WA 2917
1/31/89
~~#6~~ 66

RCRA PERMIT
ADMINISTRATIVE RECORD
ITEM NUMBER
TOTAL NUMBER OF PAGES
2-1-89

ANALYTICAL
RESOURCES
INCORPORATED

Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

31 January 1989

ACTION COPY

FILE COPY

Mel Miller
Chemical Processors, Inc.
2203 Airport Way South
Suite 400
Seattle, WA 98134

**RE: Project No. Pier 91: ARI Project No. 02453**

Dear Mel:

find enclosed the data for ARI job No. 02453

If you have any questions or require additional information, please do not hesitate to call at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

David R. Mitchell

David R. Mitchell
Project Manager

DRM/cd

enclosures

cc: file #2453
Jim Bailey: Sweet Edwards

RECEIVED
MAR 22 1989
WASTE MANAGEMENT BRANCH

USEPA RCRA
3012585

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

## ORGANICS ANALYSIS DATA SHEET - METHOD 8240

**Sample No: Method Blank**

Lab Sample ID: 0104MB
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Data Release Authorized: _____
Report Prepared: 01/15/89 MAQA

Conc Level: Medium
Instrument ID: FINN I
Date Analyzed: 1/04/89

Amount Analyzed: 0.05 gm (Dry Weight)
Percent Moisture: NR
pH: NR
Conc/Dil Factor: 1:1

| CAS Number | | ug/Kg | CAS Number | | ug/Kg |
|---|---|---|---|---|---|
| 74-87-3 | Chloromethane | 380 U | 78-87-5 | 1,2-Dichloropropane | 70 U |
| 74-83-9 | Bromomethane | 310 U | 10061-01-5 | cis-1,3-Dichloropropene | 190 U |
| 75-01-4 | Vinyl Chloride | 200 U | 79-01-6 | Trichloroethene | 60 U |
| 75-00-3 | Chloroethane | 330 U | 124-48-1 | Dibromochloromethane | 70 U |
| **75-09-2** | **Methylene Chloride** | **500** | 79-00-5 | 1,1,2-Trichloroethane | 70 U |
| 67-64-1 | Acetone | 690 U | 71-43-2 | Benzene | 100 U |
| 75-15-0 | Carbon Disulfide | 120 U | 10061-02-6 | Trans-1,3-Dichloropropene | 180 U |
| 75-35-4 | 1,1-Dichloroethene | 70 U | 110-75-8 | 2-Chloroethylvinylether | 270 U |
| 75-34-3 | 1,1-Dichloroethane | 60 U | 75-25-2 | Bromoform | 250 U |
| 540-59-0 | 1,2-Dichloroethene (Total) | 80 U | 108-10-1 | 4-Methyl-2-Pentanone | 350 U |
| 67-66-3 | Chloroform | 110 U | 591-78-6 | 2-Hexanone | 320 U |
| 107-06-2 | 1,2-Dichloroethane | 50 U | 127-18-4 | Tetrachloroethene | 50 U |
| 78-93-3 | 2-Butanone | 620 U | 79-34-5 | 1,1,2,2-Tetrachloroethane | 270 U |
| 71-55-6 | 1,1,1-Trichloroethane | 60 U | 108-88-3 | Toluene | 80 U |
| 56-23-5 | Carbon Tetrachloride | 90 U | 108-90-7 | Chlorobenzene | 90 U |
| 108-05-4 | Vinyl Acetate | 310 U | 100-41-4 | Ethylbenzene | 80 U |
| 75-27-4 | Bromodichloromethane | 30 U | 100-42-5 | Styrene | 110 U |
| 77-69-4 | Trichlorofluoromethane | 100 U | 1330-20-7 | Total Xylenes | 180 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | | | | 100 U |

***Volatile Organic Surrogate Recoveries**

| | |
|---|---|
| d8-Toluene | 97.5% |
| Bromofluorobenzene | 96.5% |
| d4-1,2-Dichloroethane | 88.8% |

*Surrogate recoveries indicate the validity of a given analysis

Data Reporting Qualifiers

| | |
|---|---|
| Value | If the result is a value greater than or equal to the detection limit, report the value. |
| U | Indicates compound was analyzed for but not detected at the given detection limit. |
| J | Indicates an estimated value when result is less than specified detection limit. |
| NR | Analysis not required |
| B | This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination. |
| K | This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run. |
| M | Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters |

ANALYTICAL
RESOURCES
INCORPORATED

Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

## ORGANICS ANALYSIS DATA SHEET - METHOD 8240

**Sample No: Method Blank**

Lab Sample ID: 010418
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Data Release Authorized: _____
Report Prepared: 01/13/89 [illegible]

Conc Level: Low
Instrument ID: FINN I
Date Analyzed: 1/04/89

Amount Analyzed: 5.00 gm (Dry Weight)
Percent Moisture: NR
pH: NR
Conc/Dil Factor: 1:1

| CAS Number | | ug/Kg | CAS Number | | ug/Kg |
|---|---|---|---|---|---|
| 74-87-3 | Chloromethane | 3.8 U | 78-87-5 | 1,2-Dichloropropane | 0.7 U |
| 74-83-9 | Bromomethane | 3.1 U | 10061-01-5 | cis-1,3-Dichloropropene | 1.9 U |
| 75-01-4 | Vinyl Chloride | 2.0 U | 79-01-6 | Trichloroethene | 0.6 U |
| 75-00-3 | Chloroethane | 3.3 U | 124-48-1 | Dibromochloromethane | 0.7 U |
| **75-09-2** | **Methylene Chloride** | **5.0** | 79-00-5 | 1,1,2-Trichloroethane | 0.7 U |
| 67-64-1 | Acetone | 6.9 U | 71-43-2 | Benzene | 1.0 U |
| 75-15-0 | Carbon Disulfide | 1.2 U | 10061-02-6 | Trans-1,3-Dichloropropene | 1.8 U |
| 75-35-4 | 1,1-Dichloroethene | 0.7 U | 110-75-8 | 2-Chloroethylvinylether | 2.7 U |
| 75-34-3 | 1,1-Dichloroethane | 0.6 U | 75-25-2 | Bromoform | 2.5 U |
| 540-59-0 | 1,2-Dichloroethene (Total) | 0.8 U | 108-10-1 | 4-Methyl-2-Pentanone | 3.5 U |
| 67-66-3 | Chloroform | 1.1 U | 591-78-6 | 2-Hexanone | 3.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.5 U | 127-18-4 | Tetrachloroethene | 0.5 U |
| 78-93-3 | 2-Butanone | 6.2 U | 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.7 U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.6 U | 108-88-3 | Toluene | 0.8 U |
| 56-23-5 | Carbon Tetrachloride | 0.9 U | 108-90-7 | Chlorobenzene | 0.9 U |
| 108-05-4 | Vinyl Acetate | 3.1 U | 100-41-4 | Ethylbenzene | 0.8 U |
| 75-27-4 | Bromodichloromethane | 0.3 U | 100-42-5 | Styrene | 1.1 U |
| 77-69-4 | Trichlorofluoromethane | 1.0 U | 1330-20-7 | Total Xylenes | 1.3 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | | | | 1.0 U |

### *Volatile Organic Surrogate Recoveries

| | |
|---|---|
| d8-Toluene | 97.5% |
| Bromofluorobenzene | 96.5% |
| d4-1,2-Dichloroethane | 88.8% |

*Surrogate recoveries indicate the validity of a given analysis

Data Reporting Qualifiers

| | |
|---|---|
| Value | If the result is a value greater than or equal to the detection limit, report the value. |
| U | Indicates compound was analyzed for but not detected at the given detection limit. |
| J | Indicates an estimated value when result is less than specified detection limit. |
| NR | Analysis not required |
| B | This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination. |
| K | This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run. |
| M | Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters. |

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

## ORGANICS ANALYSIS DATA SHEET - METHOD 8240

**Sample No: Method Blank**

Lab Sample ID: 0109MB
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91

Data Release Authorized: _____ Date Received: 12/30/88
Report Prepared: 01/13/89 MACA

