082 | 9.392 | 0.932 | 0.179 |
| 480 | 0.075 | 9.392 | 0.939 | 0.18 |
| 500 | 0.075 | 9.392 | 0.942 | 0.182 |
| 520 | 0.075 | 9.392 | 0.942 | 0.183 |
| 540 | 0.069 | 9.392 | 0.939 | 0.18 |
| 560 | 0.069 | 9.392 | 0.942 | 0.181 |
| 580 | 0.075 | 9.392 | 0.948 | 0.183 |
| 600 | 0.069 | 9.392 | 0.948 | 0.183 |
| 620 | 0.075 | 9.392 | 0.954 | 0.185 |
| 640 | 0.075 | 9.392 | 0.961 | 0.188 |
| 660 | 0.075 | 9.392 | 0.958 | 0.187 |
| 680 | 0.075 | 9.392 | 0.961 | 0.185 |
| 700 | 0.069 | 9.392 | 0.961 | 0.183 |
| 720 | 0.075 | 9.392 | 0.964 | 0.184 |
| 740 | 0.069 | 9.392 | 0.967 | 0.183 |
| 760 | 0.069 | 9.392 | 0.964 | 0.183 |
| 780 | 0.069 | 9.392 | 0.967 | 0.181 |
| 800 | 0.069 | 9.392 | 0.967 | 0.179 |
| 820 | 0.069 | 9.392 | 0.973 | 0.177 |
| 840 | 0.075 | 9.392 | 0.977 | 0.178 |
| 860 | 0.069 | 9.392 | 0.977 | 0.174 |
| 880 | 0.069 | 9.392 | 0.977 | 0.169 |
| 900 | 0.069 | 9.392 | 0.973 | 0.166 |
| 920 | 0.075 | 9.392 | 0.977 | 0.165 |
| 940 | 0.075 | 9.392 | 0.983 | 0.162 |
| 960 | 0.082 | 9.392 | 0.986 | 0.161 |
| 980 | 0.082 | 9.392 | 0.992 | 0.161 |
| 1000 | 0.088 | 9.392 | 0.999 | 0.16 |
| 1060 | 0.088 | 9.392 | 1.002 | 0.149 |
| 1120 | 0.088 | 9.392 | 1.002 | 0.136 |
| 1180 | 0.094 | 9.392 | 1.008 | 0.124 |
| 1240 | 0.101 | 9.392 | 1.027 | 0.118 |

**BR-6A Constant Rate Discharge Test**
**Automated Drawdown Data - Recovery Phase**
**0 minutes = 0942 hours on November 17,1995**

| Time (minutes) | BR-6A | PZ-105 | PZ-107 | Barometric Trend |
|---|---|---|---|---|
| 1300 | 0.107 | 9.392 | 1.04 | 0.114 |
| 1360 | 0.113 | 9.392 | 1.046 | 0.105 |
| 1420 | 0.113 | 9.392 | 1.052 | 0.1 |

Note: BR-6A pump shut off at t = 0.17min

## PZ-106 Automated Drawdown Data - Discharge Phase
## BR-6A Constant-Rate Discharge Test
## 0 minutes = 1537 hours on November 16, 1995

| | PZ-106 | | | PZ-106 | |
|---|---|---|---|---|---|
| Time (minutes) | Drawdown | Drawdown (adjusted)* | Time (minutes) | Drawdown | Drawdown (adjusted)* |
| 0 | 0 | 0 | 226 | 0.292 | 0.227 |
| 2 | 0.001 | 0.000 | 246 | 0.32 | 0.250 |
| 4 | 0.004 | 0.003 | 266 | 0.343 | 0.267 |
| 6 | 0.004 | 0.002 | 286 | 0.371 | 0.289 |
| 8 | 0.007 | 0.005 | 306 | 0.403 | 0.315 |
| 10 | 0.007 | 0.004 | 326 | 0.428 | 0.335 |
| 12 | 0.007 | 0.004 | 346 | 0.457 | 0.358 |
| 14 | 0.007 | 0.003 | 366 | 0.476 | 0.371 |
| 16 | 0.01 | 0.005 | 386 | 0.507 | 0.397 |
| 18 | 0.01 | 0.005 | 406 | 0.533 | 0.417 |
| 20 | 0.01 | 0.004 | 426 | 0.558 | 0.436 |
| 22 | 0.01 | 0.004 | 446 | 0.583 | 0.455 |
| 24 | 0.013 | 0.006 | 466 | 0.602 | 0.469 |
| 26 | 0.013 | 0.006 | 486 | 0.621 | 0.482 |
| 28 | 0.013 | 0.005 | 506 | 0.643 | 0.498 |
| 30 | 0.017 | 0.008 | 526 | 0.662 | 0.512 |
| 32 | 0.017 | 0.008 | 546 | 0.681 | 0.525 |
| 34 | 0.02 | 0.010 | 566 | 0.7 | 0.538 |
| 36 | 0.02 | 0.010 | 586 | 0.716 | 0.548 |
| 38 | 0.02 | 0.009 | 606 | 0.732 | 0.559 |
| 40 | 0.023 | 0.012 | 626 | 0.748 | 0.569 |
| 42 | 0.026 | 0.014 | 646 | 0.76 | 0.575 |
| 44 | 0.029 | 0.016 | 666 | 0.779 | 0.589 |
| 46 | 0.029 | 0.016 | 686 | 0.795 | 0.599 |
| 48 | 0.032 | 0.018 | 706 | 0.808 | 0.606 |
| 50 | 0.032 | 0.018 | 726 | 0.817 | 0.609 |
| 52 | 0.036 | 0.021 | 746 | 0.83 | 0.617 |
| 54 | 0.039 | 0.024 | 766 | 0.836 | 0.617 |
| 56 | 0.039 | 0.023 | 786 | 0.843 | 0.618 |
| 58 | 0.042 | 0.025 | 806 | 0.849 | 0.618 |
| 60 | 0.036 | 0.019 | 826 | 0.855 | 0.619 |
| 62 | 0.048 | 0.030 | 846 | 0.865 | 0.623 |
| 64 | 0.051 | 0.033 | 866 | 0.871 | 0.623 |
| 66 | 0.051 | 0.032 | 886 | 0.878 | 0.625 |
| 86 | 0.074 | 0.049 | 906 | 0.887 | 0.628 |
| 106 | 0.102 | 0.072 | 926 | 0.887 | 0.622 |
| 126 | 0.124 | 0.088 | 946 | 0.897 | 0.626 |
| 146 | 0.149 | 0.107 | 966 | 0.9 | 0.624 |
| 166 | 0.181 | 0.134 | 1026 | 0.95 | 0.657 |
| 186 | 0.213 | 0.160 | 1086 | 0.969 | 0.658 |
| 206 | 0.26 | 0.201 | | | |

Note: Data adjusted for falling water level trend of 0.0003 ft/min.

**BR-2A Drawdown Data**
**BR-6A Constant-Rate Discharge Test**
**0 minutes = 1537 hrs on November 16, 1995**

**BR-2A**

| Time (minutes) | Drawdown | Drawdown (adjusted) |
|---|---|---|
| 0 | 0 | 0.000 |
| 9 | 0.001 | 0.000 |
| 93 | 0.01 | 0.001 |
| 133 | 0.03 | 0.012 |
| 198 | 0.05 | 0.023 |
| 263 | 0.07 | 0.034 |
| 346 | 0.10 | 0.052 |
| 388 | 0.12 | 0.066 |
| 509 | 0.16 | 0.089 |
| 604 | 0.15 | 0.066 |
| 821 | 0.25 | 0.135 |
| 947 | 0.32 | 0.187 |
| 1028 | 0.34 | 0.196 |
| 1481 | 0.36 | 0.102 |
| 2490 | 0.31 | 0.000 |

Notes:

1. Data adjusted for falling water level trend of 0.000141ft/min downward
2. Pump off at 1085 hrs on 11-17-95

# APPENDIX D

# BASELINE PUBLIC HEALTH RISK ASSESSMENT SPREADSHEETS

# APPENDIX D-1

# TOXICITY SCREENING TABLES

**TABLE D.1-1**
**GROUNDWATER CONTAMINANT SCREEN**
**OFFSITE GROUNDWATER**
**OLIN ROCHESTER PHASE II**

SC-ORGW1 | 08-Oct-97

| COMPOUND | REFERENCE DOSE[1] (mg/kg/day) | SLOPE FACTOR[1] (mg/kg/day)$^{-1}$ | WEIGHT OF EVIDENCE[1] | MAXIMUM CONCENTRATION (mg/L) | RiNC | RiC | ERiNC | ERiC |
|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 9.0E-02 | | D | 0.0009 | 1.00E-02 | | 5.83E-07 | |
| 1,1,2,2-Tetrachloroethane | ND | 2.0E-01 | C | 0.001 | | 2.00E-04 | | 5.52E-05 |
| 1,1-Dichloroethane | 1.0E-01 | ND | C | 0.035 | 3.50E-01 | | 2.04E-05 | |
| 1,2-Dichlorobenzene | 9.0E-02 | | D | 0.004 | 4.44E-02 | | 2.59E-06 | |
| 1,2-Dichloroethene (cis and trans) | 9.0E-03 | | D | 0.49 | 5.44E+01 | | 3.18E-03 | |
| 2,4-Dimethylphenol | 2.0E-02 | | ND | 0.002 | 1.00E-01 | | 5.83E-06 | |
| 2,6-Dichloropyridine | ND | 2.4E-02 | ND | 15 | | 3.60E-01 | | 9.93E-02 * |
| 2-Butanone (Methyl Ethyl Ketone) | 6.0E-01 | | D | 0.055 | 9.17E-02 | | 5.35E-06 | |
| 2-Chloropyridine | ND | 2.4E-02 | ND | 84 | | 2.02E+00 | | 5.56E-01 * |
| 2-Methylnaphthalene | 4.0E-02 | | ND | 0.014 | 3.50E-01 | | 2.04E-05 | |
| 2-Methylphenol | 5.0E-02 | ND | C | 0.0009 | 1.80E-02 | | 1.05E-06 | |
| 3-Chloropyridine | 2.0E-02 | | ND | 4 | 2.00E+02 | | 1.17E-02 * | |
| 4-Chloropyridine | 2.0E-02 | | ND | 0.006 | 3.00E-01 | | 1.75E-05 | |
| 4-Methylphenol | 5.0E-03 | ND | C | 0.008 | 1.60E+00 | | 9.33E-05 | |
| Acetone | 1.0E-01 | | D | 1.2 | 1.20E+01 | | 7.00E-04 | |
| Aluminum | 1.0E+00 | | ND | 16.6 | 1.66E+01 | | 9.68E-04 | |
| Antimony | 4.0E-04 | | ND | 0.0576 | 1.44E+02 | | 8.40E-03 | |
| Arsenic | 3.0E-04 | 1.50E+00 | A | 0.371 | 1.24E+03 | 5.56E-01 | 7.21E-02 * | 1.54E-01 * |
| Barium | 7.0E-02 | | ND | 1.54 | 2.20E+01 | | 1.28E-03 | |
| Benzene | 3.0E-04 | 2.9E-02 | A | 0.24 | 8.00E+02 | 6.96E-03 | 4.67E-02 * | 1.92E-03 |
| Beryllium | 5.0E-03 | 4.3E+00 | B2 | 0.0021 | 4.20E-01 | 9.03E-03 | 2.45E-05 | 2.49E-03 |
| Bis(2-chloroethyl)ether | ND | 1.1E+00 | B2 | 0.009 | | 9.90E-03 | | 2.73E-03 |
| Bis(2-ethylhexyl)phthalate | 2.0E-02 | 1.4E-02 | B2 | 0.016 | 8.00E-01 | 2.24E-04 | 4.67E-05 | 6.18E-05 |
| Butylbenzylphthalate | 2.0E-01 | ND | C | 0.0007 | 3.50E-03 | | 2.04E-07 | |
| Cadmium | 5.0E-04 | ND | B1 | 0.0984 | 1.97E+02 | | 1.15E-02 * | |
| Carbon Disulfide | 1.0E-01 | | ND | 0.036 | 3.60E-01 | | 2.10E-05 | |
| Chlorobenzene | 2.0E-02 | | D | 1.4 | 7.00E+01 | | 4.08E-03 | |
| Chloroethane | 4.0E-01 | | D | 0.003 | 7.50E-03 | | 4.38E-07 | |
| Chloroform | 1.0E-02 | 6.1E-03 | B2 | 0.089 | 8.90E+00 | 5.43E-04 | 5.19E-04 | 1.50E-04 |
| Chromium | 5.0E-03 | ND | A | 0.102 | 2.04E+01 | | 1.19E-03 | |
| Cobalt | 6.0E-02 | | ND | 0.0346 | 5.77E-01 | | 3.36E-05 | |
| Copper | 3.7E-02 | | D | 70.7 | 1.91E+03 | | 1.11E-01 * | |
| Di-n-butyl phthalate | 1.0E-01 | | D | 0.002 | 2.00E-02 | | 1.17E-06 | |
| Ethylbenzene | 1.0E-01 | | D | 0.062 | 6.20E-01 | | 3.62E-05 | |
| Iron | 3.0E-01 | | ND | 864 | 2.88E+03 | | 1.68E-01 * | |
| Lead | ND | ND | B2 | 4.75 | | | | |
| Manganese | 4.7E-02 | | D | 5.97 | 1.27E+02 | | 7.41E-03 | |
| Mercury | 3.0E-04 | | D | 0.0077 | 2.57E+01 | | 1.50E-03 | |
| Methanol | 5.0E-01 | | D | 0.98 | 1.96E+00 | | 1.14E-04 | |
| Methylene Chloride | 6.0E-02 | 7.5E-03 | B2 | 0.003 | 5.00E-02 | 2.25E-05 | 2.92E-06 | 6.21E-06 |
| Naphthalene | 4.0E-02 | | D | 0.016 | 4.00E-01 | | 2.33E-05 | |
| Nickel | 2.0E-02 | | ND | 0.514 | 2.57E+01 | | 1.50E-03 | |
| p-Fluoroaniline | 4.0E-03 | | ND | 0.32 | 8.00E+01 | | 4.67E-03 | |
| Selenium | 5.0E-03 | | D | 0.0177 | 3.54E+00 | | 2.07E-04 | |
| Silver | 5.0E-03 | | D | 0.0334 | 6.68E+00 | | 3.90E-04 | |
| Tetrachloroethene | 1.0E-02 | 5.2E-02 | B2 | 0.004 | 4.00E-01 | 2.08E-04 | 2.33E-05 | 5.74E-05 |
| Toluene | 2.0E-01 | | D | 2.3 | 1.15E+01 | | 6.71E-04 | |
| Trichloroethene | 6.0E-03 | 1.1E-02 | B2 | 0.012 | 2.00E+00 | 1.32E-04 | 1.17E-04 | 3.64E-05 |
| Vanadium | 7.0E-03 | | ND | 0.0748 | 1.07E+01 | | 6.23E-04 | |
| Vinyl Acetate | 1.0E+00 | | ND | 0.025 | 2.50E-02 | | 1.46E-06 | |
| Vinyl Chloride | ND | 1.9E+00 | A | 0.35 | | 6.65E-01 | | 1.83E-01 * |
| Xylenes (total) | 2.0E+00 | | D | 0.34 | 1.70E-01 | | 9.92E-06 | |
| Zinc | 3.0E-01 | | D | 2780 | 9.27E+03 | | 5.41E-01 * | |
| **SUM all RI VALUES** | | | | | **1.71E+04** | **3.62E+00** | | |

