US EPA RECORDS CENTER REGION 5
503908

# SAMPLING DATA

# REFERENCED

# IN AR

# UPDATE #2

TEXAS OILTECH LABORATORIES, INC.

# CERTIFICATE OF ANALYSIS

10669 RICHMOND AVENUE, SUITE 100, HOUSTON, TEXAS 77042
P.O. BOX 741905, HOUSTON, TEXAS 77274

TEL: (713) 789-5591
FAX: (713) 789-5593

| | | | |
|---|---|---|---|
| **CLIENT:** | Ecology & Environmental | **REQUESTED BY:** | Ms. Karen T. Dieckhaus |
| **SAMPLE:** | | **REPORT DATE:** | July 20, 1998 |
| **LABORATORY NO:** | 12626 | **PURCHASE ORDER NO:** | 505-9807-801 |

**TEST** **RESULTS**

| *Lab No.* | *Sample ID.* | *Cyanide Content, ASTM D 2036A, ppm* | *Cyanide Content, ASTM D 2036C, ppm* |
|---|---|---|---|
| | | | |
| 12626-01 | MCHSS-011C 7/09 12:30 | 195.0 | 170.3 |
| | | | |
| 12626-02 | MCHSS-012C 7/09 12:30 | 172.0 | 156.1 |
| | | | |
| 12626-02 (Duplicate) | MCHSS-012C 7/09 12:30 (Duplicate) | 175.1 | 161.0 |
| | | | |
| 12626-03 | Temp. Blank | <1.0 | <1.0 |
| | | | |
| | | | |

Respectfully submitted,

Nader M. Sorurbakhsh, P. E.
Laboratory Director

This analyses, opinions or interpretations are based on material supplied by the client to whom, and for whose exclusive and confidential use this report is made. Texas Oiltech Laboratories, Inc. and its officers assume no responsibility and make no warranty for proper operation of any petroleum, oil, gas or any other material in connection with which this report is used or relied on.

# ANALYTICAL REPORT

**Client: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-011**

| | | | |
|---|---|---|---|
| **Date Sampled** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | See below |
| **Date Analyzed:** | See below | **ENCOTEC Submission ID:** | 100012497 |
| **Method Reference:** | See below | **ENCOTEC Sample ID:** | 200087059 |
| **Matrix:** | SOLID | **Analyte List:** | N/A |
| **Percent Total Solids:** | N/A | **Calculation Basis:** | Wet Weight |

| | Metals Inorganics | QC Set ID | Date Analyzed | Method Ref. | Units | Quant Limit | Dil | Conc | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 4.0 | 1 | 17 | |
| 2 | Barium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 10 | 1 | 72 | |
| 3 | Cadmium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.0 | 10 | 4.7 | |
| 4 | Chromium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.5 | 1 | 5.8 | |
| 5 | Copper | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 5.0 | 1 | 28 | |
| 6 | Iron | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.1 | 10 | 44000 | |
| 7 | Lead | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.1 | 10 | 160 | |
| 8 | Mercury | CVAG1402 | 07/14/98 | 7471 | mg/Kg | 0.24 | 10 | 3.0 | |
| 9 | Selenium | HYDG1401 | 07/14/98 | 7741 | mg/Kg | 0.50 | 1 | U | |
| 10 | Silver | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.5 | 1 | U | |
| 11 | Zinc | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.1 | 10 | 37 | |

**Laidlaw Environmental, Inc. / ENCOTEC**
3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034

**Report Date:** 07/20/98

# ANALYTICAL REPORT

**Client: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-012**

| | | | |
|---|---|---|---|
| **Date Sampled** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | See below |
| **Date Analyzed:** | See below | **ENCOTEC Submission ID:** | 100012497 |
| **Method Reference:** | See below | **ENCOTEC Sample ID:** | 200087061 |
| **Matrix:** | SOLID | **Analyte List:** | N/A |
| **Percent Total Solids:** | N/A | **Calculation Basis:** | Wet Weight |

| | Metals Inorganics | QC Set ID | Date Analyzed | Method Ref. | Units | Quant Limit | Dil | Conc | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 4.0 | 1 | 19 | |
| 2 | Barium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 10 | 1 | 140 | |
| 3 | Cadmium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.0 | 10 | 4.5 | |
| 4 | Chromium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.5 | 1 | 17 | |
| 5 | Copper | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 5.0 | 1 | 26 | |
| 6 | Iron | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.0 | 10 | 36000 | |
| 7 | Lead | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.0 | 10 | 330 | |
| 8 | Mercury | CVAG1402 | 07/14/98 | 7471 | mg/Kg | 0.25 | 10 | 2.0 | |
| 9 | Selenium | HYDG1401 | 07/14/98 | 7741 | mg/Kg | 0.50 | 1 | 0.58 | |
| 10 | Silver | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.5 | 1 | U | |
| 11 | Zinc | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.0 | 10 | 240 | |

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**Report Date:** 07/20/98

# ANALYTICAL REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-011V**

| | | | |
|---|---|---|---|
| **Date Sampled:** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | VOSG1401S |
| **Analysis Date:** | 07/14/98 | **ENCOTEC Submission ID:** | 100012497 |
| **Second Analysis Date:** | N/A | **ENCOTEC Sample ID:** | 200087060 |
| **Method Reference:** | 8260 | **Percent Total Solids:** | N/A |
| **Matrix:** | SOLID | **Calculation Basis:** | Wet Weight |

| | **VOLATILE ORGANICS** Hazardous Substance List | CAS # | Quant Limit (ug/Kg) | Dil | Conc (ug/Kg) | Flag |
|---|---|---|---|---|---|---|
| 1 | Acetone | 67-64-1 | 10 | 1.0 | U | |
| 2 | Benzene | 71-43-2 | 5.0 | 1.0 | U | |
| 3 | Bromodichloromethane | 75-27-4 | 5.0 | 1.0 | U | |
| 4 | Bromoform | 75-25-2 | 5.0 | 1.0 | U | |
| 5 | Bromomethane | 74-83-9 | 10 | 1.0 | U | |
| 6 | 2-Butanone (MEK) | 78-93-3 | 10 | 1.0 | U | |
| 7 | Carbon disulfide | 75-15-0 | 5.0 | 1.0 | U | |
| 8 | Carbon tetrachloride | 56-23-5 | 5.0 | 1.0 | U | |
| 9 | Chlorobenzene | 108-90-7 | 5.0 | 1.0 | U | |
| 10 | Chloroethane | 75-00-3 | 10 | 1.0 | U | |
| 11 | 2-Chloroethyl vinyl ether | 110-75-8 | 10 | 1.0 | U | |
| 12 | Chloroform | 67-66-3 | 5.0 | 1.0 | U | |
| 13 | Chloromethane | 74-87-3 | 10 | 1.0 | U | |
| 14 | Dibromochloromethane | 124-48-1 | 5.0 | 1.0 | U | |
| 15 | 1,2-Dichloroethane | 107-06-2 | 5.0 | 1.0 | U | |
| 16 | 1,1-Dichloroethane | 75-34-3 | 5.0 | 1.0 | U | |
| 17 | cis-1,2-Dichloroethene | 156-59-2 | 5.0 | 1.0 | U | |
| 18 | 1,1-Dichloroethene | 75-35-4 | 5.0 | 1.0 | U | |
| 19 | total 1,2-Dichloroethene | 540-59-0 | 5.0 | 1.0 | U | |
| 20 | trans-1,2-Dichloroethene | 156-60-5 | 5.0 | 1.0 | U | |
| 21 | 1,2-Dichloropropane | 78-87-5 | 5.0 | 1.0 | U | |
| 22 | trans-1,3-Dichloropropene | 10061-02-6 | 5.0 | 1.0 | U | |
| 23 | cis-1,3-Dichloropropene | 10061-01-5 | 5.0 | 1.0 | U | |
| 24 | Ethylbenzene | 100-41-4 | 5.0 | 1.0 | U | |
| 25 | 2-Hexanone | 591-78-6 | 10 | 1.0 | U | |
| 26 | 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 10 | 1.0 | U | |
| 27 | Methylene chloride | 75-09-2 | 5.0 | 1.0 | U | |
| 28 | Styrene | 100-42-5 | 5.0 | 1.0 | U | |
| 29 | 1,1,2,2-Tetrachloroethane | 79-34-5 | 5.0 | 1.0 | U | |
| 30 | Tetrachloroethene | 127-18-4 | 5.0 | 1.0 | U | |
| 31 | Toluene | 108-88-3 | 5.0 | 1.0 | U | |
| 32 | 1,1,2-Trichloroethane | 79-00-5 | 5.0 | 1.0 | U | |
| 33 | 1,1,1-Trichloroethane | 71-55-6 | 5.0 | 1.0 | U | |
| 34 | Trichloroethene | 79-01-6 | 5.0 | 1.0 | U | |
| 35 | Vinyl acetate | 108-05-4 | 10 | 1.0 | U | |

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3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034

**Report Date:** 07/15/98

# ANALYTICAL REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-011V**

| | | | |
|---|---|---|---|
| **Date Sampled:** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | VOSG1401S |
| **Analysis Date:** | 07/14/98 | **ENCOTEC Submission ID:** | 100012497 |
| **Second Analysis Date:** | N/A | **ENCOTEC Sample ID:** | 200087060 |
| **Method Reference:** | 8260 | **Percent Total Solids:** | N/A |
| **Matrix:** | SOLID | **Calculation Basis:** | Wet Weight |

| | VOLATILE ORGANICS Hazardous Substance List | CAS # | Quant Limit (ug/Kg) | Dil | Conc (ug/Kg) | Flag |
|---|---|---|---|---|---|---|
| 36 | Vinyl chloride | 75-01-4 | 5.0 | 1.0 | U | |
| 37 | total Xylenes | 1330-20-7 | 5.0 | 1.0 | U | |

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**Report Date:** 07/15/98

# ANALYTICAL REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-012V**

| | | | |
|---|---|---|---|
| **Date Sampled:** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | VOSG1401S |
| **Analysis Date:** | 07/14/98 | **ENCOTEC Submission ID:** | 100012497 |
| **Second Analysis Date:** | N/A | **ENCOTEC Sample ID:** | 200087062 |
| **Method Reference:** | 8260 | **Percent Total Solids:** | N/A |
| **Matrix:** | SOLID | **Calculation Basis:** | Wet Weight |

| | **VOLATILE ORGANICS** Hazardous Substance List | CAS # | Quant Limit (ug/Kg) | Dil | Conc (ug/Kg) | Flag |
|---|---|---|---|---|---|---|
| 1 | Acetone | 67-64-1 | 10 | 1.0 | U | |
| 2 | Benzene | 71-43-2 | 5.0 | 1.0 | U | |
| 3 | Bromodichloromethane | 75-27-4 | 5.0 | 1.0 | U | |
| 4 | Bromoform | 75-25-2 | 5.0 | 1.0 | U | |
| 5 | Bromomethane | 74-83-9 | 10 | 1.0 | U | |
| 6 | 2-Butanone (MEK) | 78-93-3 | 10 | 1.0 | U | |
| 7 | Carbon disulfide | 75-15-0 | 5.0 | 1.0 | U | |
| 8 | Carbon tetrachloride | 56-23-5 | 5.0 | 1.0 | U | |
| 9 | Chlorobenzene | 108-90-7 | 5.0 | 1.0 | U | |
| 10 | Chloroethane | 75-00-3 | 10 | 1.0 | U | |
| 11 | 2-Chloroethyl vinyl ether | 110-75-8 | 10 | 1.0 | U | |
| 12 | Chloroform | 67-66-3 | 5.0 | 1.0 | U | |
| 13 | Chloromethane | 74-87-3 | 10 | 1.0 | U | |
| 14 | Dibromochloromethane | 124-48-1 | 5.0 | 1.0 | U | |
| 15 | 1,2-Dichloroethane | 107-06-2 | 5.0 | 1.0 | U | |
| 16 | 1,1-Dichloroethane | 75-34-3 | 5.0 | 1.0 | U | |
| 17 | cis-1,2-Dichloroethene | 156-59-2 | 5.0 | 1.0 | U | |
| 18 | 1,1-Dichloroethene | 75-35-4 | 5.0 | 1.0 | U | |
| 19 | total 1,2-Dichloroethene | 540-59-0 | 5.0 | 1.0 | U | |
| 20 | trans-1,2-Dichloroethene | 156-60-5 | 5.0 | 1.0 | U | |
| 21 | 1,2-Dichloropropane | 78-87-5 | 5.0 | 1.0 | U | |
| 22 | trans-1,3-Dichloropropene | 10061-02-6 | 5.0 | 1.0 | U | |
| 23 | cis-1,3-Dichloropropene | 10061-01-5 | 5.0 | 1.0 | U | |
| 24 | Ethylbenzene | 100-41-4 | 5.0 | 1.0 | U | |
| 25 | 2-Hexanone | 591-78-6 | 10 | 1.0 | U | |
| 26 | 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 10 | 1.0 | U | |
| 27 | Methylene chloride | 75-09-2 | 5.0 | 1.0 | U | |
| 28 | Styrene | 100-42-5 | 5.0 | 1.0 | U | |
| 29 | 1,1,2,2-Tetrachloroethane | 79-34-5 | 5.0 | 1.0 | U | |
| 30 | Tetrachloroethene | 127-18-4 | 5.0 | 1.0 | U | |
| 31 | Toluene | 108-88-3 | 5.0 | 1.0 | U | |
| 32 | 1,1,2-Trichloroethane | 79-00-5 | 5.0 | 1.0 | U | |
| 33 | 1,1,1-Trichloroethane | 71-55-6 | 5.0 | 1.0 | U | |
| 34 | Trichloroethene | 79-01-6 | 5.0 | 1.0 | U | |
| 35 | Vinyl acetate | 108-05-4 | 10 | 1.0 | U | |

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**Report Date:** 07/15/98

# ANALYTICAL REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-012V**

| | | | |
|---|---|---|---|
| **Date Sampled:** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | VOSG1401S |
| **Analysis Date:** | 07/14/98 | **ENCOTEC Submission ID:** | 100012497 |
| **Second Analysis Date:** | N/A | **ENCOTEC Sample ID:** | 200087062 |
| **Method Reference:** | 8260 | **Percent Total Solids:** | N/A |
| **Matrix:** | SOLID | **Calculation Basis:** | Wet Weight |

| | **VOLATILE ORGANICS Hazardous Substance List** | **CAS #** | **Quant Limit (ug/Kg)** | **Dil** | **Conc (ug/Kg)** | **Flag** |
|---|---|---|---|---|---|---|
| 36 | Vinyl chloride | 75-01-4 | 5.0 | 1.0 | U | |
| 37 | total Xylenes | 1330-20-7 | 5.0 | 1.0 | U | |

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**Report Date:** 07/15/98

# ANALYTICAL REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-012**

| | | | |
|---|---|---|---|
| **Date Sampled:** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | 07/13/98 | **ENCOTEC QC Set ID:** | BNAG1304S |
| **Analysis Date:** | 07/15/98 | **ENCOTEC Submission ID:** | 100012497 |
| **Second Analysis Date:** | N/A | **ENCOTEC Sample ID:** | 200087061 |
| **Method Reference:** | 8270 | **Percent Total Solids:** | N/A |
| **Matrix:** | SOLID | **Calculation Basis:** | Wet Weight |

| | SEMIVOLATILE ORGANICS MDEQ Part 201, PAHs List | CAS # | Quant Limit (ug/Kg) | Dil | Conc (ug/Kg) | Flag |
|---|---|---|---|---|---|---|
| 1 | Acenaphthene | 83-32-9 | 670 | 4.0 | U | |
| 2 | Acenaphthylene | 208-96-8 | 670 | 4.0 | 890 | |
| 3 | Anthracene | 120-12-7 | 670 | 4.0 | U | |
| 4 | Benzo(a)anthracene | 56-55-3 | 670 | 4.0 | 6000 | |
| 5 | Benzo(a)pyrene | 50-32-8 | 670 | 4.0 | 4900 | |
| 6 | Benzo(b)fluoranthene | 205-99-2 | 670 | 4.0 | 9500 | |
| 7 | Benzo(g,h,i)perylene | 191-24-2 | 670 | 4.0 | 4400 | |
| 8 | Benzo(k)fluoranthene | 207-08-9 | 670 | 4.0 | 2900 | |
| 9 | Chrysene | 218-01-9 | 670 | 4.0 | 8200 | |
| 10 | Dibenz(a,h)anthracene | 53-70-3 | 670 | 4.0 | 1700 | |
| 11 | Fluoranthene | 206-44-0 | 670 | 4.0 | 6700 | |
| 12 | Fluorene | 86-73-7 | 670 | 4.0 | U | |
| 13 | Indeno(1,2,3-c,d)pyrene | 193-39-5 | 670 | 4.0 | 4000 | |
| 14 | Naphthalene | 91-20-3 | 670 | 4.0 | 1000 | |
| 15 | Phenanthrene | 85-01-8 | 670 | 4.0 | 1600 | |
| 16 | Pyrene | 129-00-0 | 670 | 4.0 | 6300 | |