Conc Level: Low
Instrument ID: FINN I
Date Analyzed: 01/09/89

Amount Analyzed: 5.00 gm (Dry Weight)
Percent Moisture: NR
pH: NR
Conc/Dil Factor: 1:1

| CAS Number | | ug/Kg | CAS Number | | ug/Kg |
|---|---|---|---|---|---|
| 74-87-3 | Chloromethane | 3.8 U | 78-87-5 | 1,2-Dichloropropane | 0.7 U |
| 74-83-9 | Bromomethane | 3.1 U | 10061-01-5 | cis-1,3-Dichloropropene | 1.9 U |
| 75-01-4 | Vinyl Chloride | 2.0 U | 79-01-6 | Trichloroethene | 0.6 U |
| 75-00-3 | Chloroethane | 3.3 U | 124-48-1 | Dibromochloromethane | 0.7 U |
| **75-09-2** | **Methylene Chloride** | **1.4 J** | 79-00-5 | 1,1,2-Trichloroethane | 0.7 U |
| **67-64-1** | **Acetone** | **6.7 J** | 71-43-2 | Benzene | 1.0 U |
| 75-15-0 | Carbon Disulfide | 1.2 U | 10061-02-6 | Trans-1,3-Dichloropropene | 1.8 U |
| 75-35-4 | 1,1-Dichloroethene | 0.7 U | 110-75-8 | 2-Chloroethylvinylether | 2.7 U |
| 75-34-3 | 1,1-Dichloroethane | 0.6 U | 75-25-2 | Bromoform | 2.5 U |
| 540-59-0 | 1,2-Dichloroethene (Total) | 0.8 U | 108-10-1 | 4-Methyl-2-Pentanone | 3.5 U |
| 67-66-3 | Chloroform | 1.1 U | 591-78-6 | 2-Hexanone | 3.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.5 U | 127-18-4 | Tetrachloroethene | 0.5 U |
| 78-93-3 | 2-Butanone | 6.2 U | 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.7 U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.6 U | 108-88-3 | Toluene | 0.8 U |
| 56-23-5 | Carbon Tetrachloride | 0.9 U | 108-90-7 | Chlorobenzene | 0.9 U |
| 108-05-4 | Vinyl Acetate | 3.1 U | 100-41-4 | Ethylbenzene | 0.8 U |
| 75-27-4 | Bromodichloromethane | 0.3 U | 100-42-5 | Styrene | 1.1 U |
| 77-69-4 | Trichlorofluoromethane | 1.0 U | 1330-20-7 | Total Xylenes | 1.8 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | | | | 1.0 U |

***Volatile Organic Surrogate Recoveries**

| | |
|---|---|
| d8-Toluene | 98.8% |
| Bromofluorobenzene | 95.0% |
| d4-1,2-Dichloroethane | 96.1% |

*Surrogate recoveries indicate the validity of a given analysis

### Data Reporting Qualifiers

| | |
|---|---|
| Value | If the result is a value greater than or equal to the detection limit, report the value. |
| U | Indicates compound was analyzed for but not detected at the given detection limit. |
| J | Indicates an estimated value when result is less than specified detection limit. |
| NR | Analysis not required |
| B | This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination. |
| K | This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run. |
| M | Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters |

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

# ORGANICS ANALYSIS DATA SHEET - METHOD 8240

**Sample No: CP110-0-5 [Composite]**

Lab Sample ID: 2453AD
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Data Release Authorized: _____
Report Prepared: 01/13/89 MAICA

Conc Level: Low
Instrument ID: FINN I
Date Analyzed: 1/04/89

Amount Analyzed: 4.97 gm (Dry Weight)
Percent Moisture: 4.91%
pH: 6.49
Conc/Dil Factor: 1:1

| CAS Number | | ug/Kg | CAS Number | | ug/Kg |
|---|---|---|---|---|---|
| 74-87-3 | Chloromethane | 3.8 U | 78-87-5 | 1,2-Dichloropropane | 0.7 U |
| 74-83-9 | Bromomethane | 3.1 U | 10061-01-5 | cis-1,3-Dichloropropene | 1.9 U |
| 75-01-4 | Vinyl Chloride | 2.0 U | 79-01-6 | Trichloroethene | 0.6 U |
| 75-00-3 | Chloroethane | 3.3 U | 124-48-1 | Dibromochloromethane | 0.7 U |
| **75-09-2** | **Methylene Chloride** | **9.7 B** | 79-00-5 | 1,1,2-Trichloroethane | 0.7 U |
| 67-64-1 | Acetone | 6.9 U | 71-43-2 | Benzene | 1.0 U |
| 75-15-0 | Carbon Disulfide | 1.2 U | 10061-02-6 | Trans-1,3-Dichloropropene | 1.8 U |
| 75-35-4 | 1,1-Dichloroethene | 0.7 U | 110-75-8 | 2-Chloroethylvinylether | 2.7 U |
| 75-34-3 | 1,1-Dichloroethane | 0.6 U | 75-25-2 | Bromoform | 2.5 U |
| 540-59-0 | 1,2-Dichloroethene (Total) | 0.8 U | 108-10-1 | 4-Methyl-2-Pentanone | 3.5 U |
| 67-66-3 | Chloroform | 1.1 U | 591-78-6 | 2-Hexanone | 3.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.5 U | 127-18-4 | Tetrachloroethene | 0.5 U |
| 78-93-3 | 2-Butanone | 6.2 U | 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.7 U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.6 U | 108-88-3 | Toluene | 0.8 U |
| 56-23-5 | Carbon Tetrachloride | 0.9 U | 108-90-7 | Chlorobenzene | 0.9 U |
| 108-05-4 | Vinyl Acetate | 3.1 U | 100-41-4 | Ethylbenzene | 0.8 U |
| 75-27-4 | Bromodichloromethane | 0.3 U | 100-42-5 | Styrene | 1.1 U |
| 75-69-4 | Trichlorofluoromethane | 1.0 U | 1330-20-7 | Total Xylenes | 1.8 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | | | | 1.0 U |

***Volatile Organic Surrogate Recoveries**

| | |
|---|---|
| d8-Toluene | 99.1% |
| Bromofluorobenzene | 97.9% |
| d4-1,2-Dichloroethane | 94.0% |

*Surrogate recoveries indicate the validity of a given analysis

Data Reporting Qualifiers

| | |
|---|---|
| Value | If the result is a value greater than or equal to the detection limit, report the value. |
| U | Indicates compound was analyzed for but not detected at the given detection limit. |
| J | Indicates an estimated value when result is less than specified detection limit. |
| NR | Analysis not required |
| B | This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination |
| K | This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run. |
| M | Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters |

ANALYTICAL
RESOURCES
INCORPORATED

Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

## ORGANICS ANALYSIS DATA SHEET - METHOD 8240

**Sample No:** CP110-6-10 [Composite]

Lab Sample ID. 2453E0
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Data Release Authorized: [signature]
Report Prepared: 01/13/89 MACA

Conc Level: Medium
Instrument ID: FINN I
Date Analyzed: 1/04/89

Amount Analyzed: 0.035 gm (Dry Weight)
Percent Moisture: 11.71%
pH: 6.72
Conc/Dil Factor: 1:1

| CAS Number | | µg/Kg | CAS Number | | µg/Kg |
|---|---|---|---|---|---|
| 74-87-3 | Chloromethane | 540 U | 78-87-5 | 1,2-Dichloropropane | 100 U |
| 74-83-9 | Bromomethane | 440 U | 10061-01-5 | cis-1,3-Dichloropropene | 270 U |
| 75-01-4 | Vinyl Chloride | 290 U | 79-01-6 | Trichloroethene | 86 U |
| 75-00-3 | Chloroethane | 470 U | 124-48-1 | Dibromochloromethane | 100 U |
| **75-09-2** | **Methylene Chloride** | **310 JB** | 79-00-5 | 1,1,2-Trichloroethane | 100 U |
| 67-64-1 | Acetone | 990 U | 71-43-2 | Benzene | 140 U |
| 75-15-0 | Carbon Disulfide | 170 U | 10061-02-6 | Trans-1,3-Dichloropropene | 260 U |
| 75-35-4 | 1,1-Dichloroethene | 100 U | 110-75-8 | 2-Chloroethylvinylether | 390 U |
| 75-34-3 | 1,1-Dichloroethane | 86 U | 75-25-2 | Bromoform | 360 U |
| 540-59-0 | 1,2-Dichloroethene (Total) | 110 U | 108-10-1 | 4-Methyl-2-Pentanone | 500 U |
| 67-66-3 | Chloroform | 160 U | 591-78-6 | 2-Hexanone | 460 U |
| 107-06-2 | 1,2-Dichloroethane | 71 U | 127-18-4 | Tetrachloroethene | 71 U |
| 78-93-3 | 2-Butanone | 890 U | 79-34-5 | 1,1,2,2-Tetrachloroethane | 390 U |
| 71-55-6 | 1,1,1-Trichloroethane | 86 U | 108-88-3 | Toluene | 110 U |
| 56-23-5 | Carbon Tetrachloride | 130 U | 108-90-7 | Chlorobenzene | 130 U |
| 108-05-4 | Vinyl Acetate | 440 U | 100-41-4 | Ethylbenzene | 110 U |
| 75-27-4 | Bromodichloromethane | 43 U | 100-42-5 | Styrene | 160 U |
| 77-69-4 | Trichlorofluoromethane | 140 U | 1330-20-7 | Total Xylenes | 260 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | | | | 140 U |

***Volatile Organic Surrogate Recoveries**

| | |
|---|---|
| d8-Toluene | 99.0% |
| Bromofluorobenzene | 111% |
| d4-1,2-Dichloroethane | 94.4% |