NOTES:
[1] - see Dose-Respouse Tables in Appendix
RiNC = Noncarcinogenic risk value (i.e., Maximum concentration / Reference Dose)
RiC = Carcinogenic risk value (i.e., Maximum concentration x Slope Factor)
ERiNC = Proportion of contribution to total noncarcinogenic risk
ERiC = Percentage of contribution to carcinogenic risk
* = Contribution of compound to total risk exceeds 0.01 cutoff level; compound will be evaluated quantitatively

## TABLE D.1-2
## HUMAN HEALTH EXPOSURE PARAMETERS AND EQUATIONS

### OLIN CHEMICALS PHASE II RI REPORT
### ROCHESTER, N.Y.

### INDUSTRIAL WORKER: GROUNDWATER DERMAL EXPOSURE

### PARAMETERS

| PARAMETER | SYMBOL | VALUE | UNITS | SOURCE |
|---|---|---|---|---|
| CHEMICAL CONCENTRATION IN GROUNDWATER | CW | Mean or Maximum | mg/L | Site specific |
| CONVERSION FACTOR | CF | 1E-03 | $L/cm^3$ | |
| SURFACE AREA EXPOSED[1] | SA | 1,980 | $cm^2$ | USEPA, 1992 |
| PERMEABILITY COEFFICIENT | $Kp_{event}$ | Chemical-specific | cm/event | USEPA, 1992 |
| BODY WEIGHT | BW | 70 | kg | USEPA, 1989a |
| EXPOSURE TIME | ET | 8 | hours/event | Assumption |
| EVENT FREQUENCY | EV | 1 | event/day | Assumption |
| EXPOSURE FREQUENCY | EF | 250 | days/year | USEPA, 1991a |
| EXPOSURE DURATION | ED | 25 | years | USEPA, 1991a |
| AVERAGING TIME | | | | |
| CANCER | AT | 70 | years | USEPA, 1989a |
| NONCANCER[2] | AT | 25 | years | USEPA, 1989a |

Notes:

[1] Mean area of hands and forearms

[2] For noncarcinogenic effects, AT = ED

mg = milligrams

kg = kilogram

$cm^2$ = square centimeters

L = Liters

$m^3$ = cubic meter

$cm^3$ = cubic centimeters

### EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg-day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE-DERMAL} = \frac{CW \times SA \times Kp_{event} \times CF \times EV \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

TABLE D.1-2, continued
HUMAN HEALTH EXPOSURE PARAMETERS AND EQUATIONS

OLIN CHEMICALS PHASE II RI REPORT
ROCHESTER, N.Y.

## RECREATIONAL CHILD AND ADULT: SURFACE WATER INGESTION AND DERMAL EXPOSURE

### PARAMETERS

| PARAMETER | SYMBOL | VALUE ADULT | VALUE CHILD | UNITS | SOURCE |
|---|---|---|---|---|---|
| CHEMICAL CONCENTRATION IN SURFACE WATER | CW | Mean or Maximum | Mean or Maximum | mg/L | Site specific |
| CONVERSION FACTOR | CF | 1E-03 | 1E-03 | $L/cm^3$ | |
| INGESTION RATE | IR | 0.05 | 0.05 | L/hr | USEPA, 1988 |
| SURFACE AREA EXPOSED[1] | SA | 19,400 | 13,724 | $cm^2$ | USEPA, 1992 |
| PERMEABILITY COEFFICIENT | $Kp_{event}$ | Chemical-specific | Chemical-specific | cm/event | USEPA, 1992 |
| BODY WEIGHT[2] | BW | 70 | 44.3 | kg | USEPA, 1989a |
| EXPOSURE TIME | ET | 1 | 1 | hours/event | Assumption |
| EVENT FREQUENCY | EV | 1 | 1 | event/day | Assumption |
| EXPOSURE FREQUENCY | EF | 15 | 15 | days/year | Assumption |
| EXPOSURE DURATION[3] | ED | 19 | 11 | years | USEPA, 1991a |
| AVERAGING TIME | | | | | |
| CANCER | AT | 70 | 70 | years | USEPA, 1989a |
| NONCANCER[3] | AT | 19 | 11 | years | USEPA, 1989a |

Notes:

[1] Mean area of whole body. Value for child is average of mean whole body surface areas for males ages 7 through 17.

[2] Value for child is average of 50% body weights for males ages 7 through 17.

[3] 30-Year residential exposure duration; child ages 7 - 17 years, and adult ages 18 through 36 years. For non-carcinogenic effects, AT = ED.

mg = milligrams

kg = kilogram

$cm^2$ = square centimeters

L = Liters

$m^3$ = cubic meter

$cm^3$ = cubic centimeters

### EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg-day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE-DERMAL} = \frac{CW \times SA \times Kp_{event} \times CF \times EV \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$\text{INTAKE-INGESTION} = \frac{CW \times IR \times ET \times EV \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

## TABLE D.1-2, continued
## HUMAN HEALTH EXPOSURE PARAMETERS AND EQUATIONS

### OLIN CHEMICALS PHASE II RI REPORT
### ROCHESTER, N.Y.

### QUARRY WORKER: SEEP WATER DERMAL EXPOSURE

### PARAMETERS

| PARAMETER | SYMBOL | VALUE | UNITS | SOURCE |
|---|---|---|---|---|
| CHEMICAL CONCENTRATION IN SURFACE WATER | CW | Mean or Maximum | mg/L | Site specific |
| CONVERSION FACTOR | CF | 1E-03 | $L/cm^3$ | |
| SURFACE AREA EXPOSED[1] | SA | 1,980 | $cm^2$ | USEPA, 1992 |
| PERMEABILITY COEFFICIENT | $Kp_{event}$ | Chemical-specific | cm/event | USEPA, 1992 |
| BODY WEIGHT | BW | 70 | kg | USEPA, 1989a |
| EXPOSURE TIME | ET | 2 | hours/event | Assumption |
| EVENT FREQUENCY | EV | 1 | event/day | |
| EXPOSURE FREQUENCY | EF | 15 | days/year | Assumption |
| EXPOSURE DURATION | ED | 10 | years | Assumption |
| AVERAGING TIME | | | | |
| CANCER | AT | 70 | years | USEPA, 1989a |
| NONCANCER[2] | AT | 10 | years | USEPA, 1989a |

Notes:

[1] Mean area of hands and forearms

[2] For noncarcinogenic effects, AT = ED

mg = milligrams

kg = kilogram

$cm^2$ = square centimeters

L = Liters

$m^3$ = cubic meter

$cm^3$ = cubic centimeters

### EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg-day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE-DERMAL} = \frac{CW \times SA \times Kp_{event} \times CF \times EV \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

**TABLE D.1-3**
**PERMEABILITY COEFFICIENTS FOR CPCs IN WATER**

**OLIN CHEMICALS PHASE II RI REPORT**
**ROCHESTER, N.Y.**

| Compound | Exposure Time (ET) (hr) | log $K_{ow}$ [1] | MW [1] | Kp [2] (cm/hr) | r [2] (hr) | $t^*$ [2] (hr) | B [2] | $Kp_{event}$ (cm/event) |
|---|---|---|---|---|---|---|---|---|
| ORGANICS [3] | | | | | | | | |
| 1,2-Dichloroethylene (total/trans) | 8 | | | 1.0E-02 | 3.4E-01 | 8.2E-01 | 7.2E-03 | 8.6E-02 |
| 2,6-Dichloropyridine | 8 | 2.15E+00 | 1.48E+02 | 8.0E-03 | 7.0E-01 | 1.7E+00 | 1.4E-02 | 7.5E-02 |
| 2,6-Dichloropyridine | 2 | 2.15E+00 | 1.48E+02 | 8.0E-03 | 7.0E-01 | 1.7E+00 | 1.4E-02 | 2.8E-02 |
| 2,6-Dichloropyridine | 1 | 2.15E+00 | 1.48E+02 | 8.0E-03 | 7.0E-01 | 1.7E+00 | 1.4E-02 | 1.9E-02 |
| 2-Chloropyridine | 8 | 1.33E+00 | 1.13E+02 | 3.4E-03 | 4.3E-01 | 1.0E+00 | 2.1E-03 | 3.0E-02 |
| 2-Chloropyridine | 2 | 1.33E+00 | 1.13E+02 | 3.4E-03 | 4.3E-01 | 1.0E+00 | 2.1E-03 | 9.8E-03 |
| 2-Chloropyridine | 1 | 1.33E+00 | 1.13E+02 | 3.4E-03 | 4.3E-01 | 1.0E+00 | 2.1E-03 | 6.2E-03 |
| 3-Chloropyridine | 8 | 1.38E+00 | 1.13E+02 | 3.7E-03 | 4.3E-01 | 1.0E+00 | 2.4E-03 | 3.3E-02 |
| 3-Chloropyridine | 2 | 1.38E+00 | 1.13E+02 | 3.7E-03 | 4.3E-01 | 1.0E+00 | 2.4E-03 | 1.1E-02 |
| 3-Chloropyridine | 1 | 1.38E+00 | 1.13E+02 | 3.7E-03 | 4.3E-01 | 1.0E+00 | 2.4E-03 | 6.7E-03 |
| 4-Chloropyridine | 8 | 1.28E+00 | 1.13E+02 | 3.2E-03 | 4.3E-01 | 1.0E+00 | 1.9E-03 | 2.8E-02 |
| 4-Chloropyridine | 2 | 1.28E+00 | 1.13E+02 | 3.2E-03 | 4.3E-01 | 1.0E+00 | 1.9E-03 | 9.0E-03 |
| 4-Chloropyridine | 1 | 1.28E+00 | 1.13E+02 | 3.2E-03 | 4.3E-01 | 1.0E+00 | 1.9E-03 | 5.7E-03 |
| p-Flouroaniline | 8 | 1.15E+00 | 1.11E+02 | 2.6E-03 | 4.2E-01 | 1.0E+00 | 1.4E-03 | 2.3E-02 |
| p-Flouroaniline | 2 | 1.15E+00 | 1.11E+02 | 2.6E-03 | 4.2E-01 | 1.0E+00 | 1.4E-03 | 7.4E-03 |
| p-Flouroaniline | 1 | 1.15E+00 | 1.11E+02 | 2.6E-03 | 4.2E-01 | 1.0E+00 | 1.4E-03 | 4.8E-03 |
| Benzene | 8 | | | 2.1E-02 | 2.6E-01 | 6.3E-01 | 1.3E-02 | 1.8E-01 |
| Tetrachloroethylene | 8 | | | 4.8E-02 | 9.0E-01 | 4.3E+00 | 2.5E-01 | 4.8E-01 |
| Trichloroethylene | 8 | | | 1.6E-02 | 5.5E-01 | 1.3E+00 | 2.6E-02 | 1.4E-01 |
| Vinyl Chloride | 8 | | | 7.3E-03 | 2.1E-01 | 5.1E-01 | 2.3E-03 | 6.1E-02 |
| INORGANICS [4] | | | | | | | | |
| Arsenic | 8 | | | 1.0E-03 | NA | NA | NA | 8.0E-03 |
| Cadmium | 8 | | | 1.0E-03 | NA | NA | NA | 8.0E-03 |
| Calcium | 8 | | | 1.0E-03 | NA | NA | NA | 8.0E-03 |
| Copper | 8 | | | 1.0E-03 | NA | NA | NA | 8.0E-03 |
| Iron | 8 | | | 1.0E-03 | NA | NA | NA | 8.0E-03 |
| Lead | 8 | | | 4.0E-06 | NA | NA | NA | 3.2E-05 |
| Magnesium | 8 | | | 1.0E-03 | NA | NA | NA | 8.0E-03 |
| Potassium | 8 | | | 1.0E-03 | NA | NA | NA | 8.0E-03 |
| Sodium | 8 | | | 1.0E-03 | NA | NA | NA | 8.0E-03 |
| Zinc | 8 | | | 6.0E-04 | NA | NA | NA | 4.8E-03 |

Notes:

[1] Needed only for compounds not included on USEPA, 1992, Table 5-8, these values obtained from the Phase II ERA.

[2] Values from USEPA, 1992, Table 5-8 or calculated as follows:

1. $\text{Log } Kp = -2.72 + 0.71 \times \log K_{ow} - 0.0061 \times MW$
2. $B = K_{ow} / 10^4$
3. $r = l_{sc}^2 / (6 \times (l_{sc} \times 10^{(-2.72 - 0.0061 \times MW)}))$
   where $l_{sc} = 10\ \mu m = 0.001$ cm
4. If $B \le 0.1$, then $t^* = 2.4 \times r$
   If $0.1 \le B \le 1.17$, then $t^* = (8.4 + 6 \log B) \times r$
   If $B \ge 1.17$, then $t^* = 6 \times (b - (b^2 - c^2)^{0.5}) \times r$
   where $b = (2/\pi) \times (1 + B)^2 - c$
   and $c = (1 + 3B) / 3$

[3] For organics; Kp from USEPA, 1992, Table 5-8, estimated values
$Kp_{event}$ calculated as follows:
If ET < $t^*$, then:
$Kp_{event}$ (cm/event) = $2 \times Kp \times [(6 \times r \times ET) / \pi]^{0.5}$
If ET > $t^*$, then:
$Kp_{event}$ (cm/event) = $Kp \times [(ET/1 + B) + 2 \times r \times ((1 + 3B)/1 + B)]$

[4] For inorganics, Kp from USEPA, 1992, Table 5-3 or default value of 1E-03 cm/hr
$Kp_{event}$ calculated as follows:
$Kp_{event}$ (cm/event) = $Kp \times ET$

Acronyms:
hr = hour
cm = centimeter
Kp = Permeability Coefficient
$K_{ow}$ = Octanol/water partitioning coefficient
MW = molecular weight
r = lag time
$t^*$ = time to reach steady state
B = partitioning factor
NA = not applicable

Sources:

USEPA, 1992b. Dermal Exposure Assesment: Principles and Applications. Interim Report. EPA/600/8-91/011B
USEPA, 1993a. Superfund Chemical Data Matrix. March.