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**Report Date:** 07/17/98

# ANALYTICAL REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-011**

| | | | |
|---|---|---|---|
| **Date Sampled:** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | 07/13/98 | **ENCOTEC QC Set ID:** | BNAG1304S |
| **Analysis Date:** | 07/14/98 | **ENCOTEC Submission ID:** | 100012497 |
| **Second Analysis Date:** | N/A | **ENCOTEC Sample ID:** | 200087059 |
| **Method Reference:** | 8270 | **Percent Total Solids:** | N/A |
| **Matrix:** | SOLID | **Calculation Basis:** | Wet Weight |

| | SEMIVOLATILE ORGANICS MDEQ Part 201, PAHs List | CAS # | Quant Limit (ug/Kg) | Dil | Conc (ug/Kg) | Flag |
|---|---|---|---|---|---|---|
| 1 | Acenaphthene | 83-32-9 | 1700 | 10 | U | |
| 2 | Acenaphthylene | 208-96-8 | 1700 | 10 | U | |
| 3 | Anthracene | 120-12-7 | 1700 | 10 | U | |
| 4 | Benzo(a)anthracene | 56-55-3 | 1700 | 10 | 7900 | |
| 5 | Benzo(a)pyrene | 50-32-8 | 1700 | 10 | 4700 | |
| 6 | Benzo(b)fluoranthene | 205-99-2 | 1700 | 10 | 14000 | |
| 7 | Benzo(g,h,i)perylene | 191-24-2 | 1700 | 10 | 5200 | |
| 8 | Benzo(k)fluoranthene | 207-08-9 | 1700 | 10 | 4200 | |
| 9 | Chrysene | 218-01-9 | 1700 | 10 | 14000 | |
| 10 | Dibenz(a,h)anthracene | 53-70-3 | 1700 | 10 | 1900 | |
| 11 | Fluoranthene | 206-44-0 | 1700 | 10 | 11000 | |
| 12 | Fluorene | 86-73-7 | 1700 | 10 | U | |
| 13 | Indeno(1,2,3-c,d)pyrene | 193-39-5 | 1700 | 10 | 5000 | |
| 14 | Naphthalene | 91-20-3 | 1700 | 10 | 4500 | |
| 15 | Phenanthrene | 85-01-8 | 1700 | 10 | 3900 | |
| 16 | Pyrene | 129-00-0 | 1700 | 10 | U | |

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**Report Date:** 07/17/98

# ANALYTICAL REPORT

**Client: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-012**

| | | | |
|---|---|---|---|
| **Date Sampled** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | See below |
| **Date Analyzed:** | See below | **ENCOTEC Submission ID:** | 100012497 |
| **Method Reference:** | See below | **ENCOTEC Sample ID:** | 200087061 |
| **Matrix:** | SOLID | **Analyte List:** | N/A |
| **Percent Total Solids:** | N/A | **Calculation Basis:** | Wet Weight |

| | Metals Inorganics | QC Set ID | Date Analyzed | Method Ref. | Units | Quant Limit | Dil | Conc | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 4.0 | 1 | 19 | |
| 2 | Barium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 10 | 1 | 140 | |
| 3 | Cadmium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.0 | 10 | 4.5 | |
| 4 | Chromium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.5 | 1 | 17 | |
| 5 | Copper | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 5.0 | 1 | 26 | |
| 6 | Iron | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.0 | 10 | 36000 | |
| 7 | Lead | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.0 | 10 | 330 | |
| 8 | Mercury | CVAG1402 | 07/14/98 | 7471 | mg/Kg | 0.25 | 10 | 2.0 | |
| 9 | Selenium | HYDG1401 | 07/14/98 | 7741 | mg/Kg | 0.50 | 1 | 0.58 | |
| 10 | Silver | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.5 | 1 | U | |
| 11 | Zinc | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.0 | 10 | 240 | |

- DRAFT DOCUMENT -
NOT VALIDATED

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**Report Date:** 07/20/98

# ANALYTICAL REPORT

**Client: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-011**

| | | | |
|---|---|---|---|
| **Date Sampled** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | See below |
| **Date Analyzed:** | See below | **ENCOTEC Submission ID:** | 100012497 |
| **Method Reference:** | See below | **ENCOTEC Sample ID:** | 200087059 |
| **Matrix:** | SOLID | **Analyte List:** | N/A |
| **Percent Total Solids:** | N/A | **Calculation Basis:** | Wet Weight |

| | Metals Inorganics | QC Set ID | Date Analyzed | Method Ref. | Units | Quant Limit | Dil | Conc | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 4.0 | 1 | 17 | |
| 2 | Barium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 10 | 1 | 72 | |
| 3 | Cadmium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.0 | 10 | 4.7 | |
| 4 | Chromium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.5 | 1 | 5.8 | |
| 5 | Copper | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 5.0 | 1 | 28 | |
| 6 | Iron | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.1 | 10 | 44000 | |
| 7 | Lead | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.1 | 10 | 160 | |
| 8 | Mercury | CVAG1402 | 07/14/98 | 7471 | mg/Kg | 0.24 | 10 | 3.0 | |
| 9 | Selenium | HYDG1401 | 07/14/98 | 7741 | mg/Kg | 0.50 | 1 | U | |
| 10 | Silver | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.5 | 1 | U | |
| 11 | Zinc | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.1 | 10 | 37 | |

- DRAFT DOCUMENT -
NOT VALIDATED

**Laidlaw Environmental, Inc. / ENCOTEC**
3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034

**Report Date:** 07/20/98

# TEXAS OILTECH LABORATORIES, INC.

## CERTIFICATE OF ANALYSIS

10669 RICHMOND AVENUE, SUITE 100, HOUSTON, TEXAS 77042
P.O. BOX 741905, HOUSTON, TEXAS 77274

TEL: (713) 789-5591
FAX: (713) 789-5593

| | | | |
|---|---|---|---|
| **CLIENT:** | Ecology & Environmental | **REQUESTED BY:** | Ms. Karen T. Dieckhaus |
| **SAMPLE:** | | **REPORT DATE:** | July 20, 1998 |
| **LABORATORY NO:** | 12626 | **PURCHASE ORDER NO:** | 505-9807-801 |

**TEST** **RESULTS**

| *Lab No.* | *Sample ID.* | *Cyanide Content, ASTM D 2036A, ppm* | *Cyanide Content, ASTM D 2036C, ppm* |
|---|---|---|---|
| 12626-01 | MCHSS-011C 7/09 12:30 | 195.0 | 170.3 |
| 12626-02 | MCHSS-012C 7/09 12:30 | 172.0 | 156.1 |
| 12626-02 (Duplicate) | MCHSS-012C 7/09 12:30 (Duplicate) | 175.1 | 161.0 |
| 12626-03 | Temp. Blank | <1.0 | <1.0 |

- DRAFT DOCUMENT -
NOT VALIDATED

Respectfully submitted,

Nader M. Sorurbakhsh, P. E.
Laboratory Director

This analyses, opinions or interpretations are based on material supplied by the client to whom, and for whose exclusive and confidential use this report is made. Texas Oiltech Laboratories, Inc. and its officers assume no responsibility and make no warranty for proper operation of an petroleum, oil, gas or any other material in connection with which this report is used or relied on.

FAXED 8-28-98

**ecology and environment, inc.**

**START**
**Analytical Review Fax Transmission**

TO: Dave Hendren, Chicago
FROM: Karen T. Smith, Detroit
Date: 8-28-98

Number of Pages 3

cc. Michael Dieckhaus, ASPM

Please review the Memo (PR/Memo) for MichCon H (Site).

The review should be charged to PAN# 8M1601RAXX, the number of hours charged was _____, and the date the review was completed was _____.

PLEASE CIRCLE THE APPROPRIATE ACTION

Review is Acceptable, you may finalize yes no

Review is unacceptable, please call for instructions yes no

**********

___ **RETURN FAX**

TO: Karen T. Smith
FROM: Dave Hendren
DATE: _____

# MEMORANDUM

**DATE:** August 20, 1998

**TO:** Erin Busby, START Project Manager, E & E, Taylor, Michigan
Robert Wilson, START Project Manager, E & E, Taylor, Michigan

**FROM:** Karen T. Dieckhaus, START Chemist, E & E, Taylor, Michigan

**THROUGH:** Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

**SUBJECT:** Total and Reactive Cyanide Data Quality Assurance Review, MichCon Station H, Detroit, Wayne County, Michigan

**REFERENCE:** Project TDD: S05-9803-016 Analytical TDD: S05-9807-801
Project PAN: 8M1601RAXX Analytical PAN: 8UAA01TAXX

The data quality assurance (QA) review of two soil/waste samples, collected from the MichCon Station H site, is complete. Samples were collected on July 9, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Texas OilTech Laboratories, Inc., Houston, Texas, for analyses of total and reactive cyanide. The laboratory analyses were performed according to the American Society of Testing and Materials (ASTM) Methods D2036A and C, for determination of total and reactive cyanide concentrations.

Sample Identification

| START Identification No. | Laboratory Identification No. |
|---|---|
| MCHSS-011 | 12626-01 |
| MCHSS-012 | 12626-02 |

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on July 9, 1998, and received by the laboratory on July 15, 1998. Samples were analyzed on July 16, 1998. All analyses were completed within the holding times specified in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01; 14 days for cyanide. Verbal results were received and provided to START Project Managers on July 20, 1998. Hardcopy analytical results and raw data were received on August 13, 1998.

II. Calibration

A. Initial Calibration: Acceptable

Percent recoveries (%Rs) for initial calibration standards were within the recommended limits of 90 to 110% for all cyanide

B. Continuing Calibration: Acceptable

Calibration verification standards were analyzed at the beginning of the analytical run and repeated after every 10 samples for each day of analyses for cyanide. All continuing calibration standard %Rs were within 90 to 110% for all other metals.

III. Method Blanks: Acceptable

Calibration blanks were analyzed with the samples, and all cyanide concentrations were below instrument detection limits.

IV. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 3.0, Metallic Inorganic Parameters; and Section 2.7, Quality Assurance Requirements for QA Level II work. Based upon the information provided, the data are acceptable for use as reported.

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12251 UNIVERSAL, TAYLOR, MICHIGAN 48180, TEL. (313) 946-0900
International Specialists in the Environment

# MEMORANDUM

DATE: August 3, 1998

TO. Erin Busby, START Project Manager, E & E, Taylor, Michigan
Robert Wilson. START Project Manager, E & E, Taylor, Michigan

FROM: Karen T Dieckhaus, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Total Semivolatile Organic Compound (SVOC) Data Quality Assurance Review, MichCon Station H, Detroit, Wayne County, Michigan

REFERENCE. Project TDD. S05-9803-016 Analytical TDD: S05-9807-801
Project PAN· 8M1601RAXX Analytical PAN· 8UAA01TAXX

The data quality assurance (QA) review of two soil/waste samples, collected from the MichCon Station H site, is complete. Samples were collected on July 9, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc (E & E). Samples were submitted to Safety-Kleen (ENCOTEC), Inc., Ann Arbor, Michigan, for analyses of SVOCs. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Method 8270 for the determination of total SVOC concentrations.

Sample Identification

| START Identification No | Laboratory Identification No. |
|---|---|
| MCHSS-011 | 200087059 |
| MCHSS-012 | 200087061 |

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Data Qualifications

I. Holding Time: Acceptable

Samples were collected on July 9, 1998, and received by the laboratory on July 10, 1998. Samples were extracted on July 13, 1998, and analyzed on July 14, 1998 for SVOCs. All analyses were completed within the 14 days from collection to extraction and 40 days from extraction to analysis holding times specified in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01. Verbal results were received and provided to START Project Managers on July 20, 1998 Hardcopy analytical results and raw data were received on July 24, 1998.

II. Gas Chromatography/Mass Spectrometry (GC/MS) Tuning· Acceptable

Decafluorotriphenylphosphine (DFTPP) standards were analyzed within the required 12-hour time limit for all sample analyses on the same instrument used to analyze the samples, and the ion abundance criteria were met for each DFTPP standard.

III. Calibration:

A. Initial Calibration· Acceptable

All response factors (RFs) were greater than zero, and relative response factors (RRFs) for all parameters were at least 0.05 for the initial calibration. The percent relative standard deviations (%RSDs) were within the acceptable range of less than or equal to 30% for all SVOCs.

B. Continuing Calibration: Acceptable

All percent differences (%Ds) between the initial calibration and continuing calibration were within the recommended limits of less than or equal to 25% for all SVOCs

IV Internal Standards: Acceptable

All internal standard (IS) areas were within the specified limits (-50 to +100%) of the associated calibration standards. IS retention times (RTs) were within the plus-or-minus 30-second control limit.

V. Method Blanks: Acceptable

A method blank was analyzed on the same instrument at the proper frequency. All target compounds were below the instrument detection limits.

VI. Compound Identification: Acceptable

Relative retention times (RRTs) of reported compounds were within 0.06 RRT units of the standard's RRT.

VII. Compound Quantitation and Reported Detection Limits. Acceptable

All reported values have been correctly adjusted to reflect all dilutions.

VIII Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360 4-01 (April 1990), Data Validation Procedures; Section 4.0, BNAs by GC/MS Analysis; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the data are acceptable for use as reported.

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International Specialists in the Environment

# MEMORANDUM

DATE: August 3, 1998

TO: Erin Busby, START Project Manager, E & E, Taylor, Michigan
Robert Wilson, START Project Manager, E & E, Taylor, Michigan

FROM: Karen T Dieckhaus, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Miscellaneous Analytical Data Quality Assurance Review for pH, MichCon Station H, Detroit, Wayne County, Michigan

REFERENCE: Project TDD: S05-9803-016 Analytical TDD: S05-9807-801
Project PAN: 8M1601RAXX Analytical PAN: 8UAA01TAXX

The data quality assurance (QA) review of two soil/waste samples, collected from the MichCon Station H site, is complete. Samples were collected on July 9, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Safety-Kleen, (ENCOTEC), Ann Arbor, Michigan, for analyses of pH. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Method 9045 for pH analyses.

Sample Identification

| START Identification No. | Laboratory Identification No. |
|---|---|
| MCHSS-011 | 200087059 |
| MCHSS-012 | 200087061 |

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on July 9, 1998, and received by the laboratory on July 10, 1998. Samples were analyzed on July 13, 1998. The Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 does not specify specific holding times for pH. Samples were collected and stored in closed glass containers, and kept at 4 degrees Fahrenheit (°F). In this reviewer's professional judgement, sample integrity was not compromised. Verbal results were received and

provided to START Project Managers on July 20, 1998. Hardcopy analytical results and raw data were received on July 24, 1998.

II. Quality Control: Acceptable

Buffers (4.0, 7.0, and 10.0) were analyzed prior to client samples being run for pH All pH buffers were within 0.5 standard units of the buffers true values.

III. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Generic Data Validation Procedures, Section 9 0, Non-Metal Inorganic Parameters, and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the data are acceptable for use as reported.