*Surrogate recoveries indicate the validity of a given analysis

Data Reporting Qualifiers

| | |
|---|---|
| Value | If the result is a value greater than or equal to the detection limit, report the value. |
| U | Indicates compound was analyzed for but not detected at the given detection limit. |
| J | Indicates an estimated value when result is less than specified detection limit. |
| NR | Analysis not required |
| B | This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination. |
| K | This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run. |
| M | Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters. |

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

## ORGANICS ANALYSIS DATA SHEET - METHOD 8240

**Sample No: CP110-2.5**

Lab Sample ID: 2453H
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Data Release Authorized: _____
Report Prepared: 01/13/89 MACA

Conc Level: Low
Instrument ID: FINN I
Date Analyzed: 01/09/89

Amount Analyzed: 5.02 gm (Dry Weight)
Percent Moisture: 3.62%
pH: 6.93
Conc/Dil Factor: 1:1

| CAS Number | | ug/Kg | CAS Number | | ug/Kg |
|---|---|---|---|---|---|
| 74-87-3 | Chloromethane | 3.8 U | 78-87-5 | 1,2-Dichloropropane | 0.7 U |
| 74-83-9 | Bromomethane | 3.1 U | 10061-01-5 | cis-1,3-Dichloropropene | 1.9 U |
| 75-01-4 | Vinyl Chloride | 2.0 U | 79-01-6 | Trichloroethene | 0.6 U |
| 75-00-3 | Chloroethane | 3.3 U | 124-48-1 | Dibromochloromethane | 0.7 U |
| **75-09-2** | **Methylene Chloride** | **1.3 JB** | 79-00-5 | 1,1,2-Trichloroethane | 0.7 U |
| 67-64-1 | Acetone | 6.9 U | 71-43-2 | Benzene | 1.0 U |
| 75-15-0 | Carbon Disulfide | 1.2 U | 10061-02-6 | Trans-1,3-Dichloropropene | 1.8 U |
| 75-35-4 | 1,1-Dichloroethene | 0.7 U | 110-75-8 | 2-Chloroethylvinylether | 2.7 U |
| 75-34-3 | 1,1-Dichloroethane | 0.6 U | 75-25-2 | Bromoform | 2.5 U |
| 540-59-0 | 1,2-Dichloroethene (Total) | 0.8 U | 108-10-1 | 4-Methyl-2-Pentanone | 3.5 U |
| 67-66-3 | Chloroform | 1.1 U | 591-78-6 | 2-Hexanone | 3.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.5 U | 127-18-4 | Tetrachloroethene | 0.5 U |
| 78-93-3 | 2-Butanone | 6.2 U | 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.7 U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.6 U | 108-88-3 | Toluene | 0.8 U |
| 56-23-5 | Carbon Tetrachloride | 0.9 U | 108-90-7 | Chlorobenzene | 0.9 U |
| 108-05-4 | Vinyl Acetate | 3.1 U | 100-41-4 | Ethylbenzene | 0.8 U |
| 75-27-4 | Bromodichloromethane | 0.3 U | 100-42-5 | Styrene | 1.1 U |
| 77-69-4 | Trichlorofluoromethane | 1.0 U | 1330-20-7 | Total Xylenes | 1.8 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | | | | 1.0 U |

***Volatile Organic Surrogate Recoveries**

| | |
|---|---|
| d8-Toluene | 98.4% |
| Bromofluorobenzene | 95.4% |
| d4-1,2-Dichloroethane | 98.8% |

*Surrogate recoveries indicate the validity of a given analysis

Data Reporting Qualifiers

| | |
|---|---|
| Value | If the result is a value greater than or equal to the detection limit, report the value. |
| U | Indicates compound was analyzed for but not detected at the given detection limit. |
| J | Indicates an estimated value when result is less than specified detection limit. |
| NR | Analysis not required |
| B | This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination. |
| K | This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run. |
| M | Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters |

ANALYTICAL
RESOURCES
INCORPORATED

Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

# SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ARI Job No: 2453

Client: Sweet Edwards
Project: S940702
Pier 91
Level: Low

**Sample No: CP110-2.5**

| COMPOUND | SPIKE ADDED (µg/L) | SAMPLE CONCENTRATION (µg/L) | MS CONCENTRATION (µg/L) | MS % REC | QC LIMITS REC |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50.5 | 0.0 | 44.1 | 87.3 | 59-172 |
| Trichloroethene | 50.5 | 0.0 | 46.6 | 92.3 | 62-137 |
| Benzene | 50.5 | 0.0 | 50.3 | 99.6 | 66-142 |
| Toluene | 50.5 | 0.0 | 59.4 | 118 | 59-139 |
| Chlorobenzene | 50.5 | 0.0 | 40.6 | 80.4 | 60-133 |

| COMPOUND | SPIKE ADDED (µg/L) | MSD CONCENTRATION (µg/L) | MSD % REC | % RPD | QC LIMITS RPD | QC LIMITS REC |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50.5 | 43.4 | 85.9 | 1.6 | 22 | 59-172 |
| Trichloroethene | 50.5 | 46.3 | 91.7 | 0.7 | 24 | 62-137 |
| Benzene | 50.5 | 50.1 | 99.2 | 0.4 | 21 | 66-142 |
| Toluene | 50.5 | 58.5 | 116 | 1.7 | 21 | 59-139 |
| Chlorobenzene | 50.5 | 40.0 | 79.2 | 1.5 | 21 | 60-133 |

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

Asterisked values outside QC Limits

**Comments:** 4.95 gram dry weight sample size

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

## ORGANICS ANALYSIS DATA SHEET - METHOD 8240

**Sample No: CP110-2.5 MS**

Lab Sample ID: 2453HMS
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Data Release Authorized: Glen N. Gebe
*Report Prepared: 01/13/89 MACA*

Conc Level: Low
Instrument ID: FINN I
Date Analyzed: 01/09/89

Amount Analyzed: 4.97 gm (Dry Weight)
Percent Moisture: 3.62%
pH: 6.93
Conc/Dil Factor: 1:1

| CAS Number | | ug/Kg | CAS Number | | ug/Kg |
|---|---|---|---|---|---|
| 74-87-3 | Chloromethane | 3.8 U | 78-87-5 | 1,2-Dichloropropane | 0.7 U |
| 74-83-9 | Bromomethane | 3.1 U | 10061-01-5 | cis-1,3-Dichloropropene | 1.9 U |
| 75-01-4 | Vinyl Chloride | 2.0 U | 79-01-6 | Trichloroethene | 0.6 U |
| 75-00-3 | Chloroethane | 3.3 U | 124-48-1 | Dibromochloromethane | 0.7 U |
| **75-09-2** | **Methylene Chloride** | **5.6 B** | 79-00-5 | 1,1,2-Trichloroethane | 0.7 U |
| 67-64-1 | Acetone | 6.9 U | 71-43-2 | Benzene | - |
| 75-15-0 | Carbon Disulfide | 1.2 U | 10061-02-6 | Trans-1,3-Dichloropropene | 1.8 U |
| 75-35-4 | 1,1-Dichloroethene | - | 110-75-8 | 2-Chloroethylvinylether | 2.7 U |
| 75-34-3 | 1,1-Dichloroethane | 0.6 U | 75-25-2 | Bromoform | 2.5 U |
| 540-59-0 | 1,2-Dichloroethene (Total) | 0.8 U | 108-10-1 | 4-Methyl-2-Pentanone | 3.5 U |
| 67-66-3 | Chloroform | 1.1 U | 591-78-6 | 2-Hexanone | 3.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.5 U | 127-18-4 | Tetrachloroethene | 0.5 U |
| 78-93-3 | 2-Butanone | 6.2 U | 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.7 U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.6 U | 108-88-3 | Toluene | - |
| 56-23-5 | Carbon Tetrachloride | 0.9 U | 108-90-7 | Chlorobenzene | - |
| 108-05-4 | Vinyl Acetate | 3.1 U | 100-41-4 | Ethylbenzene | 0.8 U |
| 75-27-4 | Bromodichloromethane | 0.3 U | 100-42-5 | Styrene | 1.1 U |
| 77-69-4 | Trichlorofluoromethane | 1.0 U | 1330-20-7 | Total Xylenes | 1.8 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | | | | 1.0 U |

***Volatile Organic Surrogate Recoveries**

| | |
|---|---|
| d8-Toluene | 100% |
| Bromofluorobenzene | 95.2% |
| d4-1,2-Dichloroethane | 94.3% |

*Surrogate recoveries indicate the validity of a given analysis

Data Reporting Qualifiers

| | |
|---|---|
| Value | If the result is a value greater than or equal to the detection limit, report the value. |
| U | Indicates compound was analyzed for but not detected at the given detection limit. |
| J | Indicates an estimated value when result is less than specified detection limit. |
| NR | Analysis not required |
| B | This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination. |
| K | This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run. |
| M | Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters |

ANALYTICAL
RESOURCES
INCORPORATED

Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

## ORGANICS ANALYSIS DATA SHEET - METHOD 8240

**Sample No: CP110-2.5 MSD**

Lab Sample ID: 2453HMSD
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Data Release Authorized: Brian N. Sabee
Report Prepared: 01/13/89 MACA

Conc Level: Low
Instrument ID: FINN I
Date Analyzed: 01/09/89

Amount Analyzed: 4.92 gm (Dry Weight)
Percent Moisture: 3.62%
pH: 6.93
Conc/Dil Factor: 1:1

| CAS Number | | ug/Kg | CAS Number | | ug/Kg |
|---|---|---|---|---|---|
| 74-87-3 | Chloromethane | 3.9 U | 78-87-5 | 1,2-Dichloropropane | 0.7 U |
| 74-83-9 | Bromomethane | 3.2 U | 10061-01-5 | cis-1,3-Dichloropropene | 1.9 U |
| 75-01-4 | Vinyl Chloride | 2.0 U | 79-01-6 | Trichloroethene | 0.6 U |
| 75-00-3 | Chloroethane | 3.4 U | 124-48-1 | Dibromochloromethane | 0.7 U |
| **75-09-2** | **Methylene Chloride** | **5.7 B** | 79-00-5 | 1,1,2-Trichloroethane | 0.7 U |
| 67-64-1 | Acetone | 7.0 U | 71-43-2 | Benzene | - |
| 75-15-0 | Carbon Disulfide | 1.2 U | 10061-02-6 | Trans-1,3-Dichloropropene | 1.8 U |
| 75-35-4 | 1,1-Dichloroethene | - | 110-75-8 | 2-Chloroethylvinylether | 2.7 U |
| 75-34-3 | 1,1-Dichloroethane | 0.6 U | 75-25-2 | Bromoform | 2.5 U |
| 540-59-0 | 1,2-Dichloroethene (Total) | 0.8 U | 108-10-1 | 4-Methyl-2-Pentanone | 3.6 U |
| 67-66-3 | Chloroform | 1.1 U | 591-78-6 | 2-Hexanone | 3.3 U |
| 107-06-2 | 1,2-Dichloroethane | 0.5 U | 127-18-4 | Tetrachloroethene | 0.5 U |
| 78-93-3 | 2-Butanone | 6.3 U | 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.7 U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.6 U | 108-88-3 | Toluene | - |
| 56-23-5 | Carbon Tetrachloride | 0.9 U | 108-90-7 | Chlorobenzene | - |
| 108-05-4 | Vinyl Acetate | 3.2 U | 100-41-4 | Ethylbenzene | 0.8 U |
| 75-27-4 | Bromodichloromethane | 0.3 U | 100-42-5 | Styrene | 1.1 U |
| 77-69-4 | Trichlorofluoromethane | 1.0 U | 1330-20-7 | Total Xylenes | 1.8 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | | | | 1.0 U |

***Volatile Organic Surrogate Recoveries**

| | |
|---|---|
| d8-Toluene | 99.8% |
| Bromofluorobenzene | 98.5% |
| d4-1,2-Dichloroethane | 97.3% |

*Surrogate recoveries indicate the validity of a given analysis

### Data Reporting Qualifiers

| | |
|---|---|
| Value | If the result is a value greater than or equal to the detection limit, report the value. |
| U | Indicates compound was analyzed for but not detected at the given detection limit. |
| J | Indicates an estimated value when result is less than specified detection limit. |
| NR | Analysis not required |
| B | This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination. |
| K | This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run. |
| M | Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters |

ANALYTICAL
RESOURCES
INCORPORATED

Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

## ORGANICS ANALYSIS DATA SHEET - METHOD 8240

**Sample No: CP110-15**

Lab Sample ID: 24531
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Data Release Authorized: _____
Report Prepared: 01/13/89 MAQA

Conc Level: Low
Instrument ID: FINN I
Date Analyzed: 1/04/89

Amount Analyzed: 0.98 gm (Dry Weight)
Percent Moisture: 17.29%
pH: 7.16
Conc/Dil Factor: 1:1

| CAS Number | | ug/Kg | CAS Number | | ug/Kg |
|---|---|---|---|---|---|
| 74-87-3 | Chloromethane | 19 U | 78-87-5 | 1,2-Dichloropropane | 3.6 U |
| 74-83-9 | Bromomethane | 16 U | 10061-01-5 | cis-1,3-Dichloropropene | 9.7 U |
| 75-01-4 | Vinyl Chloride | 10 U | 79-01-6 | Trichloroethene | 3.1 U |
| 75-00-3 | Chloroethane | 17 U | 124-48-1 | Dibromochloromethane | 3.6 U |
| **75-09-2** | **Methylene Chloride** | **20 B** | 79-00-5 | 1,1,2-Trichloroethane | 3.6 U |
| 67-64-1 | Acetone | 35 U | 71-43-2 | Benzene | 5.1 U |
| 75-15-0 | Carbon Disulfide | 6.1 U | 10061-02-6 | Trans-1,3-Dichloropropene | 9.2 U |
| 75-35-4 | 1,1-Dichloroethene | 3.6 U | 110-75-8 | 2-Chloroethylvinylether | 14 U |
| 75-34-3 | 1,1-Dichloroethane | 3.1 U | 75-25-2 | Bromoform | 13 U |
| 540-59-0 | 1,2-Dichloroethene (Total) | 4.1 U | 108-10-1 | 4-Methyl-2-Pentanone | 18 U |
| 67-66-3 | Chloroform | 5.6 U | 591-78-6 | 2-Hexanone | 16 U |
| 107-06-2 | 1,2-Dichloroethane | 2.6 U | 127-18-4 | Tetrachloroethene | 2.6 U |
| 78-93-3 | 2-Butanone | 32 U | 79-34-5 | 1,1,2,2-Tetrachloroethane | 14 U |
| 71-55-6 | 1,1,1-Trichloroethane | 3.1 U | 108-88-3 | Toluene | 4.1 U |
| 56-23-5 | Carbon Tetrachloride | 4.6 U | 108-90-7 | Chlorobenzene | 4.6 U |
| 108-05-4 | Vinyl Acetate | 16 U | 100-41-4 | Ethylbenzene | 4.1 U |
| 75-27-4 | Bromodichloromethane | 1.5 U | 100-42-5 | Styrene | 5.6 U |
| 77-69-4 | Trichlorofluoromethane | 5.1 U | 1330-20-7 | Total Xylenes | 9.2 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | | | | 5.1 U |

***Volatile Organic Surrogate Recoveries**

| | |
|---|---|
| d8-Toluene | 94.2% |
| Bromofluorobenzene | 95.6% |
| d4-1,2-Dichloroethane | 101% |

*Surrogate recoveries indicate the validity of a given analysis

Data Reporting Qualifiers

| | |
|---|---|
| Value | If the result is a value greater than or equal to the detection limit, report the value. |
| U | Indicates compound was analyzed for but not detected at the given detection limit. |
| J | Indicates an estimated value when result is less than specified detection limit. |
| NR | Analysis not required |
| B | This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination. |
| K | This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run. |
| M | Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters |

**ORGANICS ANALYSIS DATA SHEET - METHOD 8270**

**Sample No: CP110-0-5 [Composite]**

**ANALYTICAL RESOURCES INCORPORATED**

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

Lab Sample ID: 2453AD
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Date Release Authorized: DR Mitchell
*Report Revised: 03/21/89 MAC: A*

Dry weight extracted (gm): 29.01
Final Volume: 1.0 ml
Percent Moisture: 4.91%
pH: 6.49
Conc/Dilution Factor: 1 to 1
Total Dilution: 1 to 2