TABLE D.1-4
ORAL DOSE-RESPONSE INFORMATION FOR CARCINOGENIC EFFECTS

OLIN CHEMICALS PHASE II RI REPORT
ROCHESTER, N.Y.

| Compound | Weight of Evidence | Oral Slope Factor $(mg/kg/day)^{-1}$ | Test Species | Study Type | Tumor Type | Source |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | D | | | | | IRIS |
| 1,1,2,2-Tetrachloroethane | C | 2.0E-01 | Mouse | Oral-gavage | Oral-gavage | IRIS |
| 1,1-Dichloroethane | C | ND | | | | IRIS |
| 1,2-Dichlorobenzene | D | | | | | IRIS |
| 1,2-Dichloroethene (total) | ND | | | | | HEAST |
| 2,4-Dimethylphenol | ND | | | | | IRIS |
| 2,6-Dichloropyridine | Not Listed | 2.4E-02 * | | | | |
| 2-Butanone (Methyl ethyl ketone) | D | | | | | IRIS |
| 2-Chloropyridine | Not Listed | 2.4E-02 * | | | | |
| 2-Methylnaphthalene | ND | | | | | IRIS |
| 2-Methylphenol | C | ND | | | | IRIS |
| 3-Chloropyridine | Not Listed | | | | | |
| 4-Chloropyridine | Not Listed | | | | | |
| 4-Methylphenol (p-Cresol) | C | ND | | | | IRIS |
| Acetone | D | | | | | IRIS |
| Aluminum | ND | | | | | HEAST |
| Antimony | ND | | | | | IRIS |
| Arsenic | A | 1.5E+00 | Human | DW | Skin tumors | IRIS |
| Barium | ND | | | | | IRIS |
| Benzene | A | 2.9E-02 | Human | Occupational | Leukemia | IRIS |
| Beryllium | B2 | 4.3E+00 | Rat | DW | Total tumors | IRIS |
| Bis(2-chloroethyl)ether | B2 | 1.1E+00 | Mouse | Oral-gavage | Hepatomas | IRIS |
| Bis(2-ethylhexyl)phthalate (BEHP) | B2 | 1.4E-02 | Mouse | Oral-diet | Hepatocellular carcinoma | IRIS |
| Butyl Benzyl Phthalate | C | ND | | | | IRIS |
| Cadmium | B1 | NA | | | | IRIS |
| Carbon Disulfide | ND | | | | | IRIS |
| Chlorobenzene | D | | | | | IRIS |
| Chloroethane | ND | | | | | IRIS |
| Chloroform | B2 | 6.1E-03 | Rat | DW | Kidney tumors | IRIS |
| Chromium VI | A | NA | | | | IRIS |
| Cobalt | ND | | | | | IRIS |
| Copper | D | | | | | IRIS |
| Di-n-butyl Phthalate | D | | | | | IRIS |
| Ethylbenzene | D | | | | | IRIS |
| p-Fluoraniline | Not Listed | | | | | |
| Iron | ND | | | | | |
| Lead | B2 | ND | | | | IRIS |
| Manganese | D | | | | | IRIS |
| Mercury | D | | | | | IRIS |
| Methanol | D | | | | | IRIS |
| Methylene Chloride (Dichloromethane) | B2 | 7.5E-03 | Mouse | DW | Hepatocellular cancer | IRIS |
| Naphthalene | D | | | | | IRIS |

TABLE D.1-4
ORAL DOSE-RESPONSE INFORMATION FOR CARCINOGENIC EFFECTS

OLIN CHEMICALS PHASE II RI REPORT
ROCHESTER, N.Y.

| Compound | Weight of Evidence | Oral Slope Factor $(mg/kg/day)^{-1}$ | Test Species | Study Type | Tumor Type | Source |
|---|---|---|---|---|---|---|
| Nickel | ND | | | | | IRIS |
| Selenium | D | | | | | IRIS |
| Silver | D | | | | | IRIS |
| Tetrachloroethene | B2 | 5.2E-02 W | Mouse | Oral-gavage | Liver tumors | ECAO, 1992 |
| Toluene | D | | | | | IRIS |
| Trichloroethene | B2 | 1.1E-02 W | Mouse | Oral-gavage | Liver tumors | ECAO, 1992 |
| Vanadium | ND | | | | | HEAST |
| Vinyl Acetate | ND | | | | | IRIS |
| Vinyl Chloride | A | 1.9E+00 R | Rat | Oral-diet | Lung, liver | HEAST |
| Xylenes (total) | D | | | | | IRIS |
| Zinc | D | | | | | IRIS |

NA - Not Applicable
ND - Not Determined
W - Withdrawn from IRIS
R - Under review on IRIS
DW - Drinking water
mg - milligram
kg - kilogram

* - Based on 1,4-dichlorobenzene as a surrogate

SOURCES:
IRIS as of 2/96
HEAST, 1995
ECAO, 1992

Weight of Evidence:
A - Human carcinogen
B - Probable human carcinogen (B1 - limited evidence of cancer in humans; B2 - sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans)
C - Possible human carcinogen
D - Not classifiable as to human carcinogenicity
E - Evidence of lack of carcinogenicity to humans

IRIS - Integrated Risk Information System
HEAST - Health Effects Assessment Summary Tables
ECAO - Environmental Criteria and Assessment Office

TABLE D.1-5

ORAL DOSE-RESPONSE INFORMATION FOR NONCARCINOGENIC EFFECTS

OLIN CHEMICALS PHASE II RI REPORT

ROCHESTER, N.Y.

| COMPOUND | CHRONIC ORAL RfD (mg/kg-day) | STUDY TYPE | CONFIDENCE LEVEL | CRITICAL EFFECT | TEST ANIMAL | UNCERTAINTY FACTOR | SOURCE |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 9.0E-02 W | | | | | | IRIS |
| 1,1,2,2-Tetrachloroethane | ND | | | | | | IRIS |
| 1,1-Dichloroethane | 1.0E-01 R | Inhalation | | None observed | Rat | 1,000 | HEAST |
| 1,2-Dichlorobenzene | 9.0E-02 | Oral-diet | Low | No adverse effects observed | Rat | 1,000 H,A,D | IRIS |
| 1,2-Dichloroethene (total) | 9.0E-03 | Oral-DW | | Liver lesions | Rat | 1,000 | HEAST |
| 2,4-Dimethylphenol | 2.0E-02 | Oral-gavage | Low | Clinical signs and hematological changes | Mouse | 3,000 H,A,D | IRIS |
| 2,6-Dichloropyridine | Not Listed | | | | | | |
| 2-Butanone (Methyl Ethyl Ketone) | 6.0E-01 | Oral-DW | Low | Decreased fetal birth weight | Rat | 3,000 H,A,S,D | IRIS |
| 2-Chloropyridine | Not Listed | | | | | | |
| 2-Methylnaphthalene | ND | | | | | | |
| 2-Methylphenol | 5.0E-02 | Oral-gavage | Medium | Decreased body weights and neurotoxicity | Rat | 1,000 H,A,S | IRIS |
| 3-Chloropyridine | Not Listed ** | | | | | | |
| 4-Chloropyridine | Not Listed ** | | | | | | |
| 4-Methylphenol (p-Cresol) | 5.0E-03 W | Oral-gavage | | Maternal death; respiratory distress; CNS hypoactivity | Rabbit | 1,000 | HEAST |
| Acetone | 1.0E-01 | Oral-gavage | Low | Increased liver and kidney weights, nephrotoxicity | Rat | 1,000 H,A,S | IRIS |
| Aluminum | 1.0E+00 | | | | | | ECAO, 1994 |
| Antimony | 4.0E-04 | Oral-DW | | Reduced lifespan, altered blood chemistries | Rat | 1,000 H,A,L | IRIS |
| Arsenic | 3.0E-04 | Oral-diet | Medium | Keratosis and hyperpigmentation | Human | 3 H | IRIS |
| Barium | 7.0E-02 | Oral-DW | Medium | Increased blood pressure | Human | 3 H | IRIS |
| Benzene | 3.0E-04 P | | | | | | ECAO, 1994 |
| Beryllium | 5.0E-03 | DW | Low | None observed | Rat | 100 H,A | IRIS |
| Bis(2-chloroethyl)ether | ND | | | | | | IRIS |
| Bis(2-ethylhexyl)phthalate (BEHP) | 2.0E-02 | Oral-diet | Medium | Increased liver weight | Guinea Pig | 1,000 H,A,S | IRIS |
| Butyl Benzyl Phthalate | 2.0E-01 | Oral-diet | Low | Effects on body weight gain, testes, liver, kidney | Rat | 1,000 H,A,S | IRIS |
| Cadmium (water) | 5.0E-04 | Oral-DW | High | Significant proteinuria | Human | 10 H | IRIS |
| Carbon Disulfide | 1.0E-01 R | Inhalation | Medium | Fetal toxicity/malformation | Rabbit | 100 H,A | IRIS |
| Chlorobenzene | 2.0E-02 | Oral | Medium | Histopathologic changes in liver | Dog | 1,000 H,A,S | IRIS |
| Chloroethane | 4.0E-01 | | | | | | ECAO, 1994 |
| Chloroform | 1.0E-02 | Oral | Medium | Fatty cyst formation in liver | Dog | 1,000 H,A,S | IRIS |
| Chromium VI | 5.0E-03 | Oral-DW | Low | No effects reported | Rat | 500 H,A,S | IRIS |
| Cobalt | 6.0E-02 | | | | | | IRIS |
| Copper | 3.7E-02 *** | Oral | | Gastrointestinal irritation | Human | | HEAST |
| Di-n-butyl phthalate | 1.0E-01 | Oral-diet | Low | Increased mortality | Rat | 1,000 H,A,S | IRIS |
| Ethylbenzene | 1.0E-01 | Oral-diet | Low | Liver and kidney toxicity | Rat | 1,000 H,A,S | IRIS |
| p-Fluoraniline | 4.0E-03 | | | | | | |
| Iron | 3.0E-01 | Oral-diet | Low | Kidney lesions | Dog | 1,000 H,A,S | IRIS |
| Lead | ND | | | | | | IRIS |
| Manganese | 4.7E-02 | Oral-diet | Medium | CNS effects | Human | 1 | IRIS |
| Mercury | 3.0E-04 R | Parenteral | | Kidney effects | Rat | 1,000 | HEAST |
| Methanol | 5.0E-01 | Oral-gavage | Gavage | Blood Effects | Rat | 1,000 H,A,D | IRIS |
| Methylene Chloride (Dichloromethane) | 6.0E-02 | DW | Medium | Liver toxicity | Rat | 100 H,A | IRIS |
| Naphthalene | 4.0E-02 W | | | | | | ECAO, 1994 |

TABLE D.1-5

ORAL DOSE-RESPONSE INFORMATION FOR NONCARCINOGENIC EFFECTS

OLIN CHEMICALS PHASE II RI REPORT

ROCHESTER, N.Y.

| COMPOUND | CHRONIC ORAL RfD (mg/kg-day) | STUDY TYPE | CONFIDENCE LEVEL | CRITICAL EFFECT | TEST ANIMAL | UNCERTAINTY FACTOR | SOURCE |
|---|---|---|---|---|---|---|---|
| Nickel | 2.0E-02 | Oral-diet | Medium | Decreased body and organ weights | Rat | 300 H,A,D | IRIS |
| Selenium | 5.0E-03 | Epidemiologic | Medium | Clinical selenosis | Human | 3 H | IRIS |
| Silver | 5.0E-03 | Therapeutic | Medium | Argyria | Human | 2 L | IRIS |
| Tetrachloroethene | 1.0E-02 | Oral-gavage | Medium | Hepatotoxicity | Mouse | 1,000 H,A,S | IRIS |
| Toluene | 2.0E-01 | Oral-gavage | Medium | Weight change in liver and kidneys | Rat | 1,000 H,A,S | IRIS |
| Trichloroethene | 6.0E-03 R | | | | | | ECAO, 1994 |
| Vanadium | 7.0E-03 P | Oral-DW | | None observed | Rat | 100 | HEAST |
| Vinyl Acetate | 1.0E+00 | Oral-DW | | Altered whole body and kidney weight | Rat | 100 | HEAST |
| Vinyl Chloride | ND | | | | | | HEAST |
| Xylenes (total) | 2.0E+00 | Oral-gavage | Medium | Hyperactivity, decreased body weight | Rat | 100 H,A | IRIS |
| Zinc | 3.0E-01 | Oral-diet | Medium | Decreased erythrocyte superoxide dimutase | Human | 3 L | IRIS |

ND - No data available

W - RfD withdrawn from IRIS

P - RfD pending in IRIS

R - an RfD under review by IRIS

mg - milligram

kg - kilogram

DW - Drinking Water

L - Liter

IRIS - Integrated Risk Information System

HEAST - Health Effects Assessment Summary Tables

ECAO - Environmental Criteria and Assessment Office

*RfD for naphthalene is used as surrogate

** RfD for chlorobenzene used as surrogate

*** Calculated from drinking water standard of 1.3 mg/L

SOURCES

IRIS as of 2/96

HEAST, 1995

ECAO, 1994

Uncertainty factors H - variation in human sensitivity

A - animal to human extrapolation

S - extrapolation from subchronic to chronic NOAEL

L - extrapolation from LOAEL to NOAEL

N - NOEL not attained

D - Lack of supporting data

Additional uncertainty factors or modifying factors (MF) of 1 to 10 may be added to account for other uncertainties such as inadequacies in the database or the severity of the effect

## TABLE D.1-6
## DERMAL DOSE-RESPONSE INFORMATION FOR CARCINOGENIC AND NONCARCINOGENIC EFFECTS

### OLIN CHEMICALS PHASE II RI REPORT
### ROCHESTER, N.Y.

| COMPOUND | ORAL ABSORPTION EFFICIENCY | CHRONIC ORAL RfD[1] (mg/kg-day) | CHRONIC DERMAL RfD[2] (mg/kg-day) | ORAL CSF[1] $(mg/kg-day)^{-1}$ | DERMAL CSF[3] $(mg/kg-day)^{-1}$ |
|---|---|---|---|---|---|
| 1,2-dichloroethene (total) | 1 | 9.0E-03 | 9.0E-03 | ND | ND |
| 2,6-dichloropyridine | 1 | ND | ND | 2.4E-02 | 2.4E-02 |
| 2-chloropyridine | 1 | ND | ND | 2.4E-02 | 2.4E-02 |
| 3-chloropyridine | 1 | 2.0E-02 | 2.0E-02 | ND | ND |
| 4-chloropyridine | 1 | 2.0E-02 | 2.0E-02 | ND | ND |
| arsenic | 0.98 | 3.0E-04 | 2.9E-04 | 1.5E+00 | 1.5E+00 |
| benzene | 1 | 3.0E-04 | 3.0E-04 | 2.9E-02 | 2.9E-02 |
| cadmium--water | 0.05 | 5.0E-04 | 2.5E-05 | ND | ND |
| copper | 0.5 | 3.7E-02 | 1.8E-02 | ND | ND |
| p-fluoroaniline | 1 | 4.0E-03 | 4.0E-03 | ND | ND |
| iron | 0.02 | 3.0E-01 | 6.0E-03 | ND | ND |
| lead | ND | ND | ND | ND | ND |
| tetrachloroethene | 0.7 | 1.0E-01 | 7.0E-02 | 5.2E-02 | 7.4E-02 |
| trichloroethene | 1 | 6.0E-03 | 6.0E-03 | 1.1E-02 | 1.1E-02 |
| vinyl chloride | 1 | ND | ND | 1.9E+00 | 1.9E+00 |
| zinc | 0.34 | 3.0E-01 | 1.0E-01 | ND | ND |

NOTES:

[1] - see preceding Dose-Response Tables

[2]Dermal RfD = Oral RfD*Oral Absorption Efficiency

[3]Dermal CSF = Oral CSF/Oral Absorption Efficiency

RfD - reference dose

CSF - cancer slope factor

mg - milligram

kg - kilogram

ND - no value available

TABLE D 2-1
DERMAL CONTACT WITH OFFSITE GROUNDWATER - MEAN CONCENTRATION
INDUSTRIAL WORKER
OLIN CHEMICALS PHASE II
ROCHESTER, N.Y

| OR1GWD-A | 08-Oct-97 |
|---|---|

EXPOSURE PARAMETERS

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| CONCENTRATION GROUNDWATER | CW | Mean | mg/L |
| SURFACE AREA EXPOSED | SA | 1,980 | $cm^2$ |
| CONVERSION FACTOR | CF | 0.001 | $L/cm^3$ |
| BODY WEIGHT | BW | 70 | kg |
| EVENT FREQUENCY | EV | 1 | event/day |
| EXPOSURE FREQUENCY | EF | 250 | days/year |
| EXPOSURE DURATION | ED | 25 | years |
| AVERAGING TIME | | | |
| CANCER | AT | 70 | years |
| NONCANCER | AT | 25 | years |
| PERMEABILITY COEFFICIENT | $Kp_{event}$ | Chemical-specific | cm/event |