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# MEMORANDUM

DATE August 3, 1998

TO Erin Busby, START Project Manager, E & E, Taylor, Michigan
Robert Wilson, START Project Manager, E & E, Taylor, Michigan

FROM Karen T Dieckhaus, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT Total Volatile Organic Compounds (VOCs) Data Quality Assurance Review, MichCon Station H, Detroit, Wayne County, Michigan

REFERENCE. Project TDD: S05-9803-016 Analytical TDD: S05-9807-801
Project PAN 8M1601RAXX Analytical TDD 8UAAO1TAXX

The data quality assurance (QA) review of two soil/waste samples, collected from the MichCon Station H site, is complete. The sample was collected on July 9, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Safety-Kleen (ENCOTEC), Inc., Ann Arbor, Michigan, for analyses of VOCs. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 (SW-846) Method 8260 for determination of total VOC concentrations

Sample Identification

| START Identification No. | Laboratory Identification No |
|---|---|
| MCHSS-011V | 200087060 |
| MCHSS-012V | 200087062 |

Data Qualifications

I. Holding Time Acceptable

Samples were collected on July 9, 1998, and received by the laboratory on July 10, 1998. Samples were analyzed on July 14, 1998, for total VOCs. All analyses were completed within the 14 days holding time for soil samples specified in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01. Verbal results were received and provided to START Project

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Managers on July 20, 1998. Hardcopy analytical results and raw data were received on July 24, 1998.

II. Gas Chromatography/Mass Spectrometry (GC/MS) Tuning: Acceptable

Bromofluorobenzene (BFB) performance standards were analyzed within the 12-hour time limit on the same instrument used to analyze the samples for each day of analyses, and ion abundance criteria were met.

III. Calibration:

A. Initial Calibration: Acceptable

All response factors (RFs) were greater than zero, and relative response factors (RRFs) for all parameters were at least 0.05 for the initial calibration. The percent relative standard deviations (%RSDs) were within the acceptable range of less than or equal to 30% for all VOCs.

B. Continuing Calibration: Acceptable

All percent differences (%Ds) between initial calibration and continuing calibration were within the recommended limits of less than or equal to 25%.

IV. Internal Standards: Acceptable

All internal standard (IS) areas were within the specified limits (-50 to +100%) of the associated calibration standards. IS retention times (RTs) were within the plus-or-minus 30-second control limit.

V. Method Blanks: Acceptable

Method blanks were analyzed on the same instrument at the proper frequency. All target compounds were below the instrument detection limit.

VI. Compound Identification: Acceptable

All target compounds were below the instrument detection limits.

VII. Compound Quantitation and Reported Detection Limits: Acceptable

All reported values have been correctly adjusted to reflect all concentration calculations.

VIII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 5.0, Volatiles by GC/MS Analysis; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the data are acceptable for use as reported.

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International Specialists in the Environment

# MEMORANDUM

DATE: August 3, 1998

TO: Erin Busby, START Project Manager, E & E, Taylor, Michigan
Robert Wilson, START Project Manager, E & E, Taylor, Michigan

FROM: Karen T. Dieckhaus, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Total Resource Conservation and Recovery Act (RCRA) Metals, plus Copper, Iron, and Zinc Data Quality Assurance Review, MichCon Station H, Detroit, Wayne County, Michigan

REFERENCE: Project TDD: S05-9803-016 Analytical TDD: S05-9807-801
Project PAN: 8M1601RAXX Analytical PAN: 8UAA01TAXX

The data quality assurance (QA) review of two soil/waste samples, collected from the MichCon Station H site, is complete. Samples were collected on July 9, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Safety-Kleen (ENCOTEC), Inc., Ann Arbor, Michigan, for analyses of total metals. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S EPA) Solid Waste 846 (SW-846) Methods 6010 and 7470 for determination of total metals concentrations.

Sample Identification

| START Identification No | Laboratory Identification No |
|---|---|
| MCHSS-011 | 200087059 |
| MCHSS-012 | 200087061 |

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Data Qualifications

I. Holding Time: Acceptable

Samples were collected on July 9, 1998, and received by the laboratory on July 10, 1998. Samples were analyzed on July 14, 1998. All analyses were completed within the holding times specified in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01; 28 days for mercury and 6 months for metals. Verbal results were received and provided to START Project Managers on July 20, 1998. Hardcopy analytical results and raw data were received on July 24, 1998.

II. Calibration

A. Initial Calibration: Acceptable

Percent recoveries (%Rs) for initial calibration standards were within the recommended limits of 80 to 120% for mercury and 90 to 110% for all other metals.

B. Continuing Calibration: Acceptable

Calibration verification standards were analyzed at the beginning of the analytical run and repeated after every 10 samples for each day of analyses for the metals. All continuing calibration standard %Rs were within 80 to 120% for mercury and 90 to 110% for all other metals.

III. Method Blanks: Acceptable

Calibration blanks were analyzed with the samples, and all analyte concentrations were below instrument detection limits.

IV. Interference Check Samples: Acceptable

All inductively coupled plasma (ICP) atomic emission spectroscopy interference check samples were within 20% of mean values. An ICP interference check sample was analyzed at both beginning and end of the sample run for all sample batches.

V. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 3.0, Metallic Inorganic Parameters; and Section 2.7, Quality Assurance Requirements for QA Level II work. Based upon the information provided, the data are acceptable for use as reported.

# MEMORANDUM

DATE: August 20, 1998

TO: Erin Busby, START Project Manager, E & E, Taylor, Michigan
Robert Wilson, START Project Manager, E & E, Taylor, Michigan

FROM: Karen T Dieckhaus, START Chemist, E & E, Taylor, Michigan

THROUGH. Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Total and Reactive Cyanide Data Quality Assurance Review, MichCon Station H, Detroit, Wayne County, Michigan

REFERENCE: Project TDD: S05-9803-016 Analytical TDD: S05-9807-801
Project PAN: 8M1601RAXX Analytical PAN: 8UAA01TAXX

The data quality assurance (QA) review of two soil/waste samples, collected from the MichCon Station H site, is complete. Samples were collected on July 9, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Texas OilTech Laboratories, Inc., Houston, Texas, for analyses of total and reactive cyanide. The laboratory analyses were performed according to the American Society of Testing and Materials (ASTM) Methods D2036A and C, for determination of total and reactive cyanide concentrations.

Sample Identification

| START Identification No. | Laboratory Identification No |
|---|---|
| MCHSS-011 | 12626-01 |
| MCHSS-012 | 12626-02 |

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Data Qualifications

I. Holding Time: Acceptable

Samples were collected on July 9, 1998, and received by the laboratory on July 15, 1998 Samples were analyzed on July 16, 1998. All analyses were completed within the holding times specified in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01; 14 days for cyanide. Verbal results were received and provided to START Project Managers on July 20, 1998. Hardcopy analytical results and raw data were received on August 13, 1998.

II. Calibration

A. Initial Calibration: Acceptable

Percent recoveries (%Rs) for initial calibration standards were within the recommended limits of 85 to 115% for all cyanide.

B. Continuing Calibration: Acceptable

Calibration verification standards were analyzed at the beginning of the analytical run and repeated after every 10 samples for each day of analyses for cyanide.

III. Method Blanks: Acceptable

Calibration blanks were analyzed with the samples, and all cyanide concentrations were below instrument detection limits.

IV. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 3.0, Metallic Inorganic Parameters; and Section 2.7, Quality Assurance Requirements for QA Level II work. Based upon the information provided, the data are acceptable for use as reported.

Laidlaw Environmental, Inc. / ENCOTEC
3985 Research Park Drive * Ann Arbor, MI 48108
734 / 761-1389

**WASTE ANALYSIS DATA SUMMARY SHEET**

Project Name: ECOLOGY AND ENVIRONMENTAL INC.
Project Number: 71060
Report Date: July 17, 1998

Sample I.D.:MCHSS-011
Sample Date:07/09/98
Date Received: 07/10/98
ENCOTEC I.D.: 200087059

U = Analyte not detected.

| ANALYTE | QC SET ID | ANALYSIS DATE | METHOD | UNITS | RESULT | REPORT LIMIT | REGULATORY LIMIT |
|---|---|---|---|---|---|---|---|
| Corrosivity (as pH) | WPHG1308 | 07/13/98 | 9045 | S.U. | 2.4 | NA | $2 \leq pH \leq 12.5$ |

10

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

Form 120WPN1G.GN6

Rev. 03/09/98

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**WASTE ANALYSIS DATA SUMMARY SHEET**

Project Name: ECOLOGY AND ENVIRONMENTAL INC.
Project Number: 71060
Report Date: July 17, 1998

Sample I.D.:MCHSS-011
Sample Date:07/09/98
Date Received: 07/10/98
ENCOTEC I.D.: 200087059

U = Analyte not detected.

| ANALYTE | QC SET ID | ANALYSIS DATE | METHOD | UNITS | RESULT | REPORT LIMIT | REGULATORY LIMIT |
|---|---|---|---|---|---|---|---|
| Corrosivity (as pH) | WPHG1308 | 07/13/98 | 9045 | S.U. | 2.4 | NA | $2 \leq pH \leq 12.5$ |

10

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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**WASTE ANALYSIS DATA SUMMARY SHEET**

Project Name: ECOLOGY AND ENVIRONMENTAL INC.
Project Number: 71060
Report Date: July 17, 1998

Sample I.D.:MCHSS-011
Sample Date:07/09/98
Date Received: 07/10/98
ENCOTEC I.D.: 200087059

U = Analyte not detected.

| ANALYTE | QC SET ID | ANALYSIS DATE | METHOD | UNITS | RESULT | REPORT LIMIT | REGULATORY LIMIT |
|---|---|---|---|---|---|---|---|
| Corrosivity (as pH) | WPHG1308 | 07/13/98 | 9045 | S.U. | 2.4 | NA | $2 \leq pH \leq 12.5$ |

10

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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**WASTE ANALYSIS DATA SUMMARY SHEET**

Project Name: ECOLOGY AND ENVIRONMENTAL INC.
Project Number: 71060
Report Date: July 17, 1998

Sample I.D.:MCHSS-012
Sample Date:07/09/98
Date Received: 07/10/98
ENCOTEC I.D.: 200087061

U = Analyte not detected.

| ANALYTE | QC SET ID | ANALYSIS DATE | METHOD | UNITS | RESULT | REPORT LIMIT | REGULATORY LIMIT |
|---|---|---|---|---|---|---|---|
| Corrosivity (as pH) | WPHG1308 | 07/13/98 | 9045 | S.U. | 5.2 | NA | $2 \leq pH \leq 12.5$ |

11

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

Form 120WPN1G.GN6 Rev. 03/09/98

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**WASTE ANALYSIS DATA SUMMARY SHEET**

Project Name: ECOLOGY AND ENVIRONMENTAL INC.
Project Number: 71060
Report Date: July 17, 1998

Sample I.D.:MCHSS-012
Sample Date:07/09/98
Date Received: 07/10/98
ENCOTEC I.D.: 200087061

U = Analyte not detected.

| ANALYTE | QC SET ID | ANALYSIS DATE | METHOD | UNITS | RESULT | REPORT LIMIT | REGULATORY LIMIT |
|---|---|---|---|---|---|---|---|
| Corrosivity (as pH) | WPHG1308 | 07/13/98 | 9045 | S.U. | 5.2 | NA | $2 \leq pH \leq 12.5$ |

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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Laidlaw Environmental, Inc. / ENCOTEC
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734 / 761-1389

**WASTE ANALYSIS DATA SUMMARY SHEET**

Project Name: ECOLOGY AND ENVIRONMENTAL INC.
Project Number: 71060
Report Date: July 17, 1998

Sample I.D.:MCHSS-012
Sample Date:07/09/98
Date Received: 07/10/98
ENCOTEC I.D.: 200087061

U = Analyte not detected.

| ANALYTE | QC SET ID | ANALYSIS DATE | METHOD | UNITS | RESULT | REPORT LIMIT | REGULATORY LIMIT |
|---|---|---|---|---|---|---|---|
| Corrosivity (as pH) | WPHG1308 | 07/13/98 | 9045 | S.U. | 5.2 | NA | $2 \leq pH \leq 12.5$ |

11

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

RANGE: (0 to 0 250)
WAVELENGTH: (612 Nm)

## CYANIDE WORKSHEET

| DATE | LAB TECH | START TIME | SAMPLE I.D. | SAMPLE VOLUME | DF | pH BEFORE/AFTER | VIAL NO. | DISTILLATE VOLUME | METER READING | REPORTED VALUE mg | % Dev. Sd | Range CL-95 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| 7/16 | LL | 0945 | Blank | 25 | 1 | — | | 50mL | 0.008 | <0.02 | | |
| (Astm C 2036 A) | | | STD 10 | 25 | 100 | — | | 50mL | 0.102 | 10.2 | | |
| | | | STD 10 | 25 | 100 | — | | 50mL | 0.103 | 10.3 | | |
| | | | | | | | | | | | | |
| | | | 12626-01 | 25 | 1000 | - | | 50mL | 0.195 | 195.0 | | |
| | | | 12626-02 | 25 | 1000 | - | | 50mL | 0.172 | 172.0 | | |
| | | | 12626-02(D) | 25 | 1000 | — | | 50mL | 0.1751 | 175.1 | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| (Astm D 2036 C) | | | | | | | | | | | | |
| 7/16 | LL | 1025 | Blank | 25 | 1 | — | | 50mL | 0.001 | <0.02 | | |
| | | | STD 5mg/L | 25 | 50 | — | | 50mL | 0.078 | 4.9 | | |
| | | | | | | | | | | | | |
| | | | 12626-01 | 25 | 1000 | — | | 50mL | 0.1703 | 170.3 | | |
| | | | 12626-02 | 25 | 1000 | — | | 50mL | 0.1561 | 156.1 | | |
| | | | 12626-02(D) | 25 | 1000 | | | 50mL | 0.1601 | 161.0 | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

LAIDLAW ENVIRONMENTAL SERVICES

ENCOTEC

July 23, 1998

Ms. Karen Dieckhaus
Ecology & Environment, Inc.
12251 Universal Drive
Taylor, MI 48180

**RE: Analytical Services Results - S05-9807-801**

Dear Ms. Dieckhaus:

Please find enclosed the analytical report for the above referenced samples received at ENCOTEC on 07/10/98. These samples were collected on 07/09/98 and are scheduled for disposal on 08/23/98. Please review this report and call me if you have any questions.

Sincerely,

Laidlaw Environmental, Inc./ENCOTEC
now known as Saftey-Kleen (ENCOTEC), Inc.

Gail A. Carr

Gail A. Carr
Program Manager

GAC/gac

Enclosure
SDG EEI-WC-98G1
Batches: 12497
71060

Laidlaw Environmental, Inc. / Encotec
3985 Research Park Drive Ann Arbor, Michigan 48108
Phone 313.761.1389 Fax 313.761.1034

A Recycled Paper

# DATA PACKAGE COVER PAGE

This report contains 280 pages, excluding the cover letter and is only for the submitted samples.

If any pages are missing please contact Laidlaw Environmental, Inc./ENCOTEC immediately.

This document is intended only for the person(s) identified in the cover letter and is to be considered **CONFIDENTIAL.**

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This analytical report does not comply with State of Utah batch QC requirements for organic extractables unless otherwise noted in the laboratory narrative.

## Flags and Definitions

U = The analyte was not detected at or above the quantitation limit.

E = The analyte was detected at a concentration greater than the calibration range; therefore the result is estimated.

DL = The sample was diluted due to sample matrix, therefore QC was not recoverable.

* = The value is outside quality control limits.

K = Reported concentration is proportional to dilution factor and may be exaggerated.

P = When one or both sample results are <5 times the quantitation limit, the RPD cannot be properly evaluated. It is not included in the total QC count.

G = Result is greater than the numerical value presented.

J = The analyte was detected at a concentration below the quantitation limit but above the method detection limit.

B = The analyte was detected in the associated method blank.

M = Matrix interference has resulted in an elevated quantitation limit or distorted QC result.

NC = Not Calculable.

NA = Not Applicable.