Date Extracted: 01/05/89
Date Analyzed: 01/13/89
GPC Clean-up: YES (1 of 2)
Instrument ID: FINN IV

| CAS Number | | µg/Kg |
|---|---|---|
| 108-95-2 | Phenol | 69 U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 69 U |
| 95-57-8 | 2-Chlorophenol | 69 U |
| 541-73-1 | 1,3-Dichlorobenzene | 69 U |
| 106-46-7 | 1,4-Dichlorobenzene | 69 U |
| 100-51-6 | Benzyl Alcohol | 340 U |
| 95-50-1 | 1,2-Dichlorobenzene | 69 U |
| 95-48-7 | 2-Methylphenol | 69 U |
| 39638-32-9 | bis(2-chloroisopropyl)Ether | 69 U |
| 106-44-5 | 4-Methylphenol | 69 U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 69 U |
| 67-72-1 | Hexachloroethane | 140 U |
| 98-95-3 | Nitrobenzene | 69 U |
| 78-59-1 | Isophorone | 69 U |
| 88-75-5 | 2-Nitrophenol | 340 U |
| 105-67-9 | 2,4-Dimethylphenol | 140 U |
| 65-85-0 | Benzoic Acid | 690 U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 69 U |
| 120-83-2 | 2,4-Dichlorophenol | 207 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 69 U |
| **91-20-3** | **Naphthalene** | **33 J** |
| 106-47-8 | 4-Chloroaniline | 207 U |
| 87-68-3 | Hexachlorobutadiene | 140 U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 140 U |
| 91-57-6 | 2-Methylnaphthalene | 69 U |
| 77-47-4 | Hexachlorocyclopentadiene | 340 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 340 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 340 U |
| 91-58-7 | 2-Chloronaphthalene | 69 U |
| 88-74-4 | 2-Nitroaniline | 340 U |
| 131-11-3 | Dimethyl Phthalate | 69 U |
| 208-96-8 | Acenaphthylene | 69 U |
| 99-09-2 | 3-Nitroaniline | 340 U |

| CAS Number | | µg/Kg |
|---|---|---|
| **83-32-9** | **Acenaphthene** | **21 M** |
| 51-28-5 | 2,4-Dinitrophenol | 690 U |
| 100-02-7 | 4-Nitrophenol | 340 U |
| 132-64-9 | Dibenzofuran | 69 U |
| 121-14-2 | 2,4-Dinitrotoluene | 340 U |
| 606-20-2 | 2,6-Dinitrotoluene | 340 U |
| 84-66-2 | Diethylphthalate | 69 U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 69 U |
| 86-73-7 | Fluorene | 69 U |
| 100-01-6 | 4-Nitroaniline | 340 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 690 U |
| 86-30-6 | N-Nitrosodiphenylamine(1) | 69 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 69 U |
| 118-74-1 | Hexachlorobenzene | 69 U |
| 87-86-5 | Pentachlorophenol | 340 U |
| **85-01-8** | **Phenanthrene** | **34 J** |
| **120-12-7** | **Anthracene** | **29 J** |
| 84-74-2 | Di-n-Butylphthalate | 69 U |
| **206-44-0** | **Fluoranthene** | **100** |
| **129-00-0** | **Pyrene** | **120** |
| 85-68-7 | Butylbenzylphthalate | 69 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 340 U |
| **56-55-3** | **Benzo(a)Anthracene** | **130** |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 69 U |
| **218-01-9** | **Chrysene** | **190** |
| 117-84-0 | Di-n-Octyl Phthalate | 69 U |
| **205-99-2** | **Benzo(b)Fluoranthene &** | |
| **207-08-9** | **Benzo(k)Fluoranthene** | **380** |
| **50-32-8** | **Benzo(a)Pyrene** | **85** |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 69 U |
| 53-70-3 | Dibenz(a,h)Anthracene | 69 U |
| 191-24-2 | Benzo(ghi)Perylene | 69 U |

(1) Cannot be separated from diphenylamine

***Base/neutral surrogate recoveries**

| | |
|---|---|
| d5-Nitrobenzene | 87.7% |
| 2-Fluorobiphenyl | 90.9% |
| d14-p-Terphenyl | 95.3% |

***Acid surrogate recoveries**

| | |
|---|---|
| d5-Phenol | 75.1% |
| 2-Fluorophenol | 85.2% |
| 2,4,6-Tribromophenol | 91.4% |

# ORGANICS ANALYSIS DATA SHEET - METHOD 8270

Sample No: CP110-6-10 [Composite]

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

Lab Sample ID: 2453EG
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Date Release Authorized: D Mitchell
*Report Revised: 03/21/89 MAC: A*

Dry weight extracted (gm): 22.15
Final Volume: 1.0 ml
Percent Moisture: 11.71%
pH: 6.72
Conc/Dilution Factor: 1 to 2
Total Dilution: 1 to 4

Date Extracted: 01/05/89
Date Analyzed: 01/13/89
GPC Clean-up: YES (1 of 2)
Instrument ID: FINN IV

| CAS Number | | µg/Kg |
|---|---|---|
| 108-95-2 | Phenol | 180 U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 180 U |
| 95-57-8 | 2-Chlorophenol | 180 U |
| 541-73-1 | 1,3-Dichlorobenzene | 180 U |
| 106-46-7 | 1,4-Dichlorobenzene | 180 U |
| 100-51-6 | Benzyl Alcohol | 900 U |
| 95-50-1 | 1,2-Dichlorobenzene | 180 U |
| 95-48-7 | 2-Methylphenol | 180 U |
| 39638-32-9 | bis(2-chloroisopropyl)Ether | 180 U |
| 106-44-5 | 4-Methylphenol | 180 U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 180 U |
| 67-72-1 | Hexachloroethane | 360 U |
| 98-95-3 | Nitrobenzene | 180 U |
| 78-59-1 | Isophorone | 180 U |
| 88-75-5 | 2-Nitrophenol | 900 U |
| 105-67-9 | 2,4-Dimethylphenol | 360 U |
| 65-85-0 | Benzoic Acid | 1800 U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 180 U |
| 120-83-2 | 2,4-Dichlorophenol | 540 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 180 U |
| 91-20-3 | Naphthalene | 180 U |
| 106-47-8 | 4-Chloroaniline | 540 U |
| 87-68-3 | Hexachlorobutadiene | 360 U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 360 U |
| **91-57-6** | **2-Methylnaphthalene** | **25000** |
| 77-47-4 | Hexachlorocyclopentadiene | 900 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 900 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 900 U |
| 91-58-7 | 2-Chloronaphthalene | 180 U |
| 88-74-4 | 2-Nitroaniline | 900 U |
| 131-11-3 | Dimethyl Phthalate | 180 U |
| 208-96-8 | Acenaphthylene | 180 U |
| 99-09-2 | 3-Nitroaniline | 900 U |

| CAS Number | | µg/Kg |
|---|---|---|
| **83-32-9** | **Acenaphthene** | **1700** |
| 51-28-5 | 2,4-Dinitrophenol | 1800 U |
| 100-02-7 | 4-Nitrophenol | 900 U |
| **132-64-9** | **Dibenzofuran** | **3100** |
| 121-14-2 | 2,4-Dinitrotoluene | 900 U |
| 606-20-2 | 2,6-Dinitrotoluene | 900 U |
| 84-66-2 | Diethylphthalate | 180 U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 180 U |
| **86-73-7** | **Fluorene** | **6300** |
| 100-01-6 | 4-Nitroaniline | 900 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1800 U |
| 86-30-6 | N-Nitrosodiphenylamine(1) | 180 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 180 U |
| 118-74-1 | Hexachlorobenzene | 180 U |
| 87-86-5 | Pentachlorophenol | 900 U |
| **85-01-8** | **Phenanthrene** | **12000** |
| **120-12-7** | **Anthracene** | **910** |
| 84-74-2 | Di-n-Butylphthalate | 180 U |
| **206-44-0** | **Fluoranthene** | **1600** |
| **129-00-0** | **Pyrene** | **1800** |
| 85-68-7 | Butylbenzylphthalate | 180 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 900 U |
| **56-55-3** | **Benzo(a)Anthracene** | **600** |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 180 U |
| **218-01-9** | **Chrysene** | **890** |
| 117-84-0 | Di-n-Octyl Phthalate | 180 U |
| **205-99-2** / **207-08-9** | **Benzo(b)Fluoranthene & Benzo(k)Fluoranthene** | **510** |
| **50-32-8** | **Benzo(a)Pyrene** | **250** |
| **193-39-5** | **Indeno(1,2,3-cd)Pyrene** | **190** |
| **53-70-3** | **Dibenz(a,h)Anthracene** | **75 M** |
| **191-24-2** | **Benzo(ghi)Perylene** | **91 M** |

(1) Cannot be separated from diphenylamine

***Base/neutral surrogate recoveries**

| | |
|---|---|
| d5-Nitrobenzene | 95.8% |
| 2-Fluorobiphenyl | 128% |
| d14-p-Terphenyl | 112% |

***Acid surrogate recoveries**

| | |
|---|---|
| d5-Phenol | 92.2% |
| 2-Fluorophenol | 94.9% |
| 2,4,6-Tribromophenol | 116% |

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

## ORGANICS ANALYSIS DATA SHEET - METHOD 8270

**Sample No: CP110-2.5**

Lab Sample ID: 2453H
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Date Release Authorized: DR Mitchell
*Report Revised 03/21/89 MAC: A*

Dry weight extracted (gm): 31.50
Final Volume: 1.0 ml
Percent Moisture: 3.62%
pH: 6.93
Conc/Dilution Factor: 1 to 1
Total Dilution: 1 to 2