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg-day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$INTAKE-DERMAL = \frac{CW \times SA \times Kp_{event} \times CF \times EV \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

CARCINOGENIC EFFECTS

| COMPOUND | GROUNDWATER CONCENTRATION (mg/L) | $Kp_{event}$ (cm/event) | INTAKE DERMAL (mg/kg-day) | CANCER SLOPE FACTOR-DERMAL $(mg/kg-day)^{-1}$ | CANCER RISK DERMAL | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|
| Vinyl Chloride | 0.0442 | 6.1E-02 | 1.9E-05 | 1.9E+00 | 3.5E-05 | 48.56% |
| Trichloroethene | 0.0047 | 1.4E-01 | 4.6E-06 | 1.1E-02 | 5.0E-08 | 0.07% |
| Tetrachloroethene | 0.0040 | 4.8E-01 | 1.3E-05 | 7.4E-02 | 9.8E-07 | 1.35% |
| Benzene | 0.0413 | 1.8E-01 | 5.1E-05 | 2.9E-02 | 1.5E-06 | 2.04% |
| 2,6-Dichloropyridine | 0.7384 | 7.5E-02 | 3.8E-04 | 2.4E-02 | 9.2E-06 | 12.59% |
| 2-Chloropyridine | 4.6343 | 3.0E-02 | 9.6E-04 | 2.4E-02 | 2.3E-05 | 31.61% |
| Arsenic | 0.0332 | 8.0E-03 | 1.8E-06 | 1.5E+00 | 2.8E-06 | 3.77% |
| | | | | | 7E-05 | |

NONCARCINOGENIC EFFECTS

| COMPOUND | GROUNDWATER CONCENTRATION (mg/L) | $Kp_{event}$ (cm/event) | INTAKE DERMAL (mg/kg-day) | REFERENCE DOSE-DERMAL (mg/kg-day) | HAZARD QUOTIENT DERMAL | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|
| Vinyl Chloride | 0.0442 | 6.1E-02 | 5.2E-05 | ND | | |
| 1,2-Dichloroethene (total) | 0.0573 | 8.6E-02 | 9.5E-05 | 9.0E-03 | 1.06E-02 | 0.29% |
| Tetrachloroethene | 0.0040 | 4.8E-01 | 3.7E-05 | 7.0E-02 | 5.31E-04 | 0.01% |
| Trichloroethene | 0.0047 | 1.4E-01 | 1.3E-05 | 6.0E-03 | 2.12E-03 | 0.06% |
| Benzene | 0.0413 | 1.8E-01 | 1.4E-04 | 3.0E-04 | 4.80E-01 | 13.33% |
| 2,6-Dichloropyridine | 0.7384 | 7.5E-02 | 1.1E-03 | ND | | |
| 2-Chloropyridine | 4.6343 | 3.0E-02 | 2.7E-03 | ND | | |
| 3-Chloropyridine | 0.2023 | 3.3E-02 | 1.3E-04 | 2.0E-02 | 6.47E-03 | 0.18% |
| 4-Chloropyridine | 0.0051 | 2.8E-02 | 2.8E-06 | 2.0E-02 | 1.38E-04 | 0.00% |
| Arsenic | 0.0332 | 8.0E-03 | 5.1E-06 | 2.9E-04 | 1.77E-02 | 0.49% |
| Cadmium | 0.0052 | 6.0E-03 | 9.6E-07 | 2.5E-05 | 3.84E-02 | 1.07% |
| Copper | 4.4574 | 8.0E-03 | 6.9E-04 | 1.8E-02 | 3.84E-02 | 1.07% |
| Iron | 110.1289 | 8.0E-03 | 1.7E-02 | 6.0E-03 | 2.84E+00 | 78.99% |
| Lead | 0.3136 | 3.2E-05 | 1.9E-07 | ND | | |
| Zinc | 174.5142 | 4.8E-03 | 1.6E-02 | 1.0E-01 | 1.62E-01 | 4.51% |
| Calcium | 323 | 8.0E-03 | 5.0E-02 | ND | | |
| Magnesium | 112 | 8.0E-03 | 1.7E-02 | ND | | |
| Potassium | 29.7 | 8.0E-03 | 4.6E-03 | ND | | |
| Sodium | 874 | 8.0E-03 | 1.4E-01 | ND | | |
| | | | | | 4 | |

TABLE D.2-2
DERMAL CONTACT WITH OFFSITE GROUNDWATER - MAXIMUM CONCENTRATION
INDUSTRIAL WORKER
OLIN CHEMICALS PHASE II
ROCHESTER, N.Y

OR1GWD-M | 08-Oct-97

EXPOSURE PARAMETERS

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| CONCENTRATION GROUNDWATER | CW | Mean | mg/L |
| SURFACE AREA EXPOSED | SA | 1,980 | $cm^2$ |
| CONVERSION FACTOR | CF | 0.001 | $L/cm^3$ |
| BODY WEIGHT | BW | 70 | kg |
| EVENT FREQUENCY | EV | 1 | event/day |
| EXPOSURE FREQUENCY | EF | 250 | days/year |
| EXPOSURE DURATION | ED | 25 | years |
| AVERAGING TIME | | | |
| CANCER | AT | 70 | years |
| NONCANCER | AT | 25 | years |
| PERMEABILITY COEFFICIENT | $Kp_{event}$ | Chemical-specific | cm/event |

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg-day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE-DERMAL} = \frac{CW \times SA \times Kp_{event} \times CF \times EV \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

CARCINOGENIC EFFECTS

| COMPOUND | GROUNDWATER CONCENTRATION (mg/L) | $Kp_{event}$ (cm/event) | INTAKE DERMAL (mg/kg-day) | CANCER SLOPE FACTOR-DERMAL $(mg/kg-day)^{-1}$ | CANCER RISK DERMAL | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|
| Vinyl Chloride | 0.35 | 6.1E-02 | 1.5E-04 | 1.9E+00 | 2.8E-04 | 30.29% |
| Trichloroethene | 0.012 | 1.4E-01 | 1.2E-05 | 1.1E-02 | 1.3E-07 | 0.01% |
| Tetrachloroethene | 0.004 | 4.8E-01 | 1.3E-05 | 7.4E-02 | 9.8E-07 | 0.11% |
| Benzene | 0.24 | 1.6E-01 | 3.0E-04 | 2.9E-02 | 8.7E-06 | 0.94% |
| 2,6-Dichloropyridine | 15 | 7.5E-02 | 7.8E-03 | 2.4E-02 | 1.9E-04 | 20.18% |
| 2-Chloropyridine | 84 | 3.0E-02 | 1.7E-02 | 2.4E-02 | 4.2E-04 | 45.16% |
| Arsenic | 0.371 | 8.0E-03 | 2.1E-05 | 1.5E+00 | 3.1E-05 | 3.32% |
| | | | | | 9E-04 | |

NONCARCINOGENIC EFFECTS

| COMPOUND | GROUNDWATER CONCENTRATION (mg/L) | $Kp_{event}$ (cm/event) | INTAKE DERMAL (mg/kg-day) | REFERENCE DOSE-DERMAL (mg/kg-day) | HAZARD QUOTIENT DERMAL | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|
| Vinyl Chloride | 0.35 | 8.1E-02 | 4.1E-04 | ND | | |
| 1,2-Dichloroethene | 0.49 | 8.6E-02 | 8.2E-04 | 9.0E-03 | 9.07E-02 | 0.31% |
| Tetrachloroethene | 0.004 | 4.8E-01 | 3.7E-05 | 7.0E-02 | 5.31E-04 | 0.00% |
| Trichloroethene | 0.012 | 1.4E-01 | 3.3E-05 | 6.0E-03 | 5.42E-03 | 0.02% |
| Benzene | 0.24 | 1.6E-01 | 8.4E-04 | 3.0E-04 | 2.79E+00 | 9.47% |
| 2,6-Dichloropyridine | 15 | 7.5E-02 | 2.2E-02 | ND | | |
| 2-Chloropyridine | 84 | 3.0E-02 | 4.9E-02 | ND | | |
| 3-Chloropyridine | 4 | 3.3E-02 | 2.6E-03 | 1.0E-02 | 2.56E-01 | 0.87% |
| 4-Chloropyridine | 0.006 | 2.8E-02 | 3.3E-06 | 1.0E-02 | 3.25E-04 | 0.00% |
| Arsenic | 0.371 | 8.0E-03 | 5.8E-05 | 2.9E-04 | 1.98E-01 | 0.67% |
| Cadmium | 0.0984 | 8.0E-03 | 1.5E-05 | 2.5E-05 | 6.10E-01 | 2.07% |
| Copper | 70.7 | 8.0E-03 | 1.1E-02 | 1.8E-02 | 6.09E-01 | 2.07% |
| Iron | 864 | 8.0E-03 | 1.3E-01 | 6.0E-03 | 2.23E+01 | 75.75% |
| Lead | 4.75 | 3.2E-05 | 2.9E-06 | ND | | |
| Zinc | 2780 | 4.8E-03 | 2.8E-01 | 1.0E-01 | 2.59E+00 | 8.77% |
| Calcium | 1220 | 8.0E-03 | 1.9E-01 | ND | | |
| Magnesium | 357 | 8.0E-03 | 5.5E-02 | ND | | |
| Potassium | 171 | 8.0E-03 | 2.7E-02 | ND | | |
| Sodium | 6490 | 8.0E-03 | 1.0E+00 | ND | | |
| | | | | | 29 | |

TABLE D.2-3
INHALATION OF VOLATILES AND SEMIVOLATILES FROM GROUNDWATER

Building volume cu m = 3500
Groundwater usage l/day = 1000000
Air exchanges/hr = 1

| | Range of SQLs | | Frequency of Detection | | Detected Concentration Minimum | Detected Concentration Maximum | Mean of all Samples | Maximum Mass Released (mg/day) | Average Concentration in Air (mg/cu m) | OSHA PEL TWA (mg/cu m) | Exceeds PEL TWA? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VOLATILE ORGANIC COMPOUNDS (mg/L) | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 0.0005 | - 0.05 | 2 / 19 | | 0.0008 | 0.0009 | 0.0050 | 900 | 0.0107142857 | 1900 | No |
| 1,1,2,2-Tetrachloroethane | 0.0005 | - 0.05 | 1 / 19 | | 0.0009 | 0.001 | 0.0050 | 1000 | 0.0119047619 | 7 | No |
| 1,1-Dichloroethane | 0.0005 | - 0.05 | 10 / 19 | | 0.0009 | 0.035 | 0.0092 | 35000 | 0.4166666667 | 400 | No |
| 1,2-Dichloroethene (Total) | 0.0005 | - 0.01 | 10 / 19 | | 0.004 | 0.49 | 0.0573 | 490000 | 5.8333333333 | 790 | No |
| 2-Butanone | 0.001 | - 0.05 | 1 / 19 | | 0.055 | 0.055 | 0.0066 | 55000 | 0.6547619048 | 590 | No |
| Acetone | 0.01 | - 0.1 | 4 / 19 | | 0.014 | 1.2 | 0.0774 | 1200000 | 14.2857142857 | 2380 | No |
| Benzene | 0.0005 | - 0.01 | 14 / 19 | | 0.0006 | 0.24 | 0.0413 | 240000 | 2.8571428571 | 3 | No |
| Carbon Disulfide | 0.0005 | - 0.05 | 9 / 19 | | 0.0003 | 0.036 | 0.0070 | 36000 | 0.4285714286 | 12 | No |
| Chloroberzene | 0.0005 | - 0.01 | 5 / 19 | | 0.001 | 1.4 | 0.0856 | 1400000 | 16.666666667 | 350 | No |
| Chloroethane | 0.001 | - 0.05 | 1 / 19 | | 0.003 | 0.003 | 0.0054 | 3000 | 0.0357142857 | 2600 | No |
| Chloroform | 0.0005 | - 0.01 | 6 / 19 | | 0.0004 | 0.089 | 0.0077 | 89000 | 1.0595238095 | 9.78 | No |
| Ethylberzene | 0.0005 | - 0.01 | 10 / 19 | | 0.0003 | 0.062 | 0.0089 | 62000 | 0.7380952381 | 435 | No |
| Methylene Chloride | 0.003 | - 0.05 | 1 / 19 | | 0.003 | 0.003 | 0.0065 | 3000 | 0.0357142857 | na 174 | No |
| Tetrachloroethene | 0.0005 | - 0.05 | 3 / 19 | | 0.001 | 0.004 | 0.0048 | 4000 | 0.0476190476 | 170 | No |
| Toluene | 0.01 | - 0.01 | 14 / 19 | | 0.0002 | 2.3 | 0.1435 | 2300000 | 27.380952381 | 375 | No |
| Total Xylenes | 0.01 | - 0.01 | 13 / 19 | | 0.0002 | 0.34 | 0.0247 | 340000 | 4.0476190476 | 435 | No |
| Trichloroethene | 0.0005 | - 0.05 | 7 / 19 | | 0.001 | 0.012 | 0.0047 | 12000 | 0.1428571429 | 270 | No |
| Vinyl Acetate | 0.005 | - 0.05 | 1 / 9 | | 0.025 | 0.025 | 0.0064 | 25000 | 0.2976190476 | 30 | No |
| Vinyl Chloride | 0.001 | - 0.01 | 10 / 19 | | 0.002 | 0.35 | 0.0442 | 350000 | 4.1666666667 | na13 | No |
| SEMIVOLATILE ORGANIC COMPOUNDS (mg/L) | | | | | | | | | | | |
| 1,2-Dichloroberzene | 0.01 | - 0.01 | 1 / 9 | | 0.003 | 0.004 | 0.0048 | 4000 | 0.0476190476 | na150 | No |
| 2,4-Dimethylphenol | 0.01 | - 0.01 | 1 / 9 | | 0.002 | 0.002 | 0.0047 | 2000 | 0.0238095238 | na | NA |
| 2,6-Dichloropyridine | 0.01 | - 0.01 | 15 / 23 | | 0.0005 | 15 | 0.7384 | 15000000 | 178.57142857 | na | NA |
| 2-Chloropyridine | 0.01 | - 0.01 | 19 / 23 | | 0.002 | 84 | 4.6343 | 84000000 | 1000 | na | NA |
| 2-Methylnaphthalene | 0.01 | - 0.01 | 2 / 9 | | 0.002 | 0.014 | 0.0054 | 14000 | 0.1666666667 | na | NA |
| 2-Methylphenol | 0.01 | - 0.01 | 1 / 9 | | 0.0009 | 0.0009 | 0.0045 | 900 | 0.0107142857 | na | NA |
| 3-Chloropyridine | 0.01 | - 0.01 | 8 / 23 | | 0.007 | 4 | 0.2023 | 4000000 | 47.619047619 | na | NA |
| 4-Chloropyridine | 0.01 | - 0.01 | 1 / 13 | | 0.006 | 0.006 | 0.0051 | 6000 | 0.0714285714 | na | NA |
| 4-Methylphenol | 0.01 | - 0.01 | 3 / 9 | | 0.001 | 0.008 | 0.0046 | 8000 | 0.0952380952 | na | NA |
| bis(2-Chloroethyl)ether | 0.01 | - 0.01 | 1 / 9 | | 0.008 | 0.009 | 0.0053 | 9000 | 0.1071428571 | na | NA |
| bis(2-Ethylhexyl)phthalate | 0.01 | - 0.01 | 6 / 9 | | 0.001 | 0.016 | 0.0052 | 16000 | 0.1904761905 | na | NA |
| Butylbenzylphthalate | 0.01 | - 0.01 | 1 / 9 | | 0.0007 | 0.0007 | 0.0045 | 700 | 0.0083333333 | na | NA |
| Di-n-butylphthalate | 0.01 | - 0.01 | 2 / 9 | | 0.0008 | 0.002 | 0.0042 | 2000 | 0.0238095238 | na | NA |
| Naphthalene | 0.01 | - 0.01 | 3 / 9 | | 0.001 | 0.016 | 0.0052 | 16000 | 0.1904761905 | 50 | No |
| p-Fluoroaniline | 0.01 | - 0.01 | 7 / 23 | | 0.001 | 0.32 | 0.0197 | 320000 | 3.8095238095 | 8 | No |