A = If the sample result is >4 times the amount spiked, the MS recovery cannot be properly evaluated. It is not included in the total QC count.

CA = Combustion aid was necessary to achieve results.

W = Result is always reported as "wet weight."

| | |
|---|---|
| SDG | A Sample Delivery Group is a grouping of samples arriving under separate Chains of Custody that are reported together. |
| QC Set ID | An alphanumeric identification associating appropriate QC data with sample data. |
| Calculation Basis | Indicates whether the results have been adjusted for moisture content. |
| Quant Limit | The limit at which the analyte can be reliably reported within the method- specified limits of precision and accuracy under routine operating conditions. |
| Dil | Dilution Factor. |
| Conc | The concentration, expressed in appropriate units. |
| LCS | Laboratory Control Sample. |
| LCD | Laboratory Control Sample Duplicate. |
| MS | Matrix Spike. |
| MSD | Matrix Spike Duplicate. |
| %Rec | The percent recovery of a fortified analyte (surrogate, matrix spike, lab control sample). |
| RPD | The relative percent difference for duplicate analyses. |
| Second Analysis Date | The date on which a sample was analyzed a second time, at a dilution different than that on the (initial) Analysis Date. |

If a numerical value is very large, it will be expressed in scientific notation. For example, a concentration of 10,000,000 ug/Kg will be reported as 1E7.

## LABORATORY NARRATIVE

| | |
|---|---|
| Client Name: | ECOLOGY & ENVIRONMENT, INC. |
| Project Name: | S05-9807-801 |
| Project Number: | 71060 |
| Sample Delivery Group: | EEI-WC-98G1 |
| Batch Number(s): | 100012497 |
| Narrative Date: | July 23, 1998 |

Samples were received and analyzed without incident, within holding times, with chain-of-custody maintained, and according to the referenced methods, except as noted below.

### LCS Recovery Outliers

| QC Set ID | Analysis | Corrective Action/Result |
|---|---|---|
| BNAG1304S | Semivolatiles | Since ≥ 80% of the LCS recoveries were within QC windows, corrective action was deemed unnecessary. |

### MS/MSD Recovery Outliers

| QC Set ID | Analysis | Corrective Action/Result |
|---|---|---|
| ICPG1301 | Barium, Cadmium, Copper | Since ≥ 80% of the fortified analytes in the LCS recovered within QC windows, acceptable accuracy was demonstrated and matrix interference is assumed. Corrective action was deemed unnecessary. |
| BNAG1304S<br>VOSG1401S | Semivolatiles<br>Volatiles | Since ≥ 80% of the fortified analytes in the LCS recovered within QC windows, acceptable accuracy was demonstrated and matrix interference is assumed. Corrective action was deemed unnecessary. |

### MS/MSD RPD Outliers

| QC Set ID | Analysis | Corrective Action/Result |
|---|---|---|
| ICPG1301 | Barium | Poor reproducibility is not uncommon for nonhomogeneous soil samples. Corrective action was deemed unnecessary. |

I certify that the data presented in this report is accurate, complete and meets the minimum quality assurance standards as specified in 40-CFR 136, 40-CFR-141, and/or SW-846. An assessment of the quality of the data, noting any exceptions, outliers, and/or problems encountered have been narrated herein.

Martha Gialdini Frank

Walt Roudebush (or designee)
Technical Director

7/23/98
Date

# SAMPLE CROSS REFERENCE REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**SDG: EEI-WC-98G1**
**Submission ID(s): 100012497**

| Client Sample ID | ENCOTEC Sample ID | Sample Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| MCHSS-011 | 200087059 | SOLID | 07/09/98 | 07/10/98 |
| MCHSS-011V | 200087060 | SOLID | 07/09/98 | 07/10/98 |
| MCHSS-012 | 200087061 | SOLID | 07/09/98 | 07/10/98 |
| MCHSS-012V | 200087062 | SOLID | 07/09/98 | 07/10/98 |

**Laidlaw Environmental, Inc. / ENCOTEC**
3985 Research Park Drive - Ann Arbor, MI 48108
Telephone (313) 761-1389 - Telefax: (313) 761-1034

# METHOD DESCRIPTION REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**SDG: EEI-WC-98G1**
**Submission ID(s): 100012497**

| Method Reference | Description |
|---|---|
| 9045C | pH, Electrometric, Nonaqueous |
| 6010 | Inductively Coupled Plasma - Atomic Emission Spectroscopy |
| 7471 | Mercury, Cold Vapor, Non-Aqueous Matrices |
| 7741 | Selenium, AA, Hydride |
| 8260 | Volatile Organic Compounds by GC/MS: Capillary Column |
| 8270 | Semivolatile Organic Compounds by GC/MS: Capillary Column |

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

**REGION 5**
**77 West Jackson Boulevard**
**Chicago, Illinois 60604**

## CHAIN OF CUSTODY RECORD

PROJ. NO.: KJ5103
PROJECT NAME: S05-9807-801
Activity Code:

SAMPLERS: *(Print Name and Sign)* Robert Wilson

| STA. NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | SW846 9040 | SW846 6000-7000 Series | SW846 8270 | SW846 8260 | | | TAG NUMBERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MCHSS-011 | 7/9/98 | 1230 | | X | MCHSS-011 | 1-32oz | X | X | X | | | | 181464 |
| MCHSS-011V | 7/9/98 | 1230 | | X | MCHSS-011V | 1-4oz | | | | X | | | 181421 |
| MCHSS-012 | 7/9/98 | 1230 | | X | MCHSS-012 | 1-32oz | X | X | X | | | | 181465 |
| MCHSS-012V | 7/9/98 | 1230 | | X | MCHSS-012V | 1-4oz | | | | X | | | 181423 |
| | | | | | Temp Blank | 1-4oz | | | | | | | |

Turnaround time:
verbal results by 7/17/98
hard copy results by 7/31/98

Send results to: Karen Dieckhaus
12251 Universal Dr
Taylor, MI 48180
phone: (734) 946-0900
fax: (734) 946-0488

| Relinquished by: *(Signature)* | Date / Time | Received by: *(Signature)* |
|---|---|---|
| Robert Wilson | 7-9-98 1320 | [illegible] |
| [illegible] | 7/10/98 1042 | [illegible] |
| [illegible] | 7/10/98 1615 | Received for Laboratory by: *(Signature)* S Dawlinski — Date / Time 7-10-98 1615 |

Ship To: (delivery) Safety-Kleen, Inc.
3985 Research Park Dr.
Ann Arbor, MI 48108

ATTN: Mike Brophi

Airbill Number

Chain of Custody Seal Numbers

Distribution: White - Accompanies Shipment; Pink - Coordinator Field Files; Yellow - Laboratory File

*Printed on Recycled Paper/Printed with Soy-Based Ink*

5-59974

## GENERAL CHEMISTRY

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**DATA PACKET**
General Chemistry

Laidlaw Environmental, Inc. / ENCOTEC
3985 Research Park Drive * Ann Arbor, MI 48108
734 / 761-1389

**WASTE ANALYSIS DATA SUMMARY SHEET**

Project Name: ECOLOGY AND ENVIRONMENTAL INC.
Project Number: 71060
Report Date: July 17, 1998

Sample I.D.:MCHSS-011
Sample Date:07/09/98
Date Received: 07/10/98
ENCOTEC I.D.: 200087059

U = Analyte not detected.

| ANALYTE | QC SET ID | ANALYSIS DATE | METHOD | UNITS | RESULT | REPORT LIMIT | REGULATORY LIMIT |
|---|---|---|---|---|---|---|---|
| Corrosivity (as pH) | WPHG1308 | 07/13/98 | 9045 | S.U. | 2.4 | NA | $2 \leq pH \leq 12.5$ |

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

Form 120WPN1G.GN6 Rev. 03/09/98

Laidlaw Environmental, Inc. / ENCOTEC
3985 Research Park Drive * Ann Arbor, MI 48108
734 / 761-1389

**WASTE ANALYSIS DATA SUMMARY SHEET**

Project Name: ECOLOGY AND ENVIRONMENTAL INC.
Project Number: 71060
Report Date: July 17, 1998

Sample I.D.:MCHSS-012
Sample Date:07/09/98
Date Received: 07/10/98
ENCOTEC I.D.: 200087061

U = Analyte not detected.

| ANALYTE | QC SET ID | ANALYSIS DATE | METHOD | UNITS | RESULT | REPORT LIMIT | REGULATORY LIMIT |
|---|---|---|---|---|---|---|---|
| Corrosivity (as pH) | WPHG1308 | 07/13/98 | 9045 | S.U. | 5.2 | NA | $2 \leq pH \leq 12.5$ |

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1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

Laidlaw Environmental, Inc. / ENCOTEC
3985 Research Park Drive * Ann Arbor, MI 48108
734 / 761-1389

**WASTE MATRIX LABORATORY DUPLICATE (D) RECOVERY**

Project Name: ENCOTEC
Project Number: 10000
Report Date: July 17, 1998

| Analyte | ENCOTEC Sample ID | QC Set ID | Units | Sample Result | Duplicate Result | RPD | QUALITY CONTROL WINDOW RPD[1] |
|---|---|---|---|---|---|---|---|
| Corrosivity, by pH | 200087061 | WPHG1308 | S.U. | 5.2 | 5.1 | 1.9 | 30 |

[1] When one or both concentrations are less than 5X detection level (DL), the QC Window is redefined. In that circumstance, the absolute value for the range between the two concentrations must be ≤ report limit (RL) for the results to be considered to be in control.

NC = One or both values is < RL, making results not calculable.
U = Analyte is undetected. * = Value is outside quality control windows.

RPD: 0 out of 1 outside QC Windows.

Note:

Form 120WPN7G.GN6 Rev. 12/30/97

**RAW DATA**

General Chemistry

# WASTE PROFILE GROUP

- Summarized Data - Cover Sheet

Date of Summary: 7 / 17 / 98 Summarizer: F Austin Diaz

LIMS ID

WPH

Clients included in this summary package

| | Client | Sub. # | Due Date | full | Sub. # | Due Date | full | Sub. # | Due Date | full |
|---|---|---|---|---|---|---|---|---|---|---|
| | TCI | 12497 | 07/17/98 | X | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |

| | SUMMARY REVIEW - (Data Management) | Comments: |
|---|---|---|
| | ☐ Summary review completed. | |
| / / | ☐ Data Summary accepted. | |
| | ☐ Data Summary rejected. | |
| | ☐ See comments for future reference. | |

WPCOV.XLS 10/02/95

WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: Ecology and Environmental Inc Project Number 71060

Report Date. _____

Sample I.D.: MCHSS-011 U = Analyte not detected

Sample Date: 07/09/98

Date Received: 07/10/98

ENCOTEC I.D.: 200087059

| ANALYTE | QC SET ID | ANALYSIS DATE | METHOD | UNITS | RESULT | REPORT LIMIT | REGULATORY LIMIT |
|---|---|---|---|---|---|---|---|
| ~~Flashpoint~~ | | | ~~1010~~ | ~~°F~~ | | ~~73°F~~ | ~~140°F~~ |
| Corrosivity (as pH) | WPHG 1308 | 07/13/98 | ~~9040/9041~~/9045 | S.U. | 2.4 | NA | 2 ≤ pH ≤ 12.5 |
| ~~Corrosivity~~ | | | ~~1110~~ | ~~mmpy~~ | ~~U~~ | ~~6.35~~ | ~~6.35~~ |
| Percent Water, Karl Fischer | | | ASTM D4377 | % (wt) | U | 0.03 | NA |
| Reactive Cyanide | | | 7.3.3 2 | mg/Kg | U | 200 | 250 |
| Reactive Sulfide | | | 7.3.4.2 | mg/Kg | U | 50 | 500 |
| Heat Value | | | 5050 | BTU/lb | U | 500 | NA |
| Percent Ash | | | Gravimetric | % | U | 0.2 | NA |
| Acid Scrub | | | 305.2 | lb NaOH/lb | U | 0 002 | NA |
| Percent Halogens (as $Cl^-$) | | | 9253 | % | U | 0.1 | NA |
| Paint Filter Test | | | 9095 | NA[1] | | NA | NA |
| Density | | | D653, E12, D4439 | lb/ft³ | | NA | NA |
| Solids, Total | | | SM209A | % | U | 0.1 | NA |
| Specific Gravity | | | D1298, D1429 | NA[2] | | NA | NA |
| Total Organic Carbon | | | 9060 Modified | mg/Kg | U | 1 | NA |
| ~~Viscosity~~ | | | ~~Brookfield~~ | ~~cps @ 25°C~~ | ~~U~~ | ~~10~~ | ~~NA~~ |

[1] Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."

[2] Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).

S.U. = Standard Units. cps = centipoise

Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution

Note

FAD 7/17/98

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Form 120WPHG GNC Rev 03/09/98

WASTE ANALYSIS DATA SUMMARY SHEET

Project Name. Ecology and Environmental Inc Project Number. 71060

Report Date: _____

Sample I.D.: MCHSS-012 U = Analyte not detected

Sample Date: 07/09/98

Date Received: 07/10/98

ENCOTEC I.D.: 20008706l

| ANALYTE | QC SET ID | ANALYSIS DATE | METHOD | UNITS | RESULT | REPORT LIMIT | REGULATORY LIMIT |
|---|---|---|---|---|---|---|---|
| ~~Flashpoint~~ | | | ~~1010~~ | ~~°F~~ | | ~~73°F~~ | ~~140°F~~ |
| Corrosivity (as pH) | WPH61308 | 07/13/98 | 9040/9041/9045 | S.U. | 5.2 | NA | 2 ≤ pH ≤ 12.5 |
| ~~Corrosivity~~ | | | ~~1110~~ | ~~mmpy~~ | ~~U~~ | ~~6.35~~ | ~~6.35~~ |
| Percent Water, Karl Fischer | | | ASTM D4377 | % (wt) | U | 0.03 | NA |
| Reactive Cyanide | | | 7.3.3.2 | mg/Kg | U | 200 | 250 |
| Reactive Sulfide | | | 7.3.4.2 | mg/Kg | U | 50 | 500 |
| Heat Value | | | 5050 | BTU/lb | U | 500 | NA |
| Percent Ash | | | Gravimetric | % | U | 0.2 | NA |
| Acid Scrub | | | 305.2 | lb NaOH/lb | U | 0.002 | NA |
| Percent Halogens (as $Cl^-$) | | | 9253 | % | U | 0.1 | NA |
| Paint Filter Test | | | 9095 | NA[1] | | NA | NA |
| Density | | | D653, E12, D4439 | $lb/ft^3$ | | NA | NA |
| Solids, Total | | | SM209A | % | U | 0.1 | NA |
| Specific Gravity | | | D1298, D1429 | NA[2] | | NA | NA |
| Total Organic Carbon | | | 9060 Modified | mg/Kg | U | 1 | NA |
| ~~Viscosity~~ | | | ~~Brookfield~~ | ~~cps @ 25°C~~ | ~~U~~ | ~~10~~ | ~~NA~~ |

PAD 7/17/98

[1] Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."

[2] Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).

S.U. = Standard Units cps = centipoise

Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.