Date Extracted: 01/05/89
Date Analyzed: 01/13/89
GPC Clean-up: YES (1 of 2)
Instrument ID: FINN IV

| CAS Number | | µg/Kg |
|---|---|---|
| 108-95-2 | Phenol | 64 U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 64 U |
| 95-57-8 | 2-Chlorophenol | 64 U |
| 541-73-1 | 1,3-Dichlorobenzene | 64 U |
| 106-46-7 | 1,4-Dichlorobenzene | 64 U |
| 100-51-6 | Benzyl Alcohol | 320 U |
| 95-50-1 | 1,2-Dichlorobenzene | 64 U |
| 95-48-7 | 2-Methylphenol | 64 U |
| 39638-32-9 | bis(2-chloroisopropyl)Ether | 64 U |
| 106-44-5 | 4-Methylphenol | 64 U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 64 U |
| 67-72-1 | Hexachloroethane | 130 U |
| 98-95-3 | Nitrobenzene | 64 U |
| 78-59-1 | Isophorone | 64 U |
| 88-75-5 | 2-Nitrophenol | 320 U |
| 105-67-9 | 2,4-Dimethylphenol | 130 U |
| 65-85-0 | Benzoic Acid | 630 U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 64 U |
| 120-83-2 | 2,4-Dichlorophenol | 191 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 64 U |
| 91-20-3 | Naphthalene | 64 U |
| 106-47-8 | 4-Chloroaniline | 191 U |
| 87-68-3 | Hexachlorobutadiene | 130 U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 130 U |
| 91-57-6 | 2-Methylnaphthalene | 64 U |
| 77-47-4 | Hexachlorocyclopentadiene | 320 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 320 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 320 U |
| 91-58-7 | 2-Chloronaphthalene | 64 U |
| 88-74-4 | 2-Nitroaniline | 320 U |
| 131-11-3 | Dimethyl Phthalate | 64 U |
| 208-96-8 | Acenaphthylene | 64 U |
| 99-09-2 | 3-Nitroaniline | 320 U |

| CAS Number | | µg/Kg |
|---|---|---|
| 83-32-9 | Acenaphthene | 64 U |
| 51-28-5 | 2,4-Dinitrophenol | 630 U |
| 100-02-7 | 4-Nitrophenol | 320 U |
| 132-64-9 | Dibenzofuran | 64 U |
| 121-14-2 | 2,4-Dinitrotoluene | 320 U |
| 606-20-2 | 2,6-Dinitrotoluene | 320 U |
| 84-66-2 | Diethylphthalate | 64 U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 64 U |
| 86-73-7 | Fluorene | 64 U |
| 100-01-6 | 4-Nitroaniline | 320 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 630 U |
| 86-30-6 | N-Nitrosodiphenylamine(1) | 64 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 64 U |
| 118-74-1 | Hexachlorobenzene | 64 U |
| 87-86-5 | Pentachlorophenol | 320 U |
| 85-01-8 | Phenanthrene | 64 U |
| 120-12-7 | Anthracene | 64 U |
| 84-74-2 | Di-n-Butylphthalate | 64 U |
| 206-44-0 | Fluoranthene | 64 U |
| 129-00-0 | Pyrene | 64 U |
| 85-68-7 | Butylbenzylphthalate | 64 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 320 U |
| 56-55-3 | Benzo(a)Anthracene | 64 U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 64 U |
| 218-01-9 | Chrysene | 64 U |
| 117-84-0 | Di-n-Octyl Phthalate | 64 U |
| 205-99-2 | Benzo(b)Fluoranthene | 64 U |
| 207-08-9 | Benzo(k)Fluoranthene | 64 U |
| 50-32-8 | Benzo(a)Pyrene | 64 U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 64 U |
| 53-70-3 | Dibenz(a,h)Anthracene | 64 U |
| 191-24-2 | Benzo(ghi)Perylene | 64 U |

(1) Cannot be separated from diphenylamine

***Base/neutral surrogate recoveries**

| | |
|---|---|
| d5-Nitrobenzene | 93.3% |
| 2-Fluorobiphenyl | 93.1% |
| d14-o-Terphenyl | 110% |

***Acid surrogate recoveries**

| | |
|---|---|
| d5-Phenol | 81.2% |
| 2-Fluorophenol | 92.0% |
| 2,4,6-Tribromophenol | 85.0% |

ANALYTICAL
RESOURCES
INCORPORATED

Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

# SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ARI Job No: 2453

Client: Sweet Edwards
Project: S940702

**Sample No: CP110-2.5**

| COMPOUND | SPIKE ADDED (µg/Kg) | SAMPLE CONCENTRATION (µg/Kg) | MS CONCENTRATION (µg/Kg) | MS % REC | QC LIMITS REC |
|---|---|---|---|---|---|
| Phenol | 25000 | 0.0 | 12000 | 48.0 | 26-90 |
| 2-Chlorophenol | 25000 | 0.0 | 14000 | 56.0 | 25-102 |
| 1,4-Dichlorobenzene | 13000 | 0.0 | 6700 | 51.5 | 28-104 |
| N-Nitroso-Di-n-Propylamine | 13000 | 0.0 | 6200 | 47.7 | 41-126 |
| 1,2,4-Trichlorobenzene | 13000 | 0.0 | 7000 | 53.8 | 38-107 |
| 4-Chloro-3-Methylphenol | 25000 | 0.0 | 13000 | 52.0 | 26-103 |
| Acenaphthene | 13000 | 0.0 | 6000 | 46.2 | 31-137 |
| 4-Nitrophenol | 25000 | 0.0 | 10000 | 40.0 | 11-114 |
| 2,4-Dinitrotoluene | 13000 | 0.0 | 6100 | 46.9 | 28-89 |
| Pentachlorophenol | 25000 | 0.0 | 13000 | 52.0 | 17-109 |
| Pyrene | 13000 | 0.0 | 7200 | 55.4 | 35-142 |

| COMPOUND | SPIKE ADDED (µg/Kg) | MSD CONCENTRATION (µg/Kg) | MSD % REC | % RPD | QC LIMITS RPD | QC LIMITS REC |
|---|---|---|---|---|---|---|
| Phenol | 25000 | 12000 | 48.0 | 0.0 | 35 | 26-90 |
| 2-Chlorophenol | 25000 | 14000 | 56.0 | 0.0 | 50 | 25-102 |
| 1,4-Dichlorobenzene | 13000 | 6800 | 52.3 | -1.5 | 27 | 28-104 |
| N-Nitroso-Di-n-Propylamine | 13000 | 6000 | 46.2 | 3.2 | 38 | 41-126 |
| 1,2,4-Trichlorobenzene | 13000 | 7100 | 54.6 | -1.5 | 23 | 38-107 |
| 4-Chloro-3-Methylphenol | 25000 | 14000 | 56.0 | -7.4 | 33 | 26-103 |
| Acenaphthene | 13000 | 6000 | 46.2 | 0.0 | 19 | 31-137 |
| 4-Nitrophenol | 25000 | 10000 | 40.0 | 0.0 | 50 | 11-114 |
| 2,4-Dinitrotoluene | 13000 | 6400 | 49.2 | -4.8 | 47 | 28-89 |
| Pentachlorophenol | 25000 | 13000 | 52.0 | 0.0 | 47 | 17-109 |
| Pyrene | 13000 | 7400 | 56.9 | -2.7 | 36 | 35-142 |

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

Asterisked values outside QC Limits

**Comments:** 31.73 gram dry weight sample size.

1-24-95

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

# ORGANICS ANALYSIS DATA SHEET - METHOD 8270

**Sample No: CP110-2.5 MS**

Lab Sample ID: 2453HMS
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Date Release Authorized: DR Mitchell
*Report Revised: 03/21/89 MAC: A*

Dry weight extracted (gm): 31.85
Final Volume: 1.0 ml
Percent Moisture: 3.62%
pH: 6.93
Conc/Dilution Factor: 1 to 2
Total Dilution: 1 to 4