ACGIH, 1995. Guide to Occupational Exposure Values-1995
When na is followed by a value, that value is the ACGIH TLV

NA = not available

TABLE D.2-4
INCIDENTAL INGESTION OF AND DERMAL CONTACT WITH SURFACE WATER - MEAN CONCENTRATION
BARGE CANAL
RECREATIONAL CHILD
OLIN CHEMICALS
ROCHESTER, NY

CHLDSWMN | 08-Oct-97

EXPOSURE PARAMETERS

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| CONCENTRATION WATER | CW | Maximum | mg/liter |
| INGESTION RATE | IR | 0.05 | liters/hour |
| SURFACE AREA EXPOSED | SA | 13,724 | $cm^2$ |
| CONVERSION FACTOR | CF | 0.001 | $liter/cm^3$ |
| BODY WEIGHT | BW | 44.3 | kg |
| EXPOSURE TIME | ET | 1 | hours/day |
| EXPOSURE FREQUENCY | EF | 15 | days/year |
| EXPOSURE DURATION | ED | 11 | years |
| EVENT FREQUENCY | EV | 1 | event/day |
| AVERAGING TIME | | | |
| CANCER | AT | 70 | years |
| NONCANCER | AT | 11 | years |
| PERMEABILITY COEFFICIENT | Kp | Chemical-specific | cm/event |

Notes:
For noncarcinogenic effects: AT = ED
Kpevent is calculated in Attachment A, Table A-3

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg-day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE-INGESTION} = \frac{CW \times IR \times ET \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$\text{INTAKE-DERMAL} = \frac{CW \times Kp_{event} \times SA \times CF \times EF \times ED \times EV}{BW \times AT \times 365\ days/yr}$$

CARCINOGENIC EFFECTS

| COMPOUND | WATER CONCENTRATION (mg/L) | INTAKE INGESTION (mg/kg-day) | ADJUSTED Kp (cm/event) | INTAKE DERMAL (mg/kg-day) | CANCER SLOPE FACTOR ORAL $(mg/kg-day)^{-1}$ | CANCER SLOPE FACTOR DERMAL $(mg/kg-day)^{-1}$ | CANCER RISK INGESTION | CANCER RISK DERMAL | TOTAL CANCER RISK | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,6-Dichloropyridine | 0.005 | 3.6E-08 | 1.9E-02 | 1.9E-07 | 2.4E-02 | 2.4E-02 | 8.7E-10 | 4.6E-09 | 5.4E-09 | 58.98% |
| 2-Chloropyridine | 0.008 | 5.8E-08 | 6.2E-03 | 9.9E-08 | 2.4E-02 | 2.4E-02 | 1.4E-09 | 2.4E-09 | 3.8E-09 | 41.02% |
| | | | | | | SUMMARY CANCER RISK | 2E-09 | 7E-09 | 9E-09 | |

NONCARCINOGENIC EFFECTS

| COMPOUND | WATER CONCENTRATION (mg/L) | INTAKE INGESTION (mg/kg-day) | ADJUSTED Kp (cm/event) | INTAKE DERMAL (mg/kg-day) | REFERENCE DOSE ORAL (mg/kg-day) | REFERENCE DOSE DERMAL (mg/kg-day) | HAZARD QUOTIENT INGESTION | HAZARD QUOTIENT DERMAL | TOTAL HAZARD QUOTIENT | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,6-Dichloropyridine | 0.005 | 2.3E-07 | 1.9E-02 | 1.2E-06 | ND | ND | | | | |
| 2-Chloropyridine | 0.008 | 3.7E-07 | 6.2E-03 | 6.3E-07 | ND | ND | | | | |
| 3-Chloropyridine | 0.002 | 9.3E-08 | 6.7E-03 | 1.7E-07 | 2.0E-02 | 2.0E-02 | 4.6E-06 | 8.5E-06 | 1.3E-05 | 100.00% |
| | | | | | | SUMMARY HAZARD INDEX | 0.00000 | 0.00001 | 0.00001 | |

TABLE D.2-6

CHLDSWMX | 08-Oct-97

INCIDENTAL INGESTION OF AND DERMAL CONTACT WITH SURFACE WATER - MAXIMUM CONCENTRATION
BARGE CANAL
RECREATIONAL CHILD
OLIN CHEMICALS
ROCHESTER, NY

EXPOSURE PARAMETERS

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| CONCENTRATION WATER | CW | Maximum | mg/liter |
| INGESTION RATE | IR | 0.05 | liters/hour |
| SURFACE AREA EXPOSED | SA | 13,724 | $cm^2$ |
| CONVERSION FACTOR | CF | 0.001 | $liter/cm^3$ |
| BODY WEIGHT | BW | 44.3 | kg |
| EXPOSURE TIME | ET | 1 | hours/day |
| EXPOSURE FREQUENCY | EF | 15 | days/year |
| EXPOSURE DURATION | ED | 11 | years |
| EVENT FREQUENCY | EV | 1 | event/day |
| AVERAGING TIME | | | |
| CANCER | AT | 70 | years |
| NONCANCER | AT | 11 | years |
| PERMEABILITY COEFFICIENT | Kp | Chemical-specific | cm/event |

Notes:
For noncarcinogenic effects: AT = ED
Kpevent is calculated in Attachment A, Table A-3

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg-day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE-INGESTION} = \frac{CW \times IR \times ET \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$\text{INTAKE-DERMAL} = \frac{CW \times Kp_{event} \times SA \times CF \times EF \times ED \times EV}{BW \times AT \times 365\ days/yr}$$

CARCINOGENIC EFFECTS

| COMPOUND | WATER CONCENTRATION (mg/L) | INTAKE INGESTION (mg/kg-day) | ADJUSTED Kp (cm/event) | INTAKE DERMAL (mg/kg-day) | CANCER SLOPE FACTOR ORAL $(mg/kg-day)^{-1}$ | CANCER SLOPE FACTOR DERMAL $(mg/kg-day)^{-1}$ | CANCER RISK INGESTION | CANCER RISK DERMAL | TOTAL CANCER RISK | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,6-Dichloropyridine | 0.032 | 2.3E-07 | 1.9E-02 | 1.2E-06 | 2.4E-02 | 2.4E-02 | 5.6E-09 | 2.9E-08 | 3.5E-08 | 31.51% |
| 2-Chloropyridine | 0.16 | 1.2E-06 | 6.2E-03 | 2.0E-06 | 2.4E-02 | 2.4E-02 | 2.8E-08 | 4.8E-08 | 7.6E-08 | 68.49% |
| | | | | | | SUMMARY CANCER RISK | 3E-08 | 8E-08 | 1E-07 | |

NONCARCINOGENIC EFFECTS

| COMPOUND | WATER CONCENTRATION (mg/L) | INTAKE INGESTION (mg/kg-day) | ADJUSTED Kp (cm/event) | INTAKE DERMAL (mg/kg-day) | REFERENCE DOSE ORAL (mg/kg-day) | REFERENCE DOSE DERMAL (mg/kg-day) | HAZARD QUOTIENT INGESTION | HAZARD QUOTIENT DERMAL | TOTAL HAZARD QUOTIENT | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,6-Dichloropyridine | 0.032 | 1.5E-06 | 1.9E-02 | 7.7E-06 | ND | ND | | | | |
| 2-Chloropyridine | 0.16 | 7.4E-06 | 6.2E-03 | 1.3E-05 | ND | ND | | | | |
| 3-Chloropyridine | 0.011 | 5.1E-07 | 6.7E-03 | 9.4E-07 | 2.0E-02 | 2.0E-02 | 2.6E-05 | 4.7E-05 | 7.2E-05 | 100.00% |
| | | | | | | SUMMARY HAZARD INDEX | 0.00003 | 0.00005 | 0.00007 | |

TABLE D.2-5
INCIDENTAL INGESTION OF AND DERMAL CONTACT WITH SURFACE WATER – MEAN CONCENTRATION
BARGE CANAL
RECREATIONAL ADULT
OLIN CHEMICALS
ROCHESTER, NY

| ADLTSWMN | 08-Oct-97 |
|---|---|

EXPOSURE PARAMETERS

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| CONCENTRATION WATER | CW | Maximum | mg/liter |
| INGESTION RATE | IR | 0.05 | liters/hour |
| SURFACE AREA EXPOSED | SA | 19,400 | $cm^2$ |
| CONVERSION FACTOR | CF | 0.001 | $liter/cm^3$ |
| BODY WEIGHT | BW | 70 | kg |
| EXPOSURE TIME | ET | 1 | hours/day |
| EXPOSURE FREQUENCY | EF | 15 | days/year |
| EXPOSURE DURATION | ED | 19 | years |
| EVENT FREQUENCY | EV | 1 | event/day |
| AVERAGING TIME | | | |
| CANCER | AT | 70 | years |
| NONCANCER | AT | 19 | years |
| PERMEABILITY COEFFICIENT | Kp | Chemical-specific | cm/event |

Notes:
For noncarcinogenic effects: AT = ED
Kpevent is calculated in Attachment A, Table A-3

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg-day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE-INGESTION} = \frac{CW \times IR \times ET \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$\text{INTAKE-DERMAL} = \frac{CW \times Kp_{event} \times SA \times CF \times EF \times ED \times EV}{BW \times AT \times 365\ days/yr}$$

CARCINOGENIC EFFECTS

| COMPOUND | WATER CONCENTRATION (mg/L) | INTAKE INGESTION (mg/kg-day) | ADJUSTED Kp (cm/event) | INTAKE DERMAL (mg/kg-day) | CANCER SLOPE FACTOR ORAL $(mg/kg-day)^{-1}$ | CANCER SLOPE FACTOR DERMAL $(mg/kg-day)^{-1}$ | CANCER RISK INGESTION | CANCER RISK DERMAL | TOTAL CANCER RISK | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,6-Dichloropyridine | 0.005 | 4.0E-08 | 1.9E-02 | 2.9E-07 | 2.4E-02 | 2.4E-02 | 9.6E-10 | 7.0E-09 | 8.0E-09 | 60.57% |
| 2-Chloropyridine | 0.008 | 6.4E-08 | 6.2E-03 | 1.5E-07 | 2.4E-02 | 2.4E-02 | 1.5E-09 | 3.7E-09 | 5.2E-09 | 39.43% |
| | | | | | | SUMMARY CANCER RISK | 2E-09 | 1E-08 | 1E-08 | |

NONCARCINOGENIC EFFECTS

| COMPOUND | WATER CONCENTRATION (mg/L) | INTAKE INGESTION (mg/kg-day) | ADJUSTED Kp (cm/event) | INTAKE DERMAL (mg/kg-day) | REFERENCE DOSE ORAL (mg/kg-day) | REFERENCE DOSE DERMAL (mg/kg-day) | HAZARD QUOTIENT INGESTION | HAZARD QUOTIENT DERMAL | TOTAL HAZARD QUOTIENT | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,6-Dichloropyridine | 0.005 | 1.5E-07 | 1.9E-02 | 1.1E-06 | ND | ND | | | | |
| 2-Chloropyridine | 0.008 | 2.3E-07 | 6.2E-03 | 5.6E-07 | ND | ND | | | | |
| 3-Chloropyridine | 0.002 | 5.9E-08 | 6.7E-03 | 1.5E-07 | 2.0E-02 | 2.0E-02 | 2.9E-06 | 7.6E-06 | 1.1E-05 | 100.00% |
| | | | | | | SUMMARY HAZARD INDEX | 0.00000 | 0.00001 | 0.00001 | |

TABLE D.2-7
INCIDENTAL INGESTION OF AND DERMAL CONTACT WITH SURFACE WATER - MAXIMUM CONCENTRATION
BARGE CANAL
RECREATIONAL ADULT
OLIN CHEMICALS
ROCHESTER, NY

| ADLTSWMX | 08-Oct-97 |
|---|---|

EXPOSURE PARAMETERS

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| CONCENTRATION WATER | CW | Maximum | mg/liter |
| INGESTION RATE | IR | 0.05 | liters/hour |
| SURFACE AREA EXPOSED | SA | 19,400 | $cm^2$ |
| CONVERSION FACTOR | CF | 0.001 | $liter/cm^3$ |
| BODY WEIGHT | BW | 70 | kg |
| EXPOSURE TIME | ET | 1 | hours/day |
| EXPOSURE FREQUENCY | EF | 15 | days/year |
| EXPOSURE DURATION | ED | 19 | years |
| EVENT FREQUENCY | EV | 1 | event/day |
| AVERAGING TIME | | | |
| CANCER | AT | 70 | years |
| NONCANCER | AT | 19 | years |
| PERMEABILITY COEFFICIENT | Kp | Chemical-specific | cm/event |

Notes:
For noncarcinogenic effects: AT = ED
Kpevent is calculated in Attachment A, Table A-3

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg-day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE-INGESTION} = \frac{CW \times IR \times ET \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$\text{INTAKE-DERMAL} = \frac{CW \times Kp_{event} \times SA \times CF \times EF \times ED \times EV}{BW \times AT \times 365\ days/yr}$$

CARCINOGENIC EFFECTS

| COMPOUND | WATER CONCENTRATION (mg/L) | INTAKE INGESTION (mg/kg-day) | ADJUSTED Kp (cm/event) | INTAKE DERMAL (mg/kg-day) | CANCER SLOPE FACTOR ORAL $(mg/kg-day)^{-1}$ | CANCER SLOPE FACTOR DERMAL $(mg/kg-day)^{-1}$ | CANCER RISK INGESTION | CANCER RISK DERMAL | TOTAL CANCER RISK | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,6-Dichloropyridine | 0.032 | 2.5E-07 | 1.9E-02 | 1.9E-06 | 2.4E-02 | 2.4E-02 | 6.1E-09 | 4.5E-08 | 5.1E-08 | 32.96% |
| 2-Chloropyridine | 0.16 | 1.3E-06 | 6.2E-03 | 3.1E-06 | 2.4E-02 | 2.4E-02 | 3.1E-08 | 7.4E-08 | 1.0E-07 | 67.04% |
| | | | | | | SUMMARY CANCER RISK | 4E-08 | 1E-07 | 2E-07 | |

NONCARCINOGENIC EFFECTS

| COMPOUND | WATER CONCENTRATION (mg/L) | INTAKE INGESTION (mg/kg-day) | ADJUSTED Kp (cm/event) | INTAKE DERMAL (mg/kg-day) | REFERENCE DOSE ORAL (mg/kg-day) | REFERENCE DOSE DERMAL (mg/kg-day) | HAZARD QUOTIENT INGESTION | HAZARD QUOTIENT DERMAL | TOTAL HAZARD QUOTIENT | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,6-Dichloropyridine | 0.032 | 9.4E-07 | 1.9E-02 | 6.9E-06 | ND | ND | | | | |
| 2-Chloropyridine | 0.16 | 4.7E-06 | 6.2E-03 | 1.1E-05 | ND | ND | | | | |
| 3-Chloropyridine | 0.011 | 3.2E-07 | 6.7E-03 | 8.4E-07 | 2.0E-02 | 2.0E-02 | 1.6E-05 | 4.2E-05 | 5.8E-05 | 100.00% |
| | | | | | | SUMMARY HAZARD INDEX | 0.00002 | 0.00004 | 0.00006 | |

TABLE D.2-8
DERMAL CONTACT WITH GROUNDWATER SEEP - MEAN CONCENTRATION
QUARRY
QUARRY WORKER
OLIN CHEMICALS PHASE II RI REPORT
ROCHESTER, N.Y.