Note

Form 120WPN1G GN6 Rev. 03/09/98

## WASTE MATRIX LABORATORY DUPLICATE (D) RECOVERY

Project Name ENCOTEC Project Number 10000

Report Date

| Analyte | ENCOTEC Sample ID | QC Set ID | Units | Sample Result | Duplicate Result | RPD | QUALITY CONTROL WINDOW RPD[1] |
|---|---|---|---|---|---|---|---|
| ~~Flashpoint~~ | | | ~~°F~~ | | | | ~~30~~ |
| Corrosivity, by pH | 2000870001 | WPHG1308 | SU | 5.2 | 5.1 | 1.9 | 30 |
| ~~Corrosivity~~ | | | ~~mmpy~~ | | | | ~~30~~ |
| Percent Water, Karl Fischer | | | % (wt) | | | | 30 |
| Reactive Cyanide | | | mg/Kg | | | | 30 |
| Reactive Sulfide | | | mg/Kg | | | | 30 |
| Heat Value | | | BTU/lb | | | | 30 |
| Percent Ash | | | % | | | | 30 |
| Acid Scrub | | | lb NaOH/lb | | | | 30 |
| Percent Halogens | | | % | | | | 30 |
| Paint Filter Test | | | NA | | | | |
| Density | | | lb/ft³ | | | | 30 |
| Solids, Total | | | % | | | | 30 |
| Specific Gravity | | | NA | | | | 30 |
| Total Organic Carbon | | | % | | | | |
| ~~Viscosity~~ | | | ~~cps @ 25°C~~ | | | | ~~30~~ |

7/17/98 PAD

[1] When one or both concentrations are less than 5X detection level (DL), the QC Window is redefined In that circumstance, the absolute value for the range between the two concentrations must be ≤ report limit (RL) for the results to be considered to be in control

NC = One or both values is < RL, making results not calculable U = Analyte is undetected * = Value is outside quality control windows

**RPD:** 0 out of 1 outside QC Windows

Note

Form 120WPN7G GN6 Rev 05/26/95

**METALS**

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**DATA PACKET**
Metals

# ANALYTICAL REPORT

**Client: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-011**

| | | | |
|---|---|---|---|
| **Date Sampled** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | See below |
| **Date Analyzed:** | See below | **ENCOTEC Submission ID:** | 100012497 |
| **Method Reference:** | See below | **ENCOTEC Sample ID:** | 200087059 |
| **Matrix:** | SOLID | **Analyte List:** | N/A |
| **Percent Total Solids:** | N/A | **Calculation Basis:** | Wet Weight |

| | Metals Inorganics | QC Set ID | Date Analyzed | Method Ref. | Units | Quant Limit | Dil | Conc | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 4.0 | 1 | 17 | |
| 2 | Barium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 10 | 1 | 72 | |
| 3 | Cadmium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.0 | 10 | 4.7 | |
| 4 | Chromium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.5 | 1 | 5.8 | |
| 5 | Copper | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 5.0 | 1 | 28 | |
| 6 | Iron | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.1 | 10 | 44000 | |
| 7 | Lead | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.1 | 10 | 160 | |
| 8 | Mercury | CVAG1402 | 07/14/98 | 7471 | mg/Kg | 0.24 | 10 | 3.0 | |
| 9 | Selenium | HYDG1401 | 07/14/98 | 7741 | mg/Kg | 0.50 | 1 | U | |
| 10 | Silver | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.5 | 1 | U | |
| 11 | Zinc | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.1 | 10 | 37 | |

**Laidlaw Environmental, Inc. / ENCOTEC**
3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034

**Report Date:** 07/20/98

# ANALYTICAL REPORT

**Client: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-012**

| | | | |
|---|---|---|---|
| **Date Sampled** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | See below |
| **Date Analyzed:** | See below | **ENCOTEC Submission ID:** | 100012497 |
| **Method Reference:** | See below | **ENCOTEC Sample ID:** | 200087061 |
| **Matrix:** | SOLID | **Analyte List:** | N/A |
| **Percent Total Solids:** | N/A | **Calculation Basis:** | Wet Weight |

| | Metals Inorganics | QC Set ID | Date Analyzed | Method Ref. | Units | Quant Limit | Dil | Conc | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 4.0 | 1 | 19 | |
| 2 | Barium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 10 | 1 | 140 | |
| 3 | Cadmium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.0 | 10 | 4.5 | |
| 4 | Chromium | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.5 | 1 | 17 | |
| 5 | Copper | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 5.0 | 1 | 26 | |
| 6 | Iron | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.0 | 10 | 36000 | |
| 7 | Lead | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.0 | 10 | 330 | |
| 8 | Mercury | CVAG1402 | 07/14/98 | 7471 | mg/Kg | 0.25 | 10 | 2.0 | |
| 9 | Selenium | HYDG1401 | 07/14/98 | 7741 | mg/Kg | 0.50 | 1 | 0.58 | |
| 10 | Silver | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 2.5 | 1 | U | |
| 11 | Zinc | ICPG1301 | 07/14/98 | 6010 | mg/Kg | 8.0 | 10 | 240 | |

**Laidlaw Environmental, Inc. / ENCOTEC**
3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034

**Report Date:** 07/20/98

# QUALITY ASSESSMENT REPORT - METHOD BLANK Analysis

| | | | |
|---|---|---|---|
| **Extraction Date** | N/A | **ENCOTEC Project ID:** | 71060 |
| **Analysis Date:** | See Below | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Second Analysis Date:** | N/A | **ENCOTEC QC Set ID:** | See Below |
| **Method Reference:** | See Below | **ENCOTEC Submission ID:** | 100012497 |

| | Analyte | QC Set ID | Date Analyzed | Method Ref. | Units | Quant Limit | Dil | Conc | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 4.0 | 1 | U | |
| 2 | Barium | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 10 | 1 | U | |
| 3 | Cadmium | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 0.25 | 1 | U | |
| 4 | Chromium | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 2.5 | 1 | U | |
| 5 | Copper | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 5.0 | 1 | U | |
| 6 | Iron | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 1.0 | 1 | U | |
| 7 | Lead | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 2.0 | 1 | U | |
| 8 | Mercury | CVAG1402 | 07/14/98 | 7471 | mg/Kg | 0.040 | 1 | U | |
| 9 | Selenium | HYDG1401 | 07/14/98 | 7741 | mg/Kg | 0.50 | 1 | U | |
| 10 | Silver | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 2.5 | 1 | U | |
| 11 | Zinc | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 5.0 | 1 | U | |

# QUALITY ASSESSMENT REPORT - LCS Analysis

| | |
|---|---|
| **ENCOTEC Project ID:** | 71060 |
| **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **ENCOTEC QC Set ID:** | See Below |
| **ENCOTEC Submission ID:** | 100012497 |

| | Analyte | QC Set ID | Conc Spiked | Conc LCS | Units | Percent Recovery (%) | Flag | Quality Control Windows (%) |
|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | ICPG1301 | 100 | 102 | mg/Kg | 102 | | 80-120 |
| 2 | Barium | ICPG1301 | 50.0 | 49.7 | mg/Kg | 99 | | 80-120 |
| 3 | Cadmium | ICPG1301 | 10.0 | 10.2 | mg/Kg | 102 | | 80-120 |
| 4 | Chromium | ICPG1301 | 50.0 | 50.8 | mg/Kg | 102 | | 80-120 |
| 5 | Copper | ICPG1301 | 50.0 | 49.3 | mg/Kg | 99 | | 80-120 |
| 6 | Iron | ICPG1301 | 250 | 245 | mg/Kg | 98 | | 80-120 |
| 7 | Lead | ICPG1301 | 50.0 | 49.0 | mg/Kg | 98 | | 80-120 |
| 8 | Mercury | CVAG1402 | 0.108 | 0.101 | mg/Kg | 94 | | 80-120 |
| 9 | Selenium | HYDG1401 | 0.00400 | 0.00398 | mg/Kg | 100 | | 80-120 |
| 10 | Silver | ICPG1301 | 25.0 | 25.1 | mg/Kg | 100 | | 80-120 |
| 11 | Zinc | ICPG1301 | 50.0 | 49.4 | mg/Kg | 99 | | 80-120 |

D=Detected, result must be greater than zero.
Recovery: 0 out of 11 outside QC Windows

**Laidlaw Environmental, Inc. / ENCOTEC**
3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034



**Report Date:** 07/20/98

# QUALITY ASSESSMENT REPORT - METHOD BLANK Analysis

| | | | |
|---|---|---|---|
| **Extraction Date** | N/A | **ENCOTEC Project ID:** | 71060 |
| **Analysis Date:** | See Below | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Second Analysis Date:** | N/A | **ENCOTEC QC Set ID:** | See Below |
| **Method Reference:** | See Below | **ENCOTEC Submission ID:** | 100012497 |

| | Analyte | QC Set ID | Date Analyzed | Method Ref. | Units | Quant Limit | Dil | Conc | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 4.0 | 1 | U | |
| 2 | Barium | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 10 | 1 | U | |
| 3 | Cadmium | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 0.25 | 1 | U | |
| 4 | Chromium | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 2.5 | 1 | U | |
| 5 | Copper | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 5.0 | 1 | U | |
| 6 | Lead | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 2.0 | 1 | U | |
| 7 | Mercury | CVAG1402 | 07/14/98 | 7471 | mg/Kg | 0.040 | 1 | U | |
| 8 | Nickel | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 1.0 | 1 | U | |
| 9 | Selenium | HYDG1401 | 07/14/98 | 7741 | mg/Kg | 0.50 | 1 | U | |
| 10 | Silver | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 2.5 | 1 | U | |
| 11 | Zinc | ICPG1301 | 07/13/98 | 6010 | mg/Kg | 5.0 | 1 | U | |

# QUALITY ASSESSMENT REPORT - LCS Analysis

| | |
|---|---|
| **ENCOTEC Project ID:** | 71060 |
| **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **ENCOTEC QC Set ID:** | See Below |
| **ENCOTEC Submission ID:** | 100012497 |

| | Analyte | QC Set ID | Conc Spiked | Conc LCS | Units | Percent Recovery (%) | Flag | Quality Control Windows (%) |
|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | ICPG1301 | 100 | 102 | mg/Kg | 102 | | 80-120 |
| 2 | Barium | ICPG1301 | 50.0 | 49.7 | mg/Kg | 99 | | 80-120 |
| 3 | Cadmium | ICPG1301 | 10.0 | 10.2 | mg/Kg | 102 | | 80-120 |
| 4 | Chromium | ICPG1301 | 50.0 | 50.8 | mg/Kg | 102 | | 80-120 |
| 5 | Copper | ICPG1301 | 50.0 | 49.3 | mg/Kg | 99 | | 80-120 |
| 6 | Lead | ICPG1301 | 50.0 | 49.0 | mg/Kg | 98 | | 80-120 |
| 7 | Mercury | CVAG1402 | 0.108 | 0.101 | mg/Kg | 94 | | 80-120 |
| 8 | Nickel | ICPG1301 | 50.0 | 49.4 | mg/Kg | 99 | | 80-120 |
| 9 | Selenium | HYDG1401 | 0.00400 | 0.00398 | mg/Kg | 100 | | 80-120 |
| 10 | Silver | ICPG1301 | 25.0 | 25.1 | mg/Kg | 100 | | 80-120 |
| 11 | Zinc | ICPG1301 | 50.0 | 49.4 | mg/Kg | 99 | | 80-120 |

D=Detected, result must be greater than zero.
Recovery: 0 out of 11 outside QC Windows

**Laidlaw Environmental, Inc. / ENCOTEC**
3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034



**Report Date:** 07/15/98

# QUALITY ASSESSMENT REPORT - MS/MSD Analysis

**ENCOTEC SDG ID:** EEI-WC-98G1
**ENCOTEC QC Set ID:** See Below
**ENCOTEC Submission ID:** 100012497
**ENCOTEC Sample ID:** See Below
**Matrix:** N/A

| | Analyte | ENCOTEC Sample ID | QC Set ID | Conc Spiked | Sample Result | Conc MS | Units | Pct Recov. (%) | Flag | Conc MSD | Pct Recov. (%) | Flag | RPD (%) | Flag | QC Windows RPD | QC Windows (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | 200087061 | ICPG1301 | 80.0 | 19 | 99.5 | mg/Kg | 101 | | 99.9 | 101 | | 0.5 | | 20 | 80-120 |
| 2 | Barium | 200087061 | ICPG1301 | 40.0 | 140 | 178 | mg/Kg | 95 | | 200 | 150 * | | 45 * | | 20 | 80-120 |
| 3 | Cadmium | 200087061 | ICPG1301 | 8.00 | 4.5 | 14.7 | mg/Kg | 128 * | | 14.5 | 125 * | | 2.0 | | 20 | 80-120 |
| 4 | Chromium | 200087061 | ICPG1301 | 40.0 | 17 | 57.1 | mg/Kg | 100 | | 60.0 | 108 | | 7.0 | | 20 | 80-120 |
| 5 | Copper | 200087061 | ICPG1301 | 40.0 | 26 | 58.9 | mg/Kg | 82 | | 54.6 | 72 * | | 14 | | 20 | 80-120 |
| 6 | Iron | 200087061 | ICPG1301 | 200 | 36000 | 46400 | mg/Kg | 5200 | A | 47800 | 5900 | A | NC | | 20 | 80-120 |
| 7 | Lead | 200087061 | ICPG1301 | 40.0 | 330 | 399 | mg/Kg | 172 | A | 633 | 758 | A | NC | | 20 | 80-120 |
| 8 | Mercury | 200087059 | CVAG1402 | 0.250 | 3.0 | 2.13 | mg/Kg | -348 | A | 2.74 | -104 | A | NC | | 35 | 75-125 |
| 9 | Selenium | 200087059 | HYDG1401 | 0.162 | U | 0.144 | mg/Kg | 89 | | 0.136 | 84 | | 5.7 | | 35 | 75-125 |
| 10 | Silver | 200087061 | ICPG1301 | 20.0 | U | 19.1 | mg/Kg | 96 | | 18.7 | 94 | | 2.1 | | 20 | 80-120 |
| 11 | Zinc | 200087061 | ICPG1301 | 40.0 | 240 | 301 | mg/Kg | 152 | A | 313 | 182 | A | NC | | 20 | 80-120 |

D=Detected, result must be greater than zero.
RPD: 1 out of 7 outside QC Windows
Recovery: 4 out of 14 outside QC Windows

**Safety-Kleen (ENCOTEC)**
3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034

**Report Date:** 07/22/98

**RAW DATA**
Metals

INORGANICS DEPARTMENT

Raw Data - Cover Sheet

Date of Analysis 7/14/98 Analyst E. Anstead

LIMS ID

Se by Hydride SeG1498A

Clients included in this data package

| | Client | Sub # | Due Date | full | Sub. # | Due Date | full | Sub. # | Due Date | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EEI | 12497 | | ☐ | | | ☐ | | | ☐ |
| 2 | LTX | 12479 | | ☐ | | | ☐ | | | ☐ |
| 3 | | | | ☐ | | | ☐ | | | ☐ |
| 4. | | | | ☐ | | | ☐ | | | ☐ |
| 5. | | | | ☐ | | | ☐ | | | ☐ |
| 6 | | | | ☐ | | | ☐ | | | ☐ |
| 7. | | | | ☐ | | | ☐ | | | ☐ |
| 8 | | | | ☐ | | | ☐ | | | ☐ |
| 9 | | | | ☐ | | | ☐ | | | ☐ |
| 10. | | | | ☐ | | | ☐ | | | ☐ |

| | TIER I REVIEW - (Analyst) | Comments: |
|---|---|---|
| | ☐ Calculations are accurate and complete. | |
| EA | ☐ QC frequency is satisfied. | |
| | ☐ QC group requirements are satisfied. | |
| 7/15/98 | ☐ All appropriate instrument printouts are attached. | |

| | TIER II REVIEW - (Senior Analyst) | Comments |
|---|---|---|
| | ☐ 10% calculation review completed. | |
| | ☐ Quality control review completed. | |
| / / | ☐ All rejected results have been documented. | |

| | TIER III REVIEW - (Data Management) | Comments |
|---|---|---|
| | ☐ 20% calculation review completed. | |
| | ☐ Quality Control review completed | |
| | ☐ Data accepted. | |
| | ☐ Data rejected | |
| / / | ☐ All rejected results have been documented and rescheduled. | |
| | ☐ Data is summarized. | |