Date Extracted: 01/05/89
Date Analyzed: 01/13/89
GPC Clean-up: YES (1 of 2)
Instrument ID: FINN IV

| CAS Number | | µg/Kg |
|---|---|---|
| 108-95-2 | Phenol | - |
| 111-44-4 | bis(2-Chloroethyl)Ether | 130 U |
| 95-57-8 | 2-Chlorophenol | - |
| 541-73-1 | 1,3-Dichlorobenzene | 130 U |
| 106-46-7 | 1,4-Dichlorobenzene | - |
| 100-51-6 | Benzyl Alcohol | 630 U |
| 95-50-1 | 1,2-Dichlorobenzene | 130 U |
| 95-48-7 | 2-Methylphenol | 130 U |
| 39638-32-9 | bis(2-chloroisopropyl)Ether | 130 U |
| 106-44-5 | 4-Methylphenol | 130 U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | - |
| 67-72-1 | Hexachloroethane | 250 U |
| 98-95-3 | Nitrobenzene | 130 U |
| 78-59-1 | Isophorone | 130 U |
| 88-75-5 | 2-Nitrophenol | 630 U |
| 105-67-9 | 2,4-Dimethylphenol | 250 U |
| 65-85-0 | Benzoic Acid | 1300 U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 130 U |
| 120-83-2 | 2,4-Dichlorophenol | 380 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | - |
| 91-20-3 | Naphthalene | 130 U |
| 106-47-8 | 4-Chloroaniline | 380 U |
| 87-68-3 | Hexachlorobutadiene | 250 U |
| 59-50-7 | 4-Chloro-3-Methylphenol | - |
| 91-57-6 | 2-Methylnaphthalene | 130 U |
| 77-47-4 | Hexachlorocyclopentadiene | 630 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 630 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 630 U |
| 91-58-7 | 2-Chloronaphthalene | 130 U |
| 88-74-4 | 2-Nitroaniline | 630 U |
| 131-11-3 | Dimethyl Phthalate | 130 U |
| 208-96-8 | Acenaphthylene | 130 U |
| 99-09-2 | 3-Nitroaniline | 630 U |

| CAS Number | | µg/Kg |
|---|---|---|
| 83-32-9 | Acenaphthene | - |
| 51-28-5 | 2,4-Dinitrophenol | 1300 U |
| 100-02-7 | 4-Nitrophenol | - |
| 132-64-9 | Dibenzofuran | 130 U |
| 121-14-2 | 2,4-Dinitrotoluene | - |
| 606-20-2 | 2,6-Dinitrotoluene | 630 U |
| 84-66-2 | Diethylphthalate | 130 U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 130 U |
| 86-73-7 | Fluorene | 130 U |
| 100-01-6 | 4-Nitroaniline | 630 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1300 U |
| 86-30-6 | N-Nitrosodiphenylamine(1) | 130 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 130 U |
| 118-74-1 | Hexachlorobenzene | 130 U |
| 87-86-5 | Pentachlorophenol | - |
| 85-01-8 | Phenanthrene | 130 U |
| 120-12-7 | Anthracene | 130 U |
| 84-74-2 | Di-n-Butylphthalate | 130 U |
| 206-44-0 | Fluoranthene | 130 U |
| 129-00-0 | Pyrene | - |
| 85-68-7 | Butylbenzylphthalate | 130 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 630 U |
| 56-55-3 | Benzo(a)Anthracene | 130 U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 130 U |
| 218-01-9 | Chrysene | 130 U |
| 117-84-0 | Di-n-Octyl Phthalate | 130 U |
| 205-99-2 | Benzo(b)Fluoranthene | 130 U |
| 207-08-9 | Benzo(k)Fluoranthene | 130 U |
| 50-32-8 | Benzo(a)Pyrene | 130 U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 130 U |
| 53-70-3 | Dibenz(a,h)Anthracene | 130 U |
| 191-24-2 | Benzo(ghi)Perylene | 130 U |

(1) Cannot be separated from diphenylamine

***Base/neutral surrogate recoveries**

| | |
|---|---|
| d5-Nitrobenzene | 99.6% |
| 2-Fluorobiphenyl | 107% |
| d14-p-Terphenyl | 115% |

***Acid surrogate recoveries**

| | |
|---|---|
| d5-Phenol | 100% |
| 2-Fluorophenol | 99.5% |
| 2,4,6-Tribromophenol | 105% |

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

## ORGANICS ANALYSIS DATA SHEET - METHOD 8270

**Sample No: CP110-2.5 MSD**

Lab Sample ID: 2453HMSD
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Date Release Authorized: DR Mitchell
*Report Revised: 03/21/89 MAC: A*

Dry weight extracted (gm): 31.61
Final Volume: 1.0 ml
Percent Moisture: 3.62%
pH: 6.93
Conc/Dilution Factor: 1 to 2
Total Dilution: 1 to 4

Date Extracted: 01/05/89
Date Analyzed: 01/13/89
GPC Clean-up: YES (1 of 2)
Instrument ID: FINN IV

| CAS Number | | µg/Kg |
|---|---|---|
| 108-95-2 | Phenol | - |
| 111-44-4 | bis(2-Chloroethyl)Ether | 130 U |
| 95-57-8 | 2-Chlorophenol | - |
| 541-73-1 | 1,3-Dichlorobenzene | 130 U |
| 106-46-7 | 1,4-Dichlorobenzene | - |
| 100-51-6 | Benzyl Alcohol | 630 U |
| 95-50-1 | 1,2-Dichlorobenzene | 130 U |
| 95-48-7 | 2-Methylphenol | 130 U |
| 39638-32-9 | bis(2-chloroisopropyl)Ether | 130 U |
| 106-44-5 | 4-Methylphenol | 130 U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | - |
| 67-72-1 | Hexachloroethane | 250 U |
| 98-95-3 | Nitrobenzene | 130 U |
| 78-59-1 | Isophorone | 130 U |
| 88-75-5 | 2-Nitrophenol | 630 U |
| 105-67-9 | 2,4-Dimethylphenol | 250 U |
| 65-85-0 | Benzoic Acid | 1300 U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 130 U |
| 120-83-2 | 2,4-Dichlorophenol | 380 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | - |
| 91-20-3 | Naphthalene | 130 U |
| 106-47-8 | 4-Chloroaniline | 380 U |
| 87-68-3 | Hexachlorobutadiene | 250 U |
| 59-50-7 | 4-Chloro-3-Methylphenol | - |
| 91-57-6 | 2-Methylnaphthalene | 130 U |
| 77-47-4 | Hexachlorocyclopentadiene | 630 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 630 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 630 U |
| 91-58-7 | 2-Chloronaphthalene | 130 U |
| 88-74-4 | 2-Nitroaniline | 630 U |
| 131-11-3 | Dimethyl Phthalate | 130 U |
| 208-96-8 | Acenaphthylene | 130 U |
| 99-09-2 | 3-Nitroaniline | 630 U |

| CAS Number | | µg/Kg |
|---|---|---|
| 83-32-9 | Acenaphthene | - |
| 51-28-5 | 2,4-Dinitrophenol | 1300 U |
| 100-02-7 | 4-Nitrophenol | - |
| 132-64-9 | Dibenzofuran | 130 U |
| 121-14-2 | 2,4-Dinitrotoluene | - |
| 606-20-2 | 2,6-Dinitrotoluene | 630 U |
| 84-66-2 | Diethylphthalate | 130 U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 130 U |
| 86-73-7 | Fluorene | 130 U |
| 100-01-6 | 4-Nitroaniline | 630 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1300 U |
| 86-30-6 | N-Nitrosodiphenylamine(1) | 130 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 130 U |
| 118-74-1 | Hexachlorobenzene | 130 U |
| 87-86-5 | Pentachlorophenol | - |
| 85-01-8 | Phenanthrene | 130 U |
| 120-12-7 | Anthracene | 130 U |
| 84-74-2 | Di-n-Butylphthalate | 130 U |
| 206-44-0 | Fluoranthene | 130 U |
| 129-00-0 | Pyrene | - |
| 85-68-7 | Butylbenzylphthalate | 130 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 630 U |
| 56-55-3 | Benzo(a)Anthracene | 130 U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 130 U |
| 218-01-9 | Chrysene | 130 U |
| 117-84-0 | Di-n-Octyl Phthalate | 130 U |
| 205-99-2 | Benzo(b)Fluoranthene | 130 U |
| 207-08-9 | Benzo(k)Fluoranthene | 130 U |
| 50-32-8 | Benzo(a)Pyrene | 130 U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 130 U |
| 53-70-3 | Dibenz(a,h)Anthracene | 130 U |
| 191-24-2 | Benzo(ghi)Perylene | 130 U |

(1) Cannot be separated from diphenylamine

***Base/neutral surrogate recoveries**

| | |
|---|---|
| d5-Nitrobenzene | 99.7% |
| 2-Fluorobiphenyl | 104% |
| d14-p-Terphenyl | 114% |

***Acid surrogate recoveries**

| | |
|---|---|
| d5-Phenol | 99.2% |
| 2-Fluorophenol | 103% |
| 2,4,6-Tribromophenol | 105% |

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

# ORGANICS ANALYSIS DATA SHEET - METHOD 8270

**Sample No: CP110-15**

Lab Sample ID: 24531
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Date Release Authorized: DR Mitchell
*Report Revised: 03/21/89 MAC: A*

Dry weight extracted (gm): 28.25
Final Volume: 1.0 ml
Percent Moisture: 17.29%
pH: 7.16
Conc/Dilution Factor: 1 to 1
Total Dilution: 1 to 2