ORQSWD-A | 08-Oct-97

EXPOSURE PARAMETERS

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| CONCENTRATION GROUNDWATER | CW | Mean | mg/L |
| SURFACE AREA EXPOSED | SA | 1,980 | $cm^2$ |
| CONVERSION FACTOR | CF | 0.001 | $L/cm^3$ |
| BODY WEIGHT | BW | 70 | kg |
| EVENT FREQUENCY | EV | 1 | event/day |
| EXPOSURE FREQUENCY | EF | 12 | days/year |
| EXPOSURE DURATION | ED | 10 | years |
| AVERAGING TIME | | | |
| CANCER | AT | 70 | years |
| NONCANCER | AT | 10 | years |
| PERMEABILITY COEFFICIENT | $Kp_{event}$ | Chemical-specific | cm/event |

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg-day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE-DERMAL} = \frac{CW \times SA \times Kp_{event} \times CF \times EV \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

CARCINOGENIC EFFECTS

| COMPOUND | GROUNDWATER CONCENTRATION (mg/L) | Kp (cm/event) | INTAKE DERMAL (mg/kg-day) | CANCER SLOPE FACTOR-DERMAL $(mg/kg-day)^{-1}$ | CANCER RISK DERMAL | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|
| 2,6-Dichloropyridine | 0.334 | 2.8E-02 | 1.2E-06 | 2.4E-02 | 3.0E-08 | 44.84% |
| 2-Chloropyridine | 1.174 | 9.8E-03 | 1.5E-06 | 2.4E-02 | 3.7E-08 | 55.16% |
| | | | | | 7E-08 | |

NONCARCINOGENIC EFFECTS

| COMPOUND | GROUNDWATER CONCENTRATION (mg/L) | Kp (cm/event) | INTAKE DERMAL (mg/kg-day) | REFERENCE DOSE-DERMAL (mg/kg-day) | HAZARD QUOTIENT DERMAL | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|
| 2,6-Dichloropyridine | 0.334 | 2.8E-02 | 8.7E-06 | ND | | |
| 2-Chloropyridine | 1.174 | 9.8E-03 | 1.1E-05 | ND | | |
| 3-Chloropyridine | 0.039 | 1.1E-02 | 4.0E-07 | 2.0E-02 | 2.0E-05 | 72.49% |
| p-Fluoroaniline | 0.0044 | 7.4E-03 | 3.0E-08 | 4.0E-03 | 7.6E-06 | 27.51% |
| | | | | | 0.00003 | |

TABLE D.2-9
DERMAL CONTACT WITH GROUNDWATER SEEP -- MAXIMUM CONCENTRATION
QUARRY
QUARRY WORKER
OLIN CHEMICALS PHASE II RI REPORT
ROCHESTER, N.Y.

| ORQSWD-M | 08-Oct-97 |
|---|---|

EXPOSURE PARAMETERS

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| CONCENTRATION GROUNDWATER | CW | Mean | mg/L |
| SURFACE AREA EXPOSED | SA | 1,980 | $cm^2$ |
| CONVERSION FACTOR | CF | 0.001 | $L/cm^3$ |
| BODY WEIGHT | BW | 70 | kg |
| EVENT FREQUENCY | EV | 1 | event/day |
| EXPOSURE FREQUENCY | EF | 12 | days/year |
| EXPOSURE DURATION | ED | 10 | years |
| AVERAGING TIME | | | |
| CANCER | AT | 70 | years |
| NONCANCER | AT | 10 | years |
| PERMEABILITY COEFFICIENT | $Kp_{event}$ | Chemical-specific | cm/event |

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg-day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE-DERMAL} = \frac{CW \times SA \times Kp_{event} \times CF \times EV \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

CARCINOGENIC EFFECTS

| COMPOUND | GROUNDWATER CONCENTRATION (mg/L) | Kp (cm/event) | INTAKE DERMAL (mg/kg-day) | CANCER SLOPE FACTOR-DERMAL $(mg/kg-day)^{-1}$ | CANCER RISK DERMAL | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|
| 2,6-Dichloropyridine | 1 | 2.8E-02 | 3.7E-06 | 2.4E-02 | 8.9E-08 | 47.17% |
| 2-Chloropyridine | 3.2 | 9.8E-03 | 4.2E-06 | 2.4E-02 | 1.0E-07 | 52.83% |
| | | | | | 2E-07 | |

NONCARCINOGENIC EFFECTS

| COMPOUND | GROUNDWATER CONCENTRATION (mg/L) | Kp (cm/event) | INTAKE DERMAL (mg/kg-day) | REFERENCE DOSE-DERMAL (mg/kg-day) | HAZARD QUOTIENT DERMAL | PERCENT TOTAL RISK |
|---|---|---|---|---|---|---|
| 2,6-Dichloropyridine | 1 | 2.8E-02 | 2.6E-05 | ND | | |
| 2-Chloropyridine | 3.2 | 9.8E-03 | 2.9E-05 | ND | | |
| 3-Chloropyridine | 0.12 | 1.1E-02 | 1.2E-06 | 2.0E-02 | 6.14E-05 | 87.71% |
| p-Fluoroaniline | 0.005 | 7.4E-03 | 3.4E-08 | 4.0E-03 | 8.60E-06 | 12.29% |
| | | | | | 0.00007 | |

# APPENDIX E

# BASELINE ECOLOGICAL RISK ASSESSMENT SPREADSHEETS

**SAR ESTIMATES OF TOXICITY FOR ENVIRONMENTAL TOXICITY ASSESSMENT**
**BASED ON SARS DEVELOPED BY**
**HEALTH AND ENVIRONMENTAL REVIEW DIVISION**
**OFFICE OF POLLUTION PREVENTION AND TOXICS**
**U.S. ENVIRONMENTAL PROTECTION AGENCY**
**WASHINGTON DC**

DATE: 02/20/96 ASSESSOR: CHL
CHEMICAL CLASS: Aromatic Hydrocarbons, Halogenated
CHEMICAL NAME: 2,6-DICHLOROPYRIDINE
CAS: 2402-78-0
CHEMICAL ID:
WATER SOLUBILITY (mg/L): ESTIMATED: > 10000 MEASURED: 0.0000
MOLECULAR WEIGHT (g/mole): 147.9
MELTING POINT (°C): 0.0
PHYSICAL STATE: LIQUID
LOG KOW: ESTIMATED: 2.15 MEASURED: 0

**RESULTS**

| *Organism* | *Duration* | *Endpoint* | **Predicted** *mg/L (ppm)* |
|---|---|---|---|
| Daphnid | 48-h | LC50 | 85.796 |
| Green Algae | 96-h | EC50 | 54.103 |
| Fish | 14-d | LC50 | 147.000 |
| Daphnid | 16-d | LC50 | 4.699 |
| Daphnid | 16-d | EC50 | 4.699 |
| Earthworm | 14-d | LC50 | 818.028 |
| Fish [FW] | 96-h | LC50 | 79.244 |
| Green Algae | >96-h | ChV | 5.900 |
| Fish | >14-d | BCF | 19.884 |
| Fish | >14-d | ChV | 10.458 |

*** No Effects Expected in a Saturated Solution**
**** Round Predictions to Proper Number of Significant Digits**

**SAR ESTIMATES OF TOXICITY FOR ENVIRONMENTAL TOXICITY ASSESSMENT**
**BASED ON SARS DEVELOPED BY**
**HEALTH AND ENVIRONMENTAL REVIEW DIVISION**
**OFFICE OF POLLUTION PREVENTION AND TOXICS**
**U.S. ENVIRONMENTAL PROTECTION AGENCY**
**WASHINGTON DC**

DATE: 02/20/96 ASSESSOR: CHL
CHEMICAL CLASS: Aromatic Hydrocarbons, Halogenated
CHEMICAL NAME: 2-CHLOROPYRIDINE
CAS: 109-09-1
CHEMICAL ID:
WATER SOLUBILITY (mg/L): ESTIMATED: > 10000 MEASURED: 0.0000
MOLECULAR WEIGHT (g/mole): 113.5
MELTING POINT (°C): 0.0
PHYSICAL STATE: LIQUID
LOG KOW: ESTIMATED: 1.33 MEASURED: 0

**RESULTS**

| *Organism* | *Duration* | *Endpoint* | **Predicted** *mg/L (ppm)* |
|---|---|---|---|
| Daphnid | 48-h | LC50 | 367.025 |
| Green Algae | 96-h | EC50 | 220.773 |
| Fish | 14-d | LC50 | 584.206 |
| Daphnid | 16-d | LC50 | 14.041 |
| Daphnid | 16-d | EC50 | 14.041 |
| Earthworm | 14-d | LC50 | > 1000 |
| Fish [FW] | 96-h | LC50 | 358.753 |
| Green Algae | >96-h | ChV | 14.989 |
| Fish | >14-d | BCF | 4.474 |
| Fish | >14-d | ChV | 41.485 |

*** No Effects Expected in a Saturated Solution**
**** Round Predictions to Proper Number of Significant Digits**

**SAR ESTIMATES OF TOXICITY FOR ENVIRONMENTAL TOXICITY ASSESSMENT**
**BASED ON SARS DEVELOPED BY**
**HEALTH AND ENVIRONMENTAL REVIEW DIVISION**
**OFFICE OF POLLUTION PREVENTION AND TOXICS**
**U.S. ENVIRONMENTAL PROTECTION AGENCY**
**WASHINGTON DC**

DATE: 02/20/96 ASSESSOR: CHL
CHEMICAL CLASS: Aromatic Hydrocarbons, Halogenated
CHEMICAL NAME: 3-CHLOROPYRIDINE
CAS: 626-60-8
CHEMICAL ID:
WATER SOLUBILITY (mg/L): ESTIMATED: > 10000 MEASURED: 0.0000
MOLECULAR WEIGHT (g/mole): 113.5
MELTING POINT (°C): 0.0
PHYSICAL STATE: LIQUID
LOG KOW: ESTIMATED: 1.38 MEASURED: 0

**RESULTS**

| *Organism* | *Duration* | *Endpoint* | **Predicted** *mg/L (ppm)* |
|---|---|---|---|
| Daphnid | 48-h | LC50 | 330.519 |
| Green Algae | 96-h | EC50 | 199.387 |
| Fish | 14-d | LC50 | 528.465 |
| Daphnid | 16-d | LC50 | 12.924 |
| Daphnid | 16-d | EC50 | 12.924 |
| Earthworm | 14-d | LC50 | > 1000 |
| Fish [FW] | 96-h | LC50 | 321.956 |
| Green Algae | >96-h | ChV | 13.934 |
| Fish | >14-d | BCF | 4.900 |
| Fish | >14-d | ChV | 37.531 |

*** No Effects Expected in a Saturated Solution**
**** Round Predictions to Proper Number of Significant Digits**

**SAR ESTIMATES OF TOXICITY FOR ENVIRONMENTAL TOXICITY ASSESSMENT**
**BASED ON SARS DEVELOPED BY**
**HEALTH AND ENVIRONMENTAL REVIEW DIVISION**
**OFFICE OF POLLUTION PREVENTION AND TOXICS**
**U.S. ENVIRONMENTAL PROTECTION AGENCY**
**WASHINGTON DC**

DATE: 02/20/96 ASSESSOR: CHL
CHEMICAL CLASS: Aromatic Hydrocarbons, Halogenated
CHEMICAL NAME: 4-CHLOROPYRIDINE
CAS: 626-61-9
CHEMICAL ID:
WATER SOLUBILITY (mg/L): ESTIMATED: > 10000 MEASURED: 0.0000
MOLECULAR WEIGHT (g/mole): 113.5
MELTING POINT (°C): 0.0
PHYSICAL STATE: LIQUID
LOG KOW: ESTIMATED: 1.28 MEASURED: 0

**RESULTS**

| *Organism* | *Duration* | *Endpoint* | **Predicted** *mg/L (ppm)* |
|---|---|---|---|
| Daphnid | 48-h | LC50 | 407.564 |
| Green Algae | 96-h | EC50 | 244.453 |
| Fish | 14-d | LC50 | 645.827 |
| Daphnid | 16-d | LC50 | 15.254 |
| Daphnid | 16-d | EC50 | 15.254 |
| Earthworm | 14-d | LC50 | > 1000 |
| Fish [FW] | 96-h | LC50 | 399.757 |
| Green Algae | >96-h | ChV | 16.124 |
| Fish | >14-d | BCF | 4.085 |
| Fish | >14-d | ChV | 45.856 |

*** No Effects Expected in a Saturated Solution**
**** Round Predictions to Proper Number of Significant Digits**

**SAR ESTIMATES OF TOXICITY FOR ENVIRONMENTAL TOXICITY ASSESSMENT**
**BASED ON SARS DEVELOPED BY**
**HEALTH AND ENVIRONMENTAL REVIEW DIVISION**
**OFFICE OF POLLUTION PREVENTION AND TOXICS**
**U.S. ENVIRONMENTAL PROTECTION AGENCY**
**WASHINGTON DC**

DATE: 02/20/96 ASSESSOR: CHL
CHEMICAL CLASS: Aromatic Hydrocarbons, Halogenated
CHEMICAL NAME: PYRIDINE
CAS: 110-86-1
CHEMICAL ID:
WATER SOLUBILITY (mg/L): ESTIMATED: > 10000 MEASURED: 0.0000
MOLECULAR WEIGHT (g/mole): 79.1
MELTING POINT (°C): -41.6
PHYSICAL STATE: LIQUID
LOG KOW: ESTIMATED: 0.67 MEASURED: 0

**RESULTS**

| *Organism* | *Duration* | *Endpoint* | **Predicted** *mg/L (ppm)* |
|---|---|---|---|
| Daphnid | 48-h | LC50 | > 1000 |
| Green Algae | 96-h | EC50 | 590.509 |
| Fish | 14-d | LC50 | > 1000 |
| Daphnid | 16-d | LC50 | 29.226 |
| Daphnid | 16-d | EC50 | 29.226 |
| Earthworm | 14-d | LC50 | > 1000 |
| Fish [FW] | 96-h | LC50 | > 1000 |
| Green Algae | >96-h | ChV | 27.378 |
| Fish | >14-d | BCF | 1.347 |
| Fish | >14-d | ChV | 108.462 |

*** No Effects Expected in a Saturated Solution**
**** Round Predictions to Proper Number of Significant Digits**

**SAR ESTIMATES OF TOXICITY FOR ENVIRONMENTAL TOXICITY ASSESSMENT**
**BASED ON SARS DEVELOPED BY**
**HEALTH AND ENVIRONMENTAL REVIEW DIVISION**
**OFFICE OF POLLUTION PREVENTION AND TOXICS**
**U.S. ENVIRONMENTAL PROTECTION AGENCY**
**WASHINGTON DC**

DATE: 02/21/96 ASSESSOR: CHL
CHEMICAL CLASS: Anilines
CHEMICAL NAME: P-FLUOROANILINE
CAS: 371-40-4
CHEMICAL ID:
WATER SOLUBILITY (mg/L): ESTIMATED: > 10000 MEASURED: 0.0000
MOLECULAR WEIGHT (g/mole): 111.1
MELTING POINT (°C): -1.9
PHYSICAL STATE: LIQUID
LOG KOW: ESTIMATED: 1.15 MEASURED: 0

**RESULTS**

| *Organism* | *Duration* | *Endpoint* | **Predicted** *mg/L (ppm)* |
|---|---|---|---|
| Fish | 96-h | LC50 | 141.861 |
| Daphnid | 48-h | LC50 | 1.291 |
| Fish | 14-d | LC50 | 85.019 |
| Green Algae | | ChV | 9.089 |
| Fish | 32-d | ChV | 0.647 |
| Daphnid | 16-d | ChV | 0.032 |

*** No Effects Expected in a Saturated Solution**
**** Round Predictions to Proper Number of Significant Digits**

# APPENDIX E-1

# SUPPORTING CALCULATIONS

## NEUTRAL ORGANICS

### DAPHNID 48-h LC50 (Mortality)

ESTIMATED TOXICITY:

The daphnid 48-h LC50 values used to develop this SAR were measured by Hermans et al. (1984) and the octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated acute toxicity of a compound use the SAR equation:

$$\text{Log LC50} = 1.72 - 0.91 \log \text{Kow}$$

The LC50 is in millimoles per liter (mM/L); N = 19; and the Coefficient of Determination (R2) = 0.992. To convert the LC50 from mM/L to mg/L, multiply by the molecular weight of the compound.