COVER.XLS 08/29/97

# As/Se CONVERSION LOGSHEET

Date. 7-14-9

Spiking Solution Used 100 ug/L

4 ug/L As/Se Spike

Analyst: GW

| Bottle ID | Submission Number | Client | Matrix | Dltn Fctr | Spk/ Dup (mL) | ENCOTEC ID Number | Sample Volume (mL) | HCl Volume (mL) | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 2 | N/A | BLANK | PV | 1/2 | | 85486 MBLK/401 | 25mL | 25mL | 50mL |
| 13 | | LCS | | | | 85606 LCSW/401 | | | |
| 14 | 12497 | FEI | SOIL | | | 87059 * | | | 2.47g |
| 34 | | | | | MS | 86027 87059 | | | 2.47g |
| 59 | | | | | MSD | 86100 87059 | | | 2.47g |
| 61 | | | | | | 87061 | | | 25g |
| 73 | 12474 | LTX | WAT | | | 86985 | | | |
| 79 | | | | | | 86986 * | | | |
| 94 | | | | | MS | 86986 85380 | | | |
| 110 | | | | | | 86987 | | | |
| 134 | | | | | | 86988 * | | | |
| 137 | | | | | MS | 86988 85330 | | | |
| 139 | | | | | | 86990 | | | |
| 141 | | | | | | 86991 | | | |
| 142 | | | | | | 86992 | | | |
| 172 | | | | | | 86993 | | | |
| 247 | | | | | | 86995 | | | |
| 517 | | | | | | 86996 | | | |
| 519 | | | | | | 86997 | | | |
| 522 | | | | | | 86998 | | | |

Ref. Mthd 7061 7741

SUPERVISOR APPROVAL: MKD



ASSECON XLS 12/07/95

ID/Weight File: SEG1498A.IDW  Analyst: FRED ANSTEAD
Sample Volume: 100 mL  Nominal Weight: 0.1 g

| Loc. | Sample ID | Weight | Dilution |
|---|---|---|---|
| 9 | 85456B | | 2 |
| 10 | 85606C | | 2 |
| 11 | 87059 | | 2 |
| 12 | 86027S | | 2 |
| 13 | 86100SD | | 2 |
| 14 | 87061 | | 2 |
| 15 | 86985 | | 2 |
| 16 | 86986 | | 2 |
| 17 | 85380S | | 2 |
| 18 | 86987 | | 2 |
| 19 | 86988 | | 2 |
| 20 | 85330D | | 2 |
| 21 | 86990 | | 2 |
| 22 | 86991 | | 2 |
| 23 | 86992 | | 2 |
| 24 | 86993 | | 2 |
| 25 | 86995 | | 2 |
| 26 | 86996 | | 2 |
| 27 | 86997 | | 2 |
| 28 | 86998 | | 2 |

```
Element File: SEHYD.MEL        Element: Se                    Wavelength: 196.0
Date: 07/14/98                 Time: 14:42                    Slit: 0.70 L
Data File: SEG1498A.DAT        ID/Wt File: SEG1498A.IDW       Lamp Current: 15.
Technique: MHS                 Calib. Type: Linear            Energy: 43
```

Se ID: S0.0 Seq. No.: 00001 A/S Pos.: 8 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 14:42
Peak Area (A-s): -0.017 Peak Height (A): 0.029
Background Pk Area (A-s): 0.009 Background Pk Height (A): 0.022
Blank Corrected Pk Area (A-s): -0.017

Replicate 2 (Peak Stored) Time: 14:43
Peak Area (A-s): 0.003 Peak Height (A): 0.028
Background Pk Area (A-s): 0.000 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.003

Replicate 3 (Peak Stored) Time: 14:43
Peak Area (A-s): 0.021 Peak Height (A): 0.029
Background Pk Area (A-s): 0.002 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.021

Mean Pk Area (A-s): 0.002 SD: 0.0192 RSD(%): 876.40

Auto-zero performed.

Se ID: S0.5 Seq. No.: 00002 A/S Pos.: 1 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 14:44
Peak Area (A-s): 0.060 Peak Height (A): 0.047
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.028
Blank Corrected Pk Area (A-s): 0.057

Replicate 2 (Peak Stored) Time: 14:45
Peak Area (A-s): 0.057 Peak Height (A): 0.043
Background Pk Area (A-s): 0.001 Background Pk Height (A): 0.023
Blank Corrected Pk Area (A-s): 0.055

The background signal is changing during BOC measurement.
Replicate 3 (Peak Stored) Time: 14:46
Peak Area (A-s): 0.119 Peak Height (A): 0.044
Background Pk Area (A-s): -0.073 Background Pk Height (A): 0.020
Blank Corrected Pk Area (A-s): 0.116

Mean Pk Area (A-s): 0.076 SD: 0.0347 RSD(%): 45.59

Standard number 1 applied. [0.50]
Correlation coefficient: 1.00000 Slope: 0.1524 Int: 0.000

Se ID: S1.0 Seq. No.: 00003 A/S Pos.: 2 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 14:47
Peak Area (A-s): 0.125 Peak Height (A): 0.055
Background Pk Area (A-s): 0.033 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.122

Concentration (ug/L ): 0.80

Replicate 2 (Peak Stored) Time: 14:47
Peak Area (A-s): 0.168 Peak Height (A): 0.057
Background Pk Area (A-s): -0.016 Background Pk Height (A): 0.025
Blank Corrected Pk Area (A-s): 0.165
Concentration (ug/L ): 1.08

Replicate 3 (Peak Stored) Time: 14:48
Peak Area (A-s): 0.153 Peak Height (A): 0.063
Background Pk Area (A-s): -0.001 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.151
Concentration (ug/L ): 0.99

Mean Conc (ug/L ): 0.96 SD: 0.143 RSD(%): 14.96

Standard number 2 applied. [1.00]
Correlation coefficiemt: 0.99969 Slope: 0.1461 Int: 0.001

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Se ID: S3.0 Seq. No.: 00004 A/S Pos.: 3 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 14:49
Peak Area (A-s): 0.534 Peak Height (A): 0.131
Background Pk Area (A-s): -0.044 Background Pk Height (A): 0.045
Blank Corrected Pk Area (A-s): 0.532
Concentration (ug/L ): 3.63

Replicate 2 (Peak Stored) Time: 14:50
Peak Area (A-s): 0.499 Peak Height (A): 0.130
Background Pk Area (A-s): 0.027 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.497
Concentration (ug/L ): 3.39

Replicate 3 (Peak Stored) Time: 14:50
Peak Area (A-s): 0.504 Peak Height (A): 0.130
Background Pk Area (A-s): -0.008 Background Pk Height (A): 0.024
Blank Corrected Pk Area (A-s): 0.501
Concentration (ug/L ): 3.42

Mean Conc (ug/L ): 3.48 SD: 0.131 RSD(%): 3.77

Standard number 3 applied. [3.00]
Correlation coefficient: 0.99880 Slope: 0.1716 Int: -0.010

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

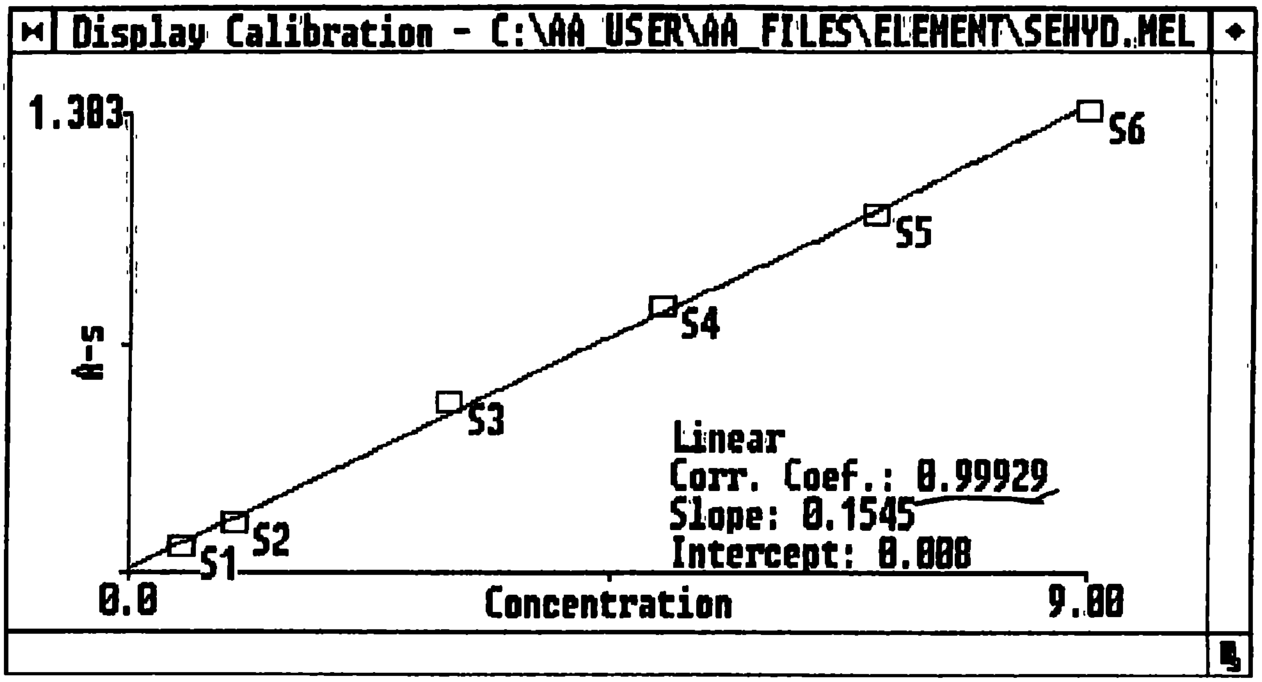
Se ID: S5.0 Seq. No.: 00005 A/S Pos.: 4 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 14:51
Peak Area (A-s): 0.774 Peak Height (A): 0.196
Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.022
Blank Corrected Pk Area (A-s): 0.772
Concentration (ug/L ): 4.56

Replicate 2 (Peak Stored) Time: 14:52
Peak Area (A-s): 0.805 Peak Height (A): 0.210
Background Pk Area (A-s): 0.004 Background Pk Height (A): 0.023
Blank Corrected Pk Area (A-s): 0.802
Concentration (ug/L ): 4.74

```
Replicate  3 (Peak Stored)                    Time: 14:53
Peak Area (A-s): 0.821                        Peak Height (A): 0.199
Background Pk Area (A-s): -0.006              Background Pk Height (A): 0.026
Blank Corrected Pk Area (A-s): 0.819
Concentration (ug/L  ): 4.83

Mean Conc  (ug/L  ):        4.71              SD: 0.139              RSD(%): 2.94

Standard number 4 applied.  [5.00]
Correlation coefficient: 0.99893              Slope: 0.1625          Int: -0.003
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Se     ID: S7.0                 Seq. No.: 00006    A/S Pos.: 5     Date: 07/14/98

Replicate  1 (Peak Stored)                    Time: 14:54
Peak Area (A-s): 1.106                        Peak Height (A): 0.269
Background Pk Area (A-s): -0.008              Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 1.104
Concentration (ug/L  ): 6.81

Replicate  2 (Peak Stored)                    Time: 14:54
Peak Area (A-s): 1.089                        Peak Height (A): 0.263
Background Pk Area (A-s): -0.007              Background Pk Height (A): 0.023
Blank Corrected Pk Area (A-s): 1.086
Concentration (ug/L  ): 6.70

Replicate  3 (Peak Stored)                    Time: 14:55
Peak Area (A-s): 1.070                        Peak Height (A): 0.259
Background Pk Area (A-s): 0.015               Background Pk Height (A): 0.023
Blank Corrected Pk Area (A-s): 1.067
Concentration (ug/L  ): 6.58

Mean Conc  (ug/L  ):        6.70              SD: 0.112              RSD(%): 1.67

Standard number 5 applied.  [7.00]
Correlation coefficient: 0.99903              Slope: 0.1572          Int: 0.004
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Se     ID: S9.0                 Seq. No.: 00007    A/S Pos.: 6     Date: 07/14/98

Replicate  1 (Peak Stored)                    Time: 14:56
Peak Area (A-s): 1.368                        Peak Height (A): 0.317
Background Pk Area (A-s): 0.001               Background Pk Height (A): 0.024
Blank Corrected Pk Area (A-s): 1.366
Concentration (ug/L  ): 8.67

Replicate  2 (Peak Stored)                    Time: 14:57
Peak Area (A-s): 1.398                        Peak Height (A): 0.320
Background Pk Area (A-s): 0.004               Background Pk Height (A): 0.024
Blank Corrected Pk Area (A-s): 1.396
Concentration (ug/L  ): 8.86

Replicate  3 (Peak Stored)                    Time: 14:57
Peak Area (A-s): 1.388                        Peak Height (A): 0.316
Background Pk Area (A-s): -0.000              Background Pk Height (A): 0.033
Blank Corrected Pk Area (A-s): 1.386
Concentration (ug/L  ): 8.79

Mean Conc  (ug/L  ):        8.77              SD: 0.097              RSD(%): 1.11
```

Standard number 6 applied. [9.00]
Correlation coefficient: 0.99929 Slope: 0.1545 Int: 0.008




~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Se ID: ICV Seq. No.: 00008 A/S Pos.: 7 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 14:59
Peak Area (A-s): 0.657 Peak Height (A): 0.173
Background Pk Area (A-s): 0.020 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.655
Concentration (ug/L ): 4.18

Replicate 2 (Peak Stored) Time: 15:00
Peak Area (A-s): 0.673 Peak Height (A): 0.168
Background Pk Area (A-s): -0.013 Background Pk Height (A): 0.026
Blank Corrected Pk Area (A-s): 0.671
Concentration (ug/L ): 4.29

Replicate 3 (Peak Stored) Time: 15:00
Peak Area (A-s): 0.667 Peak Height (A): 0.168
Background Pk Area (A-s): -0.005 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.665
Concentration (ug/L ): 4.25

Mean Conc (ug/L ): 4.24 106% SD: 0.052 RSD(%): 1.22

QC sample is within range 3.60 - 4.40

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Se ID: ICB Seq. No.: 00009 A/S Pos.: 8 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 15:02
Peak Area (A-s): 0.027 Peak Height (A): 0.031
Background Pk Area (A-s): -0.006 Background Pk Height (A): 0.022

Blank Corrected Pk Area (A-s): 0.025
Concentration (ug/L ): 0.11

Replicate 2 (Peak Stored) Time: 15:02
Peak Area (A-s): -0.008 Peak Height (A): 0.031
Background Pk Area (A-s): 0.023 Background Pk Height (A): 0.028
Blank Corrected Pk Area (A-s): -0.010
Concentration (ug/L ): -0.12

Replicate 3 (Peak Stored) Time: 15:03
Peak Area (A-s): -0.005 Peak Height (A): 0.028
Background Pk Area (A-s): 0.012 Background Pk Height (A): 0.023
Blank Corrected Pk Area (A-s): -0.008
Concentration (ug/L ): -0.10

Mean Conc (ug/L ): -0.04 <0.5 SD: 0.126 RSD(%): 329.53

QC sample is within range -0.50 - +0.50

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Se ID: 85456B Seq. No.: 00010 A/S Pos.: 9 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 15:04
Peak Area (A-s): 0.000 Peak Height (A): 0.036
Background Pk Area (A-s): 0.001 Background Pk Height (A): 0.020
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L ): -0.07 Corrected Conc (ug/L ): -0.14

Replicate 2 (Peak Stored) Time: 15:05
Peak Area (A-s): 0.013 Peak Height (A): 0.026
Background Pk Area (A-s): -0.009 Background Pk Height (A): 0.025
Blank Corrected Pk Area (A-s): 0.011
Concentration (ug/L ): 0.02 Corrected Conc (ug/L ): 0.03

Replicate 3 (Peak Stored) Time: 15:05
Peak Area (A-s): -0.024 Peak Height (A): 0.035
Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.026
Blank Corrected Pk Area (A-s): -0.027
Concentration (ug/L ): -0.23 Corrected Conc (ug/L ): -0.45

Mean Conc (ug/L ): -0.09 SD: 0.123 RSD(%): 132.03
Corrected Conc (ug/L ): -0.19 &lt;1.0

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Se ID: 85606C Seq. No.: 00011 A/S Pos.: 10 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 15:06
Peak Area (A-s): 0.347 Peak Height (A): 0.098
Background Pk Area (A-s): -0.014 Background Pk Height (A): 0.025
Blank Corrected Pk Area (A-s): 0.345
Concentration (ug/L ): 2.18 Corrected Conc (ug/L ): 4.36