Date Extracted: 01/05/89
Date Analyzed: 01/13/89
GPC Clean-up: YES (1 of 2)
Instrument ID: FINN IV

| CAS Number | | µg/Kg |
|---|---|---|
| 108-95-2 | Phenol | 71 U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 71 U |
| 95-57-8 | 2-Chlorophenol | 71 U |
| 541-73-1 | 1,3-Dichlorobenzene | 71 U |
| 106-46-7 | 1,4-Dichlorobenzene | 71 U |
| 100-51-6 | Benzyl Alcohol | 350 U |
| 95-50-1 | 1,2-Dichlorobenzene | 71 U |
| 95-48-7 | 2-Methylphenol | 71 U |
| 39638-32-9 | bis(2-chloroisopropyl)Ether | 71 U |
| 106-44-5 | 4-Methylphenol | 71 U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 71 U |
| 67-72-1 | Hexachloroethane | 140 U |
| 98-95-3 | Nitrobenzene | 71 U |
| 78-59-1 | Isophorone | 71 U |
| 88-75-5 | 2-Nitrophenol | 350 U |
| 105-67-9 | 2,4-Dimethylphenol | 140 U |
| 65-85-0 | Benzoic Acid | 710 U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 71 U |
| 120-83-2 | 2,4-Dichlorophenol | 212 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 71 U |
| 91-20-3 | Naphthalene | 71 U |
| 106-47-8 | 4-Chloroaniline | 212 U |
| 87-68-3 | Hexachlorobutadiene | 140 U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 140 U |
| 91-57-6 | 2-Methylnaphthalene | 71 U |
| 77-47-4 | Hexachlorocyclopentadiene | 350 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 350 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 350 U |
| 91-58-7 | 2-Chloronaphthalene | 71 U |
| 88-74-4 | 2-Nitroaniline | 350 U |
| 131-11-3 | Dimethyl Phthalate | 71 U |
| 208-96-8 | Acenaphthylene | 71 U |
| 99-09-2 | 3-Nitroaniline | 350 U |

| CAS Number | | µg/Kg |
|---|---|---|
| 83-32-9 | Acenaphthene | 71 U |
| 51-28-5 | 2,4-Dinitrophenol | 710 U |
| 100-02-7 | 4-Nitrophenol | 350 U |
| 132-64-9 | Dibenzofuran | 71 U |
| 121-14-2 | 2,4-Dinitrotoluene | 350 U |
| 606-20-2 | 2,6-Dinitrotoluene | 350 U |
| **84-66-2** | **Diethylphthalate** | **81** |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 71 U |
| 86-73-7 | Fluorene | 71 U |
| 100-01-6 | 4-Nitroaniline | 350 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 710 U |
| 86-30-6 | N-Nitrosodiphenylamine(1) | 71 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 71 U |
| 118-74-1 | Hexachlorobenzene | 71 U |
| 87-86-5 | Pentachlorophenol | 350 U |
| 85-01-8 | Phenanthrene | 71 U |
| 120-12-7 | Anthracene | 71 U |
| 84-74-2 | Di-n-Butylphthalate | 71 U |
| 206-44-0 | Fluoranthene | 71 U |
| 129-00-0 | Pyrene | 71 U |
| 85-68-7 | Butylbenzylphthalate | 71 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 350 U |
| 56-55-3 | Benzo(a)Anthracene | 71 U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 71 U |
| 218-01-9 | Chrysene | 71 U |
| 117-84-0 | Di-n-Octyl Phthalate | 71 U |
| 205-99-2 | Benzo(b)Fluoranthene | 71 U |
| 207-08-9 | Benzo(k)Fluoranthene | 71 U |
| 50-32-8 | Benzo(a)Pyrene | 71 U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 71 U |
| 53-70-3 | Dibenz(a,h)Anthracene | 71 U |
| 191-24-2 | Benzo(ghi)Perylene | 71 U |

(1) Cannot be separated from diphenylamine

***Base/neutral surrogate recoveries**

| | |
|---|---|
| d5-Nitrobenzene | 118% |
| 2-Fluorobiphenyl | 114% |
| d14-p-Terphenyl | 138% |

***Acid surrogate recoveries**

| | |
|---|---|
| d5-Phenol | 101% |
| 2-Fluorophenol | 114% |
| 2,4,6-Tribromophenol | 108% |

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

## ORGANICS ANALYSIS DATA SHEET - METHOD 8270

**Sample No: Method Blank**

Lab Sample ID: 2453MB
Sample Matrix: Soil/Sediments

QC Report No: 2453 - Sweet Edwards
Project: S940702
Pier 91
Date Received: 12/30/88

Date Release Authorized: DR Mitchell
*Report Revised: 03/21/89 MAC: A*

Dry weight extracted (gm): 30.00
Final Volume: 1.0 ml
Percent Moisture: NR
pH: NR
Conc/Dilution Factor: 1 to 1
Total Dilution: 1 to 2

Date Extracted: 01/05/89
Date Analyzed: 01/13/89
GPC Clean-up: YES (1 of 2)
Instrument ID: FINN IV

| CAS Number | | µg/Kg |
|---|---|---|
| 108-95-2 | Phenol | 67 U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 67 U |
| 95-57-8 | 2-Chlorophenol | 67 U |
| 541-73-1 | 1,3-Dichlorobenzene | 67 U |
| 106-46-7 | 1,4-Dichlorobenzene | 67 U |
| 100-51-6 | Benzyl Alcohol | 330 U |
| 95-50-1 | 1,2-Dichlorobenzene | 67 U |
| 95-48-7 | 2-Methylphenol | 67 U |
| 39638-32-9 | bis(2-chloroisopropyl)Ether | 67 U |
| 106-44-5 | 4-Methylphenol | 67 U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 67 U |
| 67-72-1 | Hexachloroethane | 130 U |
| 98-95-3 | Nitrobenzene | 67 U |
| 78-59-1 | Isophorone | 67 U |
| 88-75-5 | 2-Nitrophenol | 330 U |
| 105-67-9 | 2,4-Dimethylphenol | 130 U |
| 65-85-0 | Benzoic Acid | 670 U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 67 U |
| 120-83-2 | 2,4-Dichlorophenol | 200 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 67 U |
| 91-20-3 | Naphthalene | 67 U |
| 106-47-8 | 4-Chloroaniline | 200 U |
| 87-68-3 | Hexachlorobutadiene | 130 U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 130 U |
| 91-57-6 | 2-Methylnaphthalene | 67 U |
| 77-47-4 | Hexachlorocyclopentadiene | 330 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 330 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 330 U |
| 91-58-7 | 2-Chloronaphthalene | 67 U |
| 88-74-4 | 2-Nitroaniline | 330 U |
| 131-11-3 | Dimethyl Phthalate | 67 U |
| 208-96-8 | Acenaphthylene | 67 U |
| 99-09-2 | 3-Nitroaniline | 330 U |

| CAS Number | | µg/Kg |
|---|---|---|
| 83-32-9 | Acenaphthene | 67 U |
| 51-28-5 | 2,4-Dinitrophenol | 670 U |
| 100-02-7 | 4-Nitrophenol | 330 U |
| 132-64-9 | Dibenzofuran | 67 U |
| 121-14-2 | 2,4-Dinitrotoluene | 330 U |
| 606-20-2 | 2,6-Dinitrotoluene | 330 U |
| 84-66-2 | Diethylphthalate | 67 U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 67 U |
| 86-73-7 | Fluorene | 67 U |
| 100-01-6 | 4-Nitroaniline | 330 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 670 U |
| 86-30-6 | N-Nitrosodiphenylamine(1) | 67 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 67 U |
| 118-74-1 | Hexachlorobenzene | 67 U |
| 87-86-5 | Pentachlorophenol | 330 U |
| 85-01-8 | Phenanthrene | 67 U |
| 120-12-7 | Anthracene | 67 U |
| 84-74-2 | Di-n-Butylphthalate | 67 U |
| 206-44-0 | Fluoranthene | 67 U |
| 129-00-0 | Pyrene | 67 U |
| 85-68-7 | Butylbenzylphthalate | 67 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 330 U |
| 56-55-3 | Benzo(a)Anthracene | 67 U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 67 U |
| 218-01-9 | Chrysene | 67 U |
| 117-84-0 | Di-n-Octyl Phthalate | 67 U |
| 205-99-2 | Benzo(b)Fluoranthene | 67 U |
| 207-08-9 | Benzo(k)Fluoranthene | 67 U |
| 50-32-8 | Benzo(a)Pyrene | 67 U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 67 U |
| 53-70-3 | Dibenz(a,h)Anthracene | 67 U |
| 191-24-2 | Benzo(ghi)Perylene | 67 U |

(1) Cannot be separated from diphenylamine

***Base/neutral surrogate recoveries**

| | |
|---|---|
| d5-Nitrobenzene | 109% |
| 2-Fluorobiphenyl | 105% |
| d14-p-Terphenyl | 118% |

***Acid surrogate recoveries**

| | |
|---|---|
| d5-Phenol | 94.0% |
| 2-Fluorophenol | 99.8% |
| 2,4,6-Tribromophenol | 88.5% |