APPLICATION:

This SAR may be used to estimate toxicity for the following classes of neutral organics (solvents, non-reactive, non-ionizable) with log Kow values of less than 5.0:

1. Aromatic hydrocarbons
2. Halogenated aromatic hydrocarbons
3. Halogenated aliphatic hydrocarbons

OTHER APPLICATIONS:

Generally, this SAR is expected to be applicable to other classes of non-reactive, non-electrolytic organic compounds such as:

1. Alcohols
2. Ketones
3. Ethers
4. Alkyl halides
5. Aryl halides
6. Sulfides and di-sulfides

This SAR can also be applied to some classes of reactive organic compounds which show excess toxicity to fish, such as:

1. Benzotriazoles
2. Phthalate esters
3. Esters

LIMITATIONS:

For neutral organic compounds with log Kow values greater than 5.0, a test duration of greater than 48 hours may be required for proper expression of toxicity. Also, if the toxicity value obtained by the use of this SAR exceeds the water solubility of the compound (measured or estimated), mortalities of 50% would not be expected in a saturated solution during an exposure period of 48 hours. Under these circumstances, the appropriate SAR to use is the daphnid 16-day

LC50.

REFERENCES:

Hermans, J, Canton, H, Janssen, P, De Jong, R. 1984. Quantitative structure-activity relationships and toxicity studies of mixtures of chemicals with anaesthetic potency: Acute lethal and sublethal toxicity to Daphnia magna. Aquatic Toxicology 5:143-154.

# NEUTRAL ORGANICS

## GREEN ALGAE 96-h EC50 (Growth)

ESTIMATED TOXICITY:

The green algae 96-h EC50 values used to develop this SAR were measured by Calamari et al (1983), Galassi and Vighi (1981), and USEPA (1991). The octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated acute toxicity of a neutral organic compound, use the SAR equation:

$$\text{Log 96-h EC50} = 1.466 - 0.885 \log \text{Kow}$$

The EC50 is in millimoles per liter (mM/L); N = 7; and the Coefficient of Determination (R2) = 0.91. To convert the EC50 from mM/L to mg/L, multiply by the molecular weight of the compound.

APPLICATIONS:

This SAR may be used to estimate toxicity for neutral organics with log Kow values less than 6.4 and molecular weights less than 1000.

LIMITATIONS:

For neutral organics with log Kow values greater than 6.4, a test duration of greater than 96 hours may be required for proper expression of toxicity. Also, if the acute toxicity value obtained by the use of this equation exceeds the water solubility of the compound (measured or estimated), significant effects would not be expected in a saturated solution during an exposure period of 96 hours.

REFERENCES:

Calamari D, Galassi S, Setti F, Vighi M. 1983. Toxicity of selected chlorobenzenes to aquatic organisms. Chemosphere 12:253-262.

Galassi S and Vighi M. 1981. Testing toxicity of volatile substances with algae. Chemosphere 10:1123-1126.

United States Environmental Protection Agency (USEPA). 1991. OTS PMN ECOTOX. Washington, DC: USEPA, Office of Toxic Substances.

## NEUTRAL ORGANICS

### FISH 14-day LC50 (Mortality)

ESTIMATED TOXICITY:

The fish 14-day LC50 values used to develop this SAR were measured by Konemann (1981) and the octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated toxicity of a neutral organic use the SAR equation:

$$\text{Log 14-d LC50} = 1.87 - 0.871 \log \text{Kow}$$

The LC50 is in millimoles per liter (mM/L); N = 50; and the Coefficient of Determination (R2) = 0.976. To convert the LC50 from mM/L to mg/L, multiply by the molecular weight of the compound.

APPLICATION:

This SAR may be used to estimate toxicity for the following classes of neutral organics (solvents, non-reactive, non-ionizable) compounds with log Kow values of less than 8.0:

1. Aromatic hydrocarbons
2. Halogenated aromatic hydrocarbons
3. Halogenated aliphatic hydrocarbons
4. Alcohols
5. Ketones
6. Ethers

OTHER APPLICATIONS:

Generally, this SAR is expected to be applicable to other classes of non-reactive, non-electrolytic organic compounds such as:

1. Alkyl halides
2. Aryl halides
3. Sulfides and di-sulfides

This SAR is also applicable to reactive compounds (i.e., compounds which show excess toxicity) whose log Kow is greater than 5.0, such as:

1. Esters
2. Acrylates
3. Methacrylates
4. Substituted benzotriazoles

LIMITATIONS:

This SAR does not apply to chemicals with log Kow values greater than 8.0. For compounds with higher log Kow values, no adverse effects are expected in a saturated solution.

If the toxicity values obtained by the use of this SAR

exceeds the water solubility of the compound (measured or estimated), mortalities of 50% would not be expected in a saturated solution during an exposure period of 14 days.

REFERENCES:

Konemann, H. 1981. Quantitative structure-activity relationships in fish toxicity studies. Part 1: Relationship for 50 industrial pollutants.

## NEUTRAL ORGANICS

### DAPHNID 16-d LC50 (Mortality)

ESTIMATED TOXICITY:

The daphnid 16-d LC50 values used to develop this SAR were measured by Hermans et al. (1984) and the octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated toxicity of a compound use the SAR equation:

$$\text{Log 16-d LC50} = 0.27 - 0.64 \log \text{Kow}$$

The LC50 is in millimoles per liter (mM/L); N = 5; and the Coefficient of Determination (R2) = 0.995. To convert the LC50 from mM/L to mg/L, multiply by the molecular weight of the compound.

APPLICATION:

This SAR may be used to estimate toxicity for the following classes of neutral organics (solvents, non-reactive, non-ionizable) compounds with log Kow values of less than or equal to 8.0:

1. Aromatic hydrocarbons
2. Halogenated aromatic hydrocarbons
3. Halogenated aliphatic hydrocarbons

OTHER APPLICATIONS:

Generally, this SAR is expected to be applicable to other classes of non-reactive, non-electrolytic organic compounds such as:

1. Alcohols
2. Ketones
3. Ethers
4. Alkyl halides
5. Aryl halides
6. Sulfides and di-sulfides

This SAR can also be applied to some classes of reactive organic compounds which show excess toxicity to fish, such as:

1. Benzotriazoles
2. Phthalate esters
3. Esters

LIMITATIONS:

For compounds with log Kow values greater than 8.0, a test duration of greater than 16 days may be required for proper expression of toxicity. Also, if the estimated toxicity value obtained by the use of this SAR exceeds the water solubility of the compound (measured or estimated), mortalities of 50% would not be expected in a saturated solution during an exposure period of 16 days. Under these circumstances, the appropriate

SAR to use is the daphnid 16-day EC50.

REFERENCES:

Hermans, J, Canton, H, Janssen, P, De Jong, R. 1984. Quantitative structure-activity relationships and toxicity studies of mixtures of chemicals with anaesthetic potency: Acute lethal and sublethal toxicity to Daphnia magna. Aquatic Toxicology 5:143-154.

## NEUTRAL ORGANICS

### DAPHNID 16-d EC50 (Reproduction)

ESTIMATED TOXICITY:

The daphnid 16-d EC50 values used to develop this SAR were measured by Hermans et al. (1984) and the octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated toxicity of a compound use the SAR equation:

$$\text{Log 16-d EC50} = 0.05 - 0.72 \log \text{Kow}$$

The EC50 is in millimoles per liter (mM/L); N = 5; and the Coefficient of Determination (R2) = 0.990. To convert the EC50 from mM/L to mg/L, multiply by the molecular weight of the compound.

APPLICATION:

This SAR may be used to estimate toxicity for the following classes of neutral organics (solvents, non-reactive, non-ionizable) compounds with log Kow values of less than or equal to 8.0:

1. Aromatic hydrocarbons
2. Halogenated aromatic hydrocarbons
3. Halogenated aliphatic hydrocarbons

OTHER APPLICATIONS:

Generally, this SAR is expected to be applicable to other classes of non-reactive, non-electrolytic organic compounds such as:

1. Alcohols
2. Ketones
3. Ethers
4. Alkyl halides
5. Aryl halides
6. Sulfides and di-sulfides

This SAR can also be applied to some classes of reactive organic compounds which show excess toxicity to fish, such as:

1. Benzotriazoles
2. Phthalate esters
3. Esters

LIMITATIONS:

If the estimated toxicity value obtained by the use of this SAR exceeds the water solubility of the compound (measured or estimated), a test duration of greater than 16 days may be required for proper expression of toxicity. Also, effects to 50% of the daphnids would not be expected in a saturated

solution during an exposure period of 16 days. For compounds with log Kow values greater than 8.0, no adverse effects are expected in a saturated solution.

REFERENCES:

Hermans, J, Canton, H, Janssen, P, De Jong, R. 1984. Quantitative structure-activity relationships and toxicity studies of mixtures of chemicals with anaesthetic potency: Acute lethal and sublethal toxicity to Daphnia magna. Aquatic Toxicology 5:143-154.

## NEUTRAL ORGANICS

### EARTHWORM 14-d LC50 (Mortality)

ESTIMATED TOXICITY:

The earthworm 14-d LC50 values used to develop this SAR were determined by Neuhauser et al. (1985, 1986) and the octanol-water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated toxicity value, use the SAR equation:

$$\text{Log 14-d LC50} = 1.405 - 0.308 \log \text{Kow}$$

The LC50 is in millimoles per kilogram dry weight soil (mM/kg dry weight); N = 5; and the Coefficient of Determination (R2) = 0.48. To convert the LC50 from mM/L to mg/L, multiply by the molecular weight of the compound.

APPLICATION:

This equation may be used to estimate toxicity for chemicals with log Kow values between 0.0 and 5.0 and molecular weights less than 1000.

LIMITATIONS:

For chemicals with log Kow values greater than 5.0, a test duration of greater than 14 days may be required for proper expression of toxicity.

REFERENCES:

Neuhauser EF, Durkin PR, Malecki MR, and Anatra M. 1986. Comparative toxicity of ten organic chemicals to four earthworm species. Comp. Biochem. Physiol. 83C:197-200.

Neuhauser EF, Loehr RC, Malecki MR, Milligan DL, and Durkin PR. 1985. The toxicity of selected organic chemicals to the earthworm Eisenia fetida. Journal of Environmental Quality 14:383-388.

# NEUTRAL ORGANICS

## FISH 96-h LC50 (Mortality)

ESTIMATED TOXICITY:

The fish 96-h LC50 values used to develop this SAR were measured by Veith et al (1983) and the octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated acute toxicity of a neutral organic, use the SAR equation:

$$\text{Log LC50} = -0.94 \log \text{Kow} + 1.75$$

The LC50 is in millimoles per liter (mM/L); N = 60; and the Coefficient of Determination (R2) = 0.942. To convert the LC50 from mM/L to mg/L, multiply by the molecular weight of the compound.

APPLICATION:

This SAR may be used to estimate toxicity for the following classes of neutral organics (solvents, non-reactive, non-ionizable) compounds with log Kow values of less than 5.0:

1. Alcohols
2. Ketones
3. Ethers
4. Alkyl halides
5. Aryl halides

OTHER APPLICATIONS:

Generally, this SAR is expected to be applicable to other classes of non-reactive, non-electrolytic organic compounds such as:

1. Aromatic hydrocarbons
2. Halogenated aromatic hydrocarbons
3. Halogenated aliphatic hydrocarbons
4. Sulfides and di-sulfides

LIMITATIONS:

For neutral organic compounds with log Kow values greater than 5.0, a test duration of greater than 96 hours may be required for proper expression of toxicity. Also, if the toxicity value obtained by the use of this SAR exceeds the water solubility of the compound (measured or estimated), mortalities of 50% would not be expected in a saturated solution during an exposure period of 96 hours. Under these circumstances, the appropriate SAR to use is the fish 14-day LC50 by Konemann.

REFERENCES:

Veith, GD, Call, DJ, and Brooke, LT. 1983. Structure-toxicity relationships for the fathead minnow, Pimephales promelas: narcotic industrial chemicals. Canadian Journal of Fisheries and Aquatic Sciences 40:743-748.

# NEUTRAL ORGANICS

## GREEN ALGAE Chronic Value (Growth)

ESTIMATED TOXICITY:

The green algae chronic values (ChV) used to develop this SAR were measured by Calamari et al (1983) and USEPA (1991). The octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated chronic toxicity of a neutral organic compound use the SAR equation:

$$\text{Log ChV} = -0.036 - 0.634 \log \text{Kow}$$

The ChV is in millimoles per liter (mM/L); N = 7; and the Coefficient of Determination (R2) = 0.99. To convert the ChV from mM/L to mg/L, multiply by the molecular weight of the compound.

APPLICATIONS:

This SAR may be used to estimate chronic toxicity for neutral organics with log Kow values less than 8.0 and molecular weights less than 1000.

OTHER APPLICATIONS:

This SAR may be applied to other neutral organics including aldehydes.

LIMITATIONS:

For neutral organics with log Kow values greater than 8.0, a test duration of greater than 16 days may be required for proper expression of toxicity. Also, if the toxicity value obtained by the use of this equation exceeds the water solubility of the compound (measured or estimated), significant effects would not be expected in a saturated solution during an exposure period of 16 days.