Replicate 2 (Peak Stored) Time: 15:07
Peak Area (A-s): 0.308 Peak Height (A): 0.098
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.305
Concentration (ug/L ): 1.92 Corrected Conc (ug/L ): 3.84

Replicate 3 (Peak Stored) Time: 15:07

Peak Area (A-s): 0.299 | Peak Height (A): 0.092
Background Pk Area (A-s): 0.018 | Background Pk Height (A): 0.024
Blank Corrected Pk Area (A-s): 0.296
Concentration (ug/L ): 1.86 | Corrected Conc (ug/L ): 3.73

Mean Conc (ug/L ): 1.99 | SD: 0.167 | RSD(%): 8.42
Corrected Conc (ug/L ): 3.98 → 100%

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Se ID: 87059 Seq. No.: 00012 A/S Pos.: 11 Date: 07/14/98

Replicate 1 (Peak Stored) | Time: 15:09
Peak Area (A-s): 0.528 | Peak Height (A): 0.131
Background Pk Area (A-s): 0.199 | Background Pk Height (A): 0.059
Blank Corrected Pk Area (A-s): 0.526
Concentration (ug/L ): 3.35 | Corrected Conc (ug/L ): 6.70

Replicate 2 (Peak Stored) | Time: 15:09
Peak Area (A-s): 0.565 | Peak Height (A): 0.133
Background Pk Area (A-s): 0.163 | Background Pk Height (A): 0.048
Blank Corrected Pk Area (A-s): 0.563
Concentration (ug/L ): 3.59 | Corrected Conc (ug/L ): 7.18

Replicate 3 (Peak Stored) | Time: 15:10
Peak Area (A-s): 0.524 | Peak Height (A): 0.133
Background Pk Area (A-s): 0.201 | Background Pk Height (A): 0.054
Blank Corrected Pk Area (A-s): 0.52[illegible]
Concentration (ug/L ): 3.32 | Corrected Conc (ug/L ): 6.64

Mean Conc (ug/L ): 3.42 | SD: 0.147 | RSD(%): 4.31
Corrected Conc (ug/L ): 6.84

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Se ID: 86027S Seq. No.: 00013 A/S Pos.: 12 Date: 07/14/98

Replicate 1 (Peak Stored) | Time: 15:11
Peak Area (A-s): 0.698 | Peak Height (A): 0.188
Background Pk Area (A-s): 0.150 | Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): 0.695
Concentration (ug/L ): 4.45 | Corrected Conc (ug/L ): 8.89

Replicate 2 (Peak Stored) | Time: 15:11
Peak Area (A-s): 0.736 | Peak Height (A): 0.173
Background Pk Area (A-s): 0.124 | Background Pk Height (A): 0.044
Blank Corrected Pk Area (A-s): 0.734
Concentration (ug/L ): 4.70 | Corrected Conc (ug/L ): 9.39

Replicate 3 (Peak Stored) | Time: 15:12
Peak Area (A-s): 0.741 | Peak Height (A): 0.177
Background Pk Area (A-s): 0.130 | Background Pk Height (A): 0.044
Blank Corrected Pk Area (A-s): 0.738
Concentration (ug/L ): 4.72 | Corrected Conc (ug/L ): 9.45

Mean Conc (ug/L ): 4.62 | SD: 0.153 | RSD(%): 3.31
Corrected Conc (ug/L ): 9.24

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Se ID: ~~86100D~~ FA 86100SD Seq. No.: 00014 A/S Pos.: 13 Date: 07/14/98
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Replicate 1 (Peak Stored) Time: 15:13
Peak Area (A-s): 0.921 Peak Height (A): 0.225
Background Pk Area (A-s): 0.068 Background Pk Height (A): 0.028
Blank Corrected Pk Area (A-s): 0.919
Concentration (ug/L ): 5.89 Corrected Conc (ug/L ): 11.78

Replicate 2 (Peak Stored) Time: 15:14
Peak Area (A-s): 0.921 Peak Height (A): [illegible]
Background Pk Area (A-s): 0.056 Background Pk Height (A): 0.034
Blank Corrected Pk Area (A-s): 0.918
Concentration (ug/L ): 5.89 Corrected Conc (ug/L ): 11.78

Replicate 3 (Peak Stored) Time: 15:14
Peak Area (A-s): 0.892 Peak Height (A): 0.224
Background Pk Area (A-s): 0.055 Background Pk Height (A): 0.040
Blank Corrected Pk Area (A-s): 0.89[illegible]
Concentration (ug/L ): 5.70 Corrected Conc (ug/L ): [illegible]

Mean Conc (ug/L ): 5.83 SD: 0.107 RSD(%): 1.84
Corrected Conc (ug/L ): 11.66

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Se ID: 87061 Seq. No.: 00015 A/S Pos.: 14 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 15:16
Peak Area (A-s): 1.167 Peak Height (A): 0.260
Background Pk Area (A-s): 0.053 Background Pk Height (A): 0.032
Blank Corrected Pk Area (A-s): 1.164
Concentration (ug/L ): 7.48 Corrected Conc (ug/L ): 14.96

Replicate 2 (Peak Stored) Time: 15:16
Peak Area (A-s): 1.114 Peak Height (A): 0.256
Background Pk Area (A-s): 0.102 Background Pk Height (A): 0.029
Blank Corrected Pk Area (A-s): 1.111
Concentration (ug/L ): 7.14 Corrected Conc (ug/L ): 14.28

Replicate 3 (Peak Stored) Time: 15:17
Peak Area (A-s): 1.130 Peak Height (A): 0.260
Background Pk Area (A-s): 0.074 Background Pk Height (A): 0.031
Blank Corrected Pk Area (A-s): 1.128
Concentration (ug/L ): 7.25 Corrected Conc (ug/L ): 14.49

Mean Conc (ug/L ): 7.29 SD: 0.175 RSD(%): 2.40
Corrected Conc (ug/L ): 14.58

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Se ID: 86985 Seq. No.: 00016 A/S Pos.: 15 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 15:18
Peak Area (A-s): 0.042 Peak Height (A): 0.036
Background Pk Area (A-s): 0.139 Background Pk Height (A): 0.051
Blank Corrected Pk Area (A-s): 0.039
Concentration (ug/L ): 0.20 Corrected Conc (ug/L ): 0.40

Replicate 2 (Peak Stored) Time: 15:19
Peak Area (A-s): 0.031 Peak Height (A): 0.038
Background Pk Area (A-s): 0.132 Background Pk Height (A): 0.044
Blank Corrected Pk Area (A-s): 0.029
Concentration (ug/L ): 0.13 Corrected Conc (ug/L ): 0.26

Replicate 3 (Peak Stored) Time: 15:19
Peak Area (A-s): 0.011 Peak Height (A): 0.032
Background Pk Area (A-s): 0.157 Background Pk Height (A): 0.047
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L ): 0.00 Corrected Conc (ug/L ): 0.01

Mean Conc (ug/L ): 0.11 SD: 0.099 RSD(%): 88.81
Corrected Conc (ug/L ): 0.22 <1.0

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Se ID: 86986 Seq. No.: 00017 A/S Pos.: 16 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 15:20
Peak Area (A-s): -0.012 Peak Height (A): 0.034
Background Pk Area (A-s): 0.074 Background Pk Height (A): 0.031
Blank Corrected Pk Area (A-s): -0.014
Concentration (ug/L ): -0.15 Corrected Conc (ug/L ): -0.29

Replicate 2 (Peak Stored) Time: 15:21
Peak Area (A-s): 0.017 Peak Height (A): 0.040
Background Pk Area (A-s): 0.056 Background Pk Height (A): 0.036
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L ): 0.04 Corrected Conc (ug/L ): 0.08

Replicate 3 (Peak Stored) Time: 15:21
Peak Area (A-s): 0.030 Peak Height (A): 0.034
Background Pk Area (A-s): 0.053 Background Pk Height (A): 0.034
Blank Corrected Pk Area (A-s): 0.028
Concentration (ug/L ): 0.13 Corrected Conc (ug/L ): 0.25

Mean Conc (ug/L ): 0.01 SD: 0.140 RSD(%): 2104.49
Corrected Conc (ug/L ): 0.01 <1.0

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Se ID: 85380S Seq. No.: 00018 A/S Pos.: 17 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 15:23
Peak Area (A-s): 0.266 Peak Height (A): 0.085
Background Pk Area (A-s): 0.107 Background Pk Height (A): 0.040
Blank Corrected Pk Area (A-s): 0.264
Concentration (ug/L ): 1.65 Corrected Conc (ug/L ): 3.31

Replicate 2 (Peak Stored) Time: 15:23
Peak Area (A-s): 0.252 Peak Height (A): 0.079
Background Pk Area (A-s): 0.110 Background Pk Height (A): 0.046
Blank Corrected Pk Area (A-s): 0.250
Concentration (ug/L ): 1.56 Corrected Conc (ug/L ): 3.12

Replicate 3 (Peak Stored) Time: 15:24
Peak Area (A-s): 0.264 Peak Height (A): 0.080
Background Pk Area (A-s): 0.110 Background Pk Height (A): 0.036
Blank Corrected Pk Area (A-s): 0.261
Concentration (ug/L ): 1.64 Corrected Conc (ug/L ): 3.28

Mean Conc (ug/L ): 1.62 SD: 0.049 RSD(%): 3.04
Corrected Conc (ug/L ): 3.24 81%

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Se ID: 86987 Seq. No.: 00019 A/S Pos.: 18 Date: 07/14/98

Replicate 1 (Peak Stored)
Peak Area (A-s): 0.071
Background Pk Area (A-s): 0.102
Blank Corrected Pk Area (A-s): 0.068
Concentration (ug/L ): 0.39

Time: 15:25
Peak Height (A): 0.042
Background Pk Height (A): 0.042
Corrected Conc (ug/L ): 0.78

Replicate 2 (Peak Stored)
Peak Area (A-s): 0.136
Background Pk Area (A-s): 0.053
Blank Corrected Pk Area (A-s): 0.134
Concentration (ug/L ): 0.81

Time: 15:26
Peak Height (A): 0.045
Background Pk Height (A): 0.037
Corrected Conc (ug/L ): 1.62

Replicate 3 (Peak Stored)
Peak Area (A-s): 0.081
Background Pk Area (A-s): 0.104
Blank Corrected Pk Area (A-s): 0.079
Concentration (ug/L ): 0.46

Time: 15:26
Peak Height (A): 0.047
Background Pk Height (A): 0.049
Corrected Conc (ug/L ): 0.92

Mean Conc (ug/L ): 0.55 SD: 0.227 RSD(%): 41.16
Corrected Conc (ug/L ): 1.10

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Se ID: 86987 Seq. No.: 00020 A/S Pos.: 18 Date: 07/14/98

Replicate 1 (Peak Stored)
Peak Area (A-s): 0.106
Background Pk Area (A-s): 0.084
Blank Corrected Pk Area (A-s): 0.104
Concentration (ug/L ): 0.62

Time: 15:27
Peak Height (A): 0.048
Background Pk Height (A): 0.037
Corrected Conc (ug/L ): 1.24

Replicate 2 (Peak Stored)
Peak Area (A-s): 0.117
Background Pk Area (A-s): 0.063
Blank Corrected Pk Area (A-s): 0.115
Concentration (ug/L ): 0.69

Time: 15:28
Peak Height (A): 0.052
Background Pk Height (A): 0.034
Corrected Conc (ug/L ): 1.38

Replicate 3 (Peak Stored)
Peak Area (A-s): 0.062
Background Pk Area (A-s): 0.112
Blank Corrected Pk Area (A-s): 0.059
Concentration (ug/L ): 0.33

Time: 15:28
Peak Height (A): 0.046
Background Pk Height (A): 0.040
Corrected Conc (ug/L ): 0.66

Mean Conc (ug/L ): 0.55 SD: 0.189 RSD(%): 34.73
Corrected Conc (ug/L ): 1.09

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Se ID: CCV Seq. No.: 00021 A/S Pos.: 7 Date: 07/14/98

Replicate 1 (Peak Stored)
Peak Area (A-s): 0.622
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.620
Concentration (ug/L ): 3.96

Time: 15:30
Peak Height (A): 0.152
Background Pk Height (A): 0.032

Replicate 2 (Peak Stored)
Peak Area (A-s): 0.614

Time: 15:30
Peak Height (A): 0.162
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Background Pk Area (A-s): 0.020
Blank Corrected Pk Area (A-s): 0.612
Concentration (ug/L ): 3.90

Background Pk Height (A): 0.030

Replicate 3 (Peak Stored)
Peak Area (A-s): 0.601
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.598
Concentration (ug/L ): 3.82

Time: 15:31
Peak Height (A): 0.147
Background Pk Height (A): 0.030

Mean Conc (ug/L ): 3.89 97% SD: 0.071 RSD(%): 1.82

QC sample is within range 3.20 - 4.80

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Se ID: CCB Seq. No.: 00022 A/S Pos.: 8 Date: 07/14/98

Replicate 1 (Peak Stored)
Peak Area (A-s): 0.014
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.011
Concentration (ug/L ): 0.02

Time: 15:32
Peak Height (A): 0.033
Background Pk Height (A): 0.026

Replicate 2 (Peak Stored)
Peak Area (A-s): 0.003
Background Pk Area (A-s): -0.002
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L ): -0.05

Time: 15:33
Peak Height (A): 0.038
Background Pk Height (A): 0.030

Replicate 3 (Peak Stored)
Peak Area (A-s): 0.010
Background Pk Area (A-s): -0.008
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L ): -0.01

Time: 15:33
Peak Height (A): 0.033
Background Pk Height (A): 0.023

Mean Conc (ug/L ): -0.01 &lt;0.5 SD: 0.036 RSD(%): 297.73

QC sample is within range -0.50 - +0.50

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Se ID: 86988 Seq. No.: 00023 A/S Pos.: 19 Date: 07/14/98

Replicate 1 (Peak Stored)
Peak Area (A-s): 0.061
Background Pk Area (A-s): 0.028
Blank Corrected Pk Area (A-s): 0.058
Concentration (ug/L ): 0.32

Time: 15:34
Peak Height (A): 0.049
Background Pk Height (A): [illegible]
Corrected Conc (ug/L ): 0.65

Replicate 2 (Peak Stored)
Peak Area (A-s): 0.081
Background Pk Area (A-s): [illegible]
Blank Corrected Pk Area (A-s): 0.078
Concentration (ug/L ): 0.45

Time: 15:35
Peak Height (A): 0.051
Background Pk Height (A): 0.039
Corrected Conc (ug/L ): 0.91

Replicate 3 (Peak Stored)
Peak Area (A-s): 0.091
Background Pk Area (A-s): 0.038
Blank Corrected Pk Area (A-s): 0.089
Concentration (ug/L ): 0.52

Time: 15:36
Peak Height (A): 0.042
Background Pk Height (A): 0.030
Corrected Conc (ug/L ): 1.04

Replicate 2 (Peak Stored)
Peak Area (A-s): 0.059
Background Pk Area (A-s): 0.032
Blank Corrected Pk Area (A-s): 0.057
Concentration (ug/L ): 0.31

Time: 15:54
Peak Height (A): 0.049
Background Pk Height (A): 0.034
Corrected Conc (ug/L ): 0.63

Replicate 3 (Peak Stored)
Peak Area (A-s): 0.064
Background Pk Area (A-s): 0.020
Blank Corrected Pk Area (A-s): 0.062
Concentration (ug/L ): 0.35

Time: 15:55
Peak Height (A): 0.047
Background Pk Height (A): 0.034
Corrected Conc (ug/L ): 0.69

Meam Conc (ug/L ): 0.30
SD: 0.051
RSD(%): 16.93
Corrected Conc (ug/L ): 0.60 <1.0

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Se ID: 86998 Seq. No.: 00032 A/S Pos.: 28 Date: 07/14/98

Replicate 1 (Peak Stored)
Peak Area (A-s): 0.062
Background Pk Area (A-s): 0.018
Blank Corrected Pk Area (A-s): 0.060
Concentration (ug/L ): 0.33