REFERENCES:

Calamari D, Galassi S, Setti F, Vighi M. 1983. Toxicity of selected chlorobenzenes to aquatic organisms. Chemosphere 12:253-262.

Galassi S and Vighi M. 1981. Testing toxicity of volatile substances with algae. Chemosphere 10:1123-1126.

United States Environmental Protection Agency (USEPA). 1991. OTS PMN ECOTOX. Washington, DC: USEPA, Office of Toxic Substances.

NEUTRAL ORGANICS

# FISH 28-d BCF, Fathead Minnow
(Bioconcentration Factor)

ESTIMATED TOXICITY:

The fish 28-d BCF values used to develop this SAR were measured by Veith and Kosian (1982) and the octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated BCF of a compound use the SAR equation:

$$\text{Log BCF} = 0.79 \log \text{Kow} - 0.40$$

where N = 122 and the Coefficient of Determination (R2) = 0.927.

APPLICATION:

This SAR may be used to estimate the bioconcentration factor (BCF) for the following classes of neutral organic (solvents, non-reactive, non-ionizable) compounds with log Kow values less than 8.0:

1. Aromatic amines
2. Cyclodiene
3. Ethers
4. Halogenated alkyl
5. Halogenated aromatic
6. Halogenated indoles
7. Halogenated phenols
8. Phosphate esters

LIMITATIONS:

For chemicals with log Kow values greater than 8.0, an exposure of greater than 28 days will be needed for residues to come to equilibrium.

REFERENCE:

Veith, GD, and Kosian, P. 1982. Estimating bioconcentration potential from octanol/water partition coefficients. IN: Physical Behavior of PCB's in the Great Lakes. MacKay, Paterson, Eisenreich, and Simmons, eds. Ann Arbor, MI: Ann Arbor Science.

# NEUTRAL ORGANICS

## FISH Chronic Value (Survival/Growth)

ESTIMATED TOXICITY:

The fish chronic values (ChV) used to develop this SAR were measured by USEPA (1991) and the octanol water partition coefficient (Kow) were calculated using the computer program, CLOGP (Version 3.3). The SAR equation used to estimate toxicity is:

$$\text{Log ChV} = 0.72 - 0.87 \log \text{Kow}$$

The ChV is in millimoles per liter (mM/L); N = 20; and the Coefficient of Determination (R2) = 0.91. To convert the ChV from mM/L to mg/L, multiply by the molecular weight of the compound.

APPLICATIONS:

This SAR may be used to estimate chronic toxicity for the following classes of neutral organics (solvents, non-reactive, non-ionizable) compounds with log Kow values of less than 7.9 and molecular weights less than 1000:

1. Alcohols
2. Ketones
3. Ethers
4. Alkyl halides
5. Aryl halides

OTHER APPLICATIONS:

Generally, this SAR is expected to be applicable to other classes of non-reactive, non-electrolytic organic compounds such as:

1. Aromatic hydrocarbons
2. Halogenated aromatic hydrocarbons
3. Halogenated aliphatic hydrocarbons
4. Sulfides and di-sulfides

LIMITATIONS:

For neutral organics with log Kow values greater than 7.9, a test duration of greater than 30 days may be required for proper expresssion of toxicity. Also, if the ChV obtained by the use of this equation exceeds the water solubility of the compound (measured or estimated), significant effects would not be expected in a saturated solution during an exposure period of 30 days.

REFERENCES:

United States Environmental Protection Agency (USEPA). 1991. Fish Chronic Toxicity Data Base. Duluth, MN: Environmental Research Laboratory (ERL), Office of Research and Development, USEPA, 6201 Congdon Boulevard, 55804; contact C.L. Russom (218) 720-5500.

# ANILINES

## FISH 96-h LC50 (Mortality)

ESTIMATED TOXICITY:

The fish 96-h LC50 values used to develop this SAR were measured by Veith and Broderius (1987) and the octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated acute toxicity of an aniline use the SAR equation:

$$\text{Log 96-h LC50} = 0.956 - 0.739 \log \text{Kow}$$

The LC50 is in millimoles per liter (mM/L); N = 20; and the Coefficient of Determination (R2) = 0.882. To convert the LC50 from mM/L to mg/L, multiply by the molecular weight of the aniline.

APPLICATIONS:

This SAR may be used to estimate toxicity for anilines with log Kow values less than 7.0 and molecular weights less than 1000.

LIMITATIONS:

Di- and tri-nitroanilines are more toxic than predicted; a fish 96-h LC50 SAR has been developed for dinitroanilines.

2,3,5,6-Tetrachloroaniline is 19 times more toxic than predicted by this SAR. Tetrabromoaniline may be more toxic than predicted by this SAR as well.

N-substituted anilines are less toxic than predicted by this SAR; for these compounds use the neutral organics fish 96-h LC50 SAR.

For anilines with log Kow values greater than 7.0, a test duration of greater than 96 hours may be required for proper expression of toxicity. Also, if the toxicity value obtained by the use of this equation exceeds the water solubility of the compound (measured or estimated), mortalities greater than 50% would not be expected in a saturated solution during an exposure period of 96 hours.

DEVELOPMENT OF THIS SAR:

An assumption was made that the excess toxicity of anilines will decrease with increasing log Kow similar to the decrease observed in the SAR for neutral organics. Therefore, it was assumed that at a log Kow value of 7.0, the fish 96-h LC50 value (as a logarithm in millimoles per liter) will be -4.2. These coordinates were combined with the measured acute toxicity information for anilines to calculate the SAR.

REFERENCES:

Veith GD and Broderius SJ. 1987. Structure-toxicity relationships for industrial chemicals causing type (II) narcosis syndrome. In: Kaiser KLE (ed.). QSAR in Environmental Toxicology-II. Boston, MA: D. Reidel Pub. Co., pp. 385-391.

# ANILINES

## DAPHNID 48-h LC50 (Mortality)

ESTIMATED TOXICITY:

The daphnid acute 48-h LC50 values used to develop this SAR were measured by Kuhn et al (1989), Slooff (1983), and Canton and Adema (1978); the octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated acute toxicity of an aniline use the SAR equation:

$$\text{Log 48-h LC50} = -1.623 - 0.271 \log \text{Kow}$$

The LC50 is in millimoles per liter (mM/L); N = 24; and the Coefficient of Determination (R2) = 0.24. To convert the LC50 from mM/L to mg/L, multiply by the molecular weight of the aniline.

APPLICATIONS:

This SAR may be used to estimate toxicity for anilines with log Kow values less than 7.0 and molecular weights less than 1000.

LIMITATIONS:

Di- and tri-nitroanilines are more toxic than predicted by this SAR; a daphnid 48-h LC50 SAR has been developed for dinitroanilines.

Tetrachloro- and tetrabromo-aniline may be 20 times more toxic than predicted by this SAR.

N-substituted anilines are less toxic than predicted by this SAR; for these compounds use the daphnid 48-h LC50 SAR for neutral organics.

For anilines with log Kow values greater than 7.0, a test duration of greater than 48 hours may be required for proper expression of toxicity. Also, if the toxicity value obtained by the use of this equation exceeds the water solubility of the compound (measured or estimated), mortalities greater than 50% would not be expected in a saturated solution during an exposure period of 48 hours.

DEVELOPMENT OF THIS SAR:

An assumption was made that the excess toxicity of anilines will decrease with increasing log Kow similar to the decrease observed in the fish 96-h LC50 SAR for anilines. Therefore, it was assumed that at a log Kow value of 7.0, the daphnid 48-h LC50 value (as a logarithm in millimoles per liter) will be -4.7. These coordinates were combined with the measured acute toxicity information for anilines to calculate the SAR.

REFERENCES:

Canton JH and Adema DMM. 1978. Reproducibility of short-term

and reproduction toxicity experiments with Daphnia magna and comparison of the sensitivity of Daphnia magna with Daphnia pulex and Daphnia cucullata in short-term experiments. Hydrobiologia 2:135-140.

Kuhn R, Pattard M, Pernak K-D and Winter A. 1989. Results of the harmful effects of selected water pollutants (anilines, phenols, aliphatic compounds) to Daphnia magna. Water Research 23:495-499.

Sloof W, Canton JH, Hermens JLM. 1983. Comparison of the susceptibility of 22 freshwater species to 15 chemical compounds. I. (Sub)Acute toxicity tests. Aquatic Toxicology 4:113-128.

# ANILINES

## FISH 14-d LC50 (Mortality)

ESTIMATED TOXICITY:

The fish 14-d LC50 values used to develop this SAR were measured by Hermans et al (1984) and the octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated acute toxicity of an aniline use the SAR equation:

$$\text{Log 14-d LC50} = 1.02 - 0.988 \log \text{Kow}$$

The LC50 is in millimoles per liter (mM/L); N = 17; and the Coefficient of Determination (R2) = 0.783. To convert the LC50 from mM/L to mg/L, multiply by the molecular weight of the aniline.

APPLICATION:

This SAR may be used to estimate toxicity for the following classes of compounds:

1. Anilines
2. Chloroanilines
3. Alkylanilines

OTHER APPLICATIONS:

This SAR may be used for anilines with log Kow values less than or equal to 5.0 and molecular weighs less than 1000.

LIMITATIONS:

For anilines with log Kow values greater than 5.0, a test duration of greater than 14 days may be required for proper expression of toxicity. Also, if the toxicity value obtained by the use of this SAR exceeds the water solubility of the compound (measured or estimated), mortalities of 50% would not be expected in a saturated solution during an exposure period of 14 days. Under these circumstances, the appropriate SARs to use are the daphnid 16-d LC50 or 16-d EC50 by Hermans et al.

REFERENCES:

Hermans J, Leeuwangh P, and Musch A. 1984. Quantitative structure-activity relationships and mixture toxicity studies of chloro- and alkylanilines at an acute lethal toxicity level to the guppy, Poecilia reticulata. Ecotoxicology and Environmental Safety 8:388-394.

# ANILINES

## GREEN ALGAE Chronic Value (Growth)

ESTIMATED TOXICITY:

The green algae chronic toxicity values (ChV) used to develop this SAR were measured by Sloof et al (1983) and the octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated chronic toxicity of an aniline use the SAR equation:

$$\text{Log ChV} = -0.411 - 0.588 \log \text{Kow}$$

The ChV is in millimoles per liter (mM/L); N = 5; and the Coefficient of Determination (R2) = 1.0. To convert the ChV from mM/L to mg/L, multiply by the molecular weight of the aniline.

APPLICATION:

This equation may be used to estimate toxicity for anilines with log Kow values less than 9.0 and molecular weights of less than 1000.

LIMITATIONS:

N-substituted anilines are less toxic than predicted by this SAR; for these compounds use the neutral organics green algae ChV SAR.

DEVELOPMENT OF THIS SAR:

An assumption was made that the toxicity of anilines will decrease with increasing log Kow. Therefore, it was assumed that at a log Kow value of 9.0, the green algae chronic value (as the logarithm in millimoles per liter) will be -5.7. These coordinates were combined with the measured acute toxicity information to calculate the SAR.

REFERENCES:

Sloof W, Canton JH, and Hermens JLM. 1983. Comparison of the susceptibility of 22 freshwater species to 15 chemical compounds. I. (Sub)Acute toxicity tests. Aquatic Toxicology 4:113-128.

# ANILINES

## FISH Chronic Value (Survival/Growth)

ESTIMATED TOXICITY:

The fish chronic values (ChV) used to develop this SAR were collected by Bresch et al. (1990), Call et al. (1987), USEPA (1990; 1991), and Van Leeuwen et al. (1990). The octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated chronic toxicity of an aniline use the SAR equation:

$$\text{Log ChV} = -1.516 - 0.625 \log \text{Kow}$$

The ChV is in millimoles per liter (mM/L); N = 11; and the Coefficient of Determination (R2) = 0.66. To convert the ChV from mM/L to mg/L, multiply by the molecular weight of the aniline.

APPLICATIONS:

This SAR may be used to estimate toxicity for anilines with log Kow values less than 8.0 and molecular weights less than 1000.

LIMITATIONS:

N-substituted anilines are less toxic than predicted by this SAR; for these compounds use the neutral organics fish ChV SAR.

DEVELOPMENT OF THIS SAR:

An assumption was made that the excess toxicity of anilines will decrease with increasing log Kow similar to the decrease observed in the SAR for neutral organics. Therefore, it was assumed that at a log Kow value of 8.0, the fish chronic value (as a logarithm in millimoles per liter) will be -6.2. These coordinates were combined with the measured chronic toxicity information for anilines to calculate the SAR.

REFERENCES:

Bresch H, Beck H, Ehlermann D, Schlaszus H and Urbanek M. 1990. A long-term toxicity test comprising reproduction and growth of zebrafish with 4-chloroaniline. Archives of Environmental Contamination and Chemistry 19:419-427.

Call DJ, Poirier SH, Knuth ML, Harting SL and Lindbery CA. 1987. Toxicity of 3,4-dichloroaniline to fathead minnow, Pimephales promelas, in acute and early life-stage exposures. Bulletin of Environmental Contamination and Toxicology 38:352-358.

United States Environmental Protection Agency (USEPA). 1990. Rainbow trout early life stage toxicity test with 2,6-dichloro-4-nitrobenzeneamine. TSCA Section 4 Test Report. Washington, DC: Office of Toxic Substances, USEPA.

United States Environmental Protection Agency (USEPA). 1991.

Fish Chronic Toxicity Data Base. Duluth, MN: Environmental Research Laboratory (ERL), Office of Research and Development, USEPA, 6201 Congdon Boulevard, 55804; contact C.L. Russom (218) 720-5500.

Van Leeuwen CJ, Adema DMM and Hermens J. 1990. Quantitative structure-activity relationships for fish early life stage toxicity. Aquatic Toxicology 16:321-334.

# ANILINES

## DAPHNID Chronic Value (Survival/Reproduction)

ESTIMATED TOXICITY:

The daphnid chronic values (ChV) used to develop this SAR were measured by USEPA (1990) and the octanol water partition coefficients (Kow) were calculated using the computer program, CLOGP (Version 3.3). To find the estimated chronic toxicity of an aniline use the SAR equation:

$$\text{Log ChV} = -3.12 - 0.36 \log \text{Kow}$$

The ChV is in millimoles per liter (mM/L); N = 3; and the Coefficient of Determination (R2) = 0.98. To convert the ChV from mM/L to mg/L, multiply by the molecular weight of the aniline.

APPLICATIONS:

This SAR may be used to estimate toxicity for anilines with log Kow values less than 9.0 and molecular weights less than 1000.

LIMITATIONS:

N-substituted anilines are less toxic than predicted by this SAR; for these compounds use the daphnid ChV SAR for neutral organics.

DEVELOPMENT OF THIS SAR:

An assumption was made that the excess toxicity of anilines will decrease with increasing log Kow similar to the decrease observed in the SAR for neutral organics. Therefore, it was assumed that at a log Kow value of 9.0, the daphnid ChV (as a logarithm in millimoles per liter) will be -6.4. These coordinates were combined with the measured chronic toxicity information for anilines to calculate the SAR.

REFERENCES:

United States Environmental Protection Agency (USEPA). 1990. Daphnid Chronic Toxicity Tests with aniline and 2-chloroaniline. TSCA Sec. 4 Test Reports. Washington, DC: U.S. Environmental Protection Agency, Office of Toxic Substances.