Time: 15:56
Peak Height (A): 0.045
Background Pk Height (A): 0.032
Corrected Conc (ug/L ): 0.67

Replicate 2 (Peak Stored)
Peak Area (A-s): 0.047
Background Pk Area (A-s): 0.049
Blank Corrected Pk Area (A-s): 0.045
Concentration (ug/L ): 0.24

Time: 15:56
Peak Height (A): 0.047
Background Pk Height (A): 0.036
Corrected Conc (ug/L ): 0.47

Replicate 3 (Peak Stored)
Peak Area (A-s): 0.094
Background Pk Area (A-s): 0.013
Blank Corrected Pk Area (A-s): 0.092
Concentration (ug/L ): 0.54

Time: 15:57
Peak Height (A): 0.049
Background Pk Height (A): 0.035
Corrected Conc (ug/L ): 1.08

Meam Conc (ug/L ): 0.37
SD: 0.156
RSD(%): 42.04
Corrected Conc (ug/L ): 0.74 <1.0

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Se ID: CCV Seq. No.: 00033 A/S Pos.: 7 Date: 07/14/98

Replicate 1 (Peak Stored)
Peak Area (A-s): 0.642
Background Pk Area (A-s): 0.012
Blank Corrected Pk Area (A-s): 0.639
Concentration (ug/L ): 4.08

Time: 15:58
Peak Height (A): 0.159
Background Pk Height (A): 0.044

Replicate 2 (Peak Stored)
Peak Area (A-s): 0.639
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.636
Concentration (ug/L ): 4.06

Time: 15:59
Peak Height (A): 0.160
Background Pk Height (A): 0.031

Replicate 3 (Peak Stored)
Peak Area (A-s): 0.646
Background Pk Area (A-s): -0.009
Blank Corrected Pk Area (A-s): 0.644
Concentration (ug/L ): 4.11

Time: 15:59
Peak Height (A): 0.175
Background Pk Height (A): 0.029

Mean Conc (ug/L ): 4.09 102% SD: 0.025 RSD(%): 0.61

QC sample is within range 3.20 - 4.80

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Se ID: CCB Seq. No.: 00034 A/S Pos.: 8 Date: 07/14/98

Replicate 1 (Peak Stored) Time: 16:01
Peak Area (A-s): -0.040 Peak Height (A): 0.047
Background Pk Area (A-s): 0.043 Background Pk Height (A): 0.034
Blank Corrected Pk Area (A-s): -0.042
Concentration (ug/L ): -0.33

Replicate 2 (Peak Stored) Time: 16:01
Peak Area (A-s): 0.002 Peak Height (A): 0.050
Background Pk Area (A-s): -0.007 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L ): -0.05

Replicate 3 (Peak Stored) Time: 16:02
Peak Area (A-s): -0.007 Peak Height (A): 0.040
Background Pk Area (A-s): 0.004 Background Pk Height (A): 0.036
Blank Corrected Pk Area (A-s): -0.009
Concentration (ug/L ): -0.11

Mean Conc (ug/L ): -0.17 &lt;0.5 SD: 0.144 RSD(%): 86.80

QC sample is within range -0.50 - +0.50

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Se ID: 87059 Seq. No.: 00036 A/S Pos.: 11 Date: 07/15/98

Replicate 1 (Peak Stored) Time: 09:10
Peak Area (A-s): 0.866 Peak Height (A): 0.195
Background Pk Area (A-s): 0.055 Background Pk Height (A): 0.035
Blank Corrected Pk Area (A-s): 0.864
Concentration (ug/L ): 5.54 Corrected Conc (ug/L ): 11.07

Replicate 2 (Peak Stored) Time: 09:11
Peak Area (A-s): 0.827 Peak Height (A): 0.211
Background Pk Area (A-s): 0.065 Background Pk Height (A): 0.036
Blank Corrected Pk Area (A-s): 0.825
Concentration (ug/L ): 5.28 Corrected Conc (ug/L ): 10.57

Replicate 3 (Peak Stored) Time: 09:11
Peak Area (A-s): 0.839 Peak Height (A): 0.191
Background Pk Area (A-s): 0.023 Background Pk Height (A): 0.033
Blank Corrected Pk Area (A-s): 0.837
Concentration (ug/L ): 5.36 Corrected Conc (ug/L ): 10.72

Mean Conc (ug/L ): 5.39 SD: 0.130 RSD(%): 2.41
Corrected Conc (ug/L ): 10.79

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Se ID: 86027S Seq. No.: 00038 A/S Pos.: 12 Date: 07/15/98

Replicate 1 (Peak Stored) Time: 09:14
Peak Area (A-s): 1.071 Peak Height (A): 0.244
Background Pk Area (A-s): 0.055 Background Pk Height (A): 0.029
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Blank Corrected Pk Area (A-s): 1.068
Concentration (ug/L ): 6.86 Corrected Conc (ug/L ): 13.72

Replicate 2 (Peak Stored) Time: 09:14
Peak Area (A-s): 1.058 Peak Height (A): 0.268
Background Pk Area (A-s): 0.037 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 1.056
Concentration (ug/L ): 6.78 Corrected Conc (ug/L ): 13.56

Replicate 3 (Peak Stored) Time: 09:15
Peak Area (A-s): 1.031 Peak Height (A): 0.234
Background Pk Area (A-s): 0.068 Background Pk Height (A): 0.041
Blank Corrected Pk Area (A-s): 1.028
Concentration (ug/L ): 6.60 Corrected Conc (ug/L ): 13.20

Mean Conc (ug/L ): 6.75 SD: 0.132 RSD(%): 1.95
Corrected Conc (ug/L ): 13.49

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Se ID: 86100SD Seq. No.: 00040 A/S Pos.: 13 Date: 07/15/98

Replicate 1 (Peak Stored) Time: 09:18
Peak Area (A-s): 1.099 Peak Height (A): 0.260
Background Pk Area (A-s): 0.038 Background Pk Height (A): 0.032
Blank Corrected Pk Area (A-s): 1.097
Concentration (ug/L ): 7.04 Corrected Conc (ug/L ): 14.09

Replicate 2 (Peak Stored) Time: 09:19
Peak Area (A-s): 1.125 Peak Height (A): 0.267
Background Pk Area (A-s): -0.004 Background Pk Height (A): 0.031
Blank Corrected Pk Area (A-s): 1.122
Concentration (ug/L ): 7.21 Corrected Conc (ug/L ): 14.42

Replicate 3 (Peak Stored) Time: 09:19
Peak Area (A-s): 1.105 Peak Height (A): 0.271
Background Pk Area (A-s): -0.007 Background Pk Height (A): 0.035
Blank Corrected Pk Area (A-s): 1.102
Concentration (ug/L ): 7.08 Corrected Conc (ug/L ): 14.16

Mean Conc (ug/L ): 7.11 SD: 0.087 RSD(%): 1.22
Corrected Conc (ug/L ): 14.22

86% rec RPD= 1.4%

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Se ID: 86027S Seq. No.: 00042 A/S Pos.: 12 Date: 07/15/98

Replicate 1 (Peak Stored) Time: 09:21
Peak Area (A-s): 1.144 Peak Height (A): 0.256
Background Pk Area (A-s): -0.010 Background Pk Height (A): 0.029
Blank Corrected Pk Area (A-s): 1.141
Concentration (ug/L ): 7.33 Corrected Conc (ug/L ): 14.66

Replicate 2 (Peak Stored) Time: 09:22
Peak Area (A-s): 1.094 Peak Height (A): 0.274
Background Pk Area (A-s): 0.002 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 1.092
Concentration (ug/L ): 7.01 Corrected Conc (ug/L ): 14.02

Replicate 3 (Peak Stored) Time: 09:22
Peak Area (A-s): 1.137 Peak Height (A): 0.256

Background Pk Area (A-s): -0.004 Background Pk Height (A): 0.031
Blank Corrected Pk Area (A-s): 1.135
Concentration (ug/L ): 7.29 Corrected Conc (ug/L ): 14.58

Mean Conc (ug/L ): 7.21 SD: 0.174 RSD(%): 2.41
Corrected Conc (ug/L ): 14.42 91% rec. RP

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Se ID: 86987 Seq. No.: 00044 A/S Pos.: 18 Date: 07/15/98

Replicate 1 (Peak Stored) Time: 09:25
Peak Area (A-s): 0.1[illegible] Peak Height (A): 0.0[illegible]
Background Pk Area (A-s): 0.01[illegible] Background Pk Height (A): 0.0[illegible]
Blank Corrected Pk Area (A-s): 0.[illegible]
Concentration (ug/L ): 0.62 Corrected Conc (ug/L ): 1.23

Replicate 2 (Peak Stored) Time: 09:26
Peak Area (A-s): [illegible] Peak Height (A): 0.05[illegible]
Background Pk Area (A-s): -0.026 Background Pk Height (A): 0.026
Blank Corrected Pk Area (A-s): 0.148
Concentration (ug/L ): 0.91 Corrected Conc (ug/L ): 1.81

Replicate 3 (Peak Stored) Time: 09:27
Peak Area (A-s): 0.062 Peak Height (A): 0.055
Background Pk Area (A-s): [illegible]0.009 Background Pk Height (A): 0.029
Blank Corrected Pk Area (A-s): 0.060
Concentration (ug/L ): 0.33 Corrected Conc (ug/L ): 0.66

Mean Conc (ug/L ): 0.62 SD: 0.287 RSD(%): 46.49
Corrected Conc (ug/L ): 1.24

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Se ID: 86987 Seq. No.: 00045 A/S Pos.: 18 Date: 07/15/98

Replicate 1 (Peak Stored) Time: 09:28
Peak Area (A-s): 0.052 Peak Height (A): 0.051
Background Pk Area (A-s): [illegible] Background Pk Height (A): 0.03[illegible]
Blank Corrected Pk Area (A-s): 0.049
Concentration (ug/L ): 0.26 Corrected Conc (ug/L ): [illegible].53

Replicate 2 (Peak Stored) Time: 09:28
Peak Area (A-s): 0.145 Peak Height (A): 0.0[illegible]
Background Pk Area (A-s): -0.025 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.142
Concentration (ug/L ): 0.87 Corrected Conc (ug/L ): [illegible]

Replicate 3 (Peak Stored) Time: 09:29
Peak Area (A-s): 0.093 Peak Height (A): 0.061
Background Pk Area (A-s): 0.01[illegible] Background Pk Height (A): 0.032
Blank Corrected Pk Area (A-s): 0.0[illegible]
Concentration (ug/L ): 0.53 Corrected Conc (ug/L ): [illegible].06

Mean Conc (ug/L ): 0.55 SD: 0.302 RSD(%): 54.52
Corrected Conc (ug/L ): 1.11

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Se ID: 85330D Seq. No.: 00046 A/S Pos.: 20 Date: 07/15/98

Replicate 1 (Peak Stored) Time: [illegible]
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Peak Area (A-s): 0.075 | Peak Height (A): [illegible]
Background Pk Area (A-s): 0.008 | Background Pk Height (A): 0.044
Blank Corrected Pk Area (A-s): 0.073
Concentration (ug/L ): 0.42 | Corrected Conc (ug/L ): 0.84

Replicate 2 (Peak Stored) | Time: 09:31
Peak Area (A-s): 0.130 | Peak Height (A): 0.055
Background Pk Area (A-s): 0.017 | Background Pk Height (A): 0.03[illegible]
Blank Corrected Pk Area (A-s): 0.127
Concentration (ug/L ): 0.77 | Corrected Conc (ug/L ): 1.54

Replicate 3 (Peak Stored) | Time: 09:31
Peak Area (A-s): 0.083 | Peak Height (A): 0.062
Background Pk Area (A-s): -0.012 | Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): 0.080
Concentration (ug/L ): 0.47 | Corrected Conc (ug/L ): 0.93

Mean Conc (ug/L ): 0.55 | SD: 0.191 | RSD(%): 34.53
Corrected Conc (ug/L ): 1.10

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Se ID: 85330D Seq. No.: 00047 A/S Pos.: 20 Date: 07/15/98

Replicate 1 (Peak Stored) | Time: 09:32
Peak Area (A-s): 0.098 | Peak Height (A): 0.056
Background Pk Area (A-s): -0.001 | Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.096
Concentration (ug/L ): 0.57 | Corrected Conc (ug/L ): 1.13

Replicate 2 (Peak Stored) | Time: 09:33
Peak Area (A-s): 0.093 | Peak Height (A): 0.053
Background Pk Area (A-s): 0.022 | Background Pk Height (A): 0.028
Blank Corrected Pk Area (A-s): 0.090
Concentration (ug/L ): 0.53 | Corrected Conc (ug/L ): 1.06

Replicate 3 (Peak Stored) | Time: 09:33
Peak Area (A-s): 0.114 | Peak Height (A): 0.062
Background Pk Area (A-s): 0.025 | Background Pk Height (A): 0.029
Blank Corrected Pk Area (A-s): 0.111
Concentration (ug/L ): 0.67 | Corrected Conc (ug/L ): 1.33

Mean Conc (ug/L ): 0.59 | SD: 0.071 | RSD(%): 12.03
Corrected Conc (ug/L ): 1.18

RPD= 16.5%

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Se ID: 86988 Seq. No.: 00049 A/S Pos.: 19 Date: 07/15/98

Replicate 1 (Peak Stored) | Time: 09:35
Peak Area (A-s): 0.100 | Peak Height (A): 0.059
Background Pk Area (A-s): 0.016 | Background Pk Height (A): 0.031
Blank Corrected Pk Area (A-s): 0.098
Concentration (ug/L ): 0.58 | Corrected Conc (ug/L ): 1.16

Replicate 2 (Peak Stored) | Time: 09:36
Peak Area (A-s): 0.073 | Peak Height (A): 0.048
Background Pk Area (A-s): 0.004 | Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.070
Concentration (ug/L ): 0.40 | Corrected Conc (ug/L ): 0.80

Replicate 3 (Peak Stored) Time: 09:36
Peak Area (A-s): 0.091 Peak Height (A): 0.056
Background Pk Area (A-s): 0.009 Background Pk Height (A): 0.034
Blank Corrected Pk Area (A-s): 0.089
Concentration (ug/L ): 0.52 Corrected Conc (ug/L ): 1.05

Mean Conc (ug/L ): 0.50 SD: 0.092 RSD(%): 18.28
Corrected Conc (ug/L ): 1.00

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Se ID: CCV Seq. No.: 00050 A/S Pos.: 7 Date: 07/15/98

Replicate 1 (Peak Stored) Time: 09:37
Peak Area (A-s): 0.645 Peak Height (A): 0.167
Background Pk Area (A-s): -0.009 Background Pk Height (A): 0.041
Blank Corrected Pk Area (A-s): 0.642
Concentration (ug/L ): 4.10

Replicate 2 (Peak Stored) Time: 09:38
Peak Area (A-s): 0.611 Peak Height (A): 0.165
Background Pk Area (A-s): 0.026 Background Pk Height (A): 0.034
Blank Corrected Pk Area (A-s): 0.608
Concentration (ug/L ): 3.88

Replicate 3 (Peak Stored) Time: 09:38
Peak Area (A-s): 0.641 Peak Height (A): 0.159
Background Pk Area (A-s): 0.002 Background Pk Height (A): 0.032
Blank Corrected Pk Area (A-s): 0.638
Concentration (ug/L ): 4.08

Mean Conc (ug/L ): 4.02 100% SD: 0.120 RSD(%): 2.99

QC sample is within range 3.20 - 4.80

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Se ID: CCB Seq. No.: 00051 A/S Pos.: 8 Date: 07/15/98

Replicate 1 (Peak Stored) Time: 09:40
Peak Area (A-s): 0.004 Peak Height (A): 0.039
Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.032
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L ): -0.04

Replicate 2 (Peak Stored) Time: 09:40
Peak Area (A-s): -0.025 Peak Height (A): 0.040
Background Pk Area (A-s): 0.006 Background Pk Height (A): 0.032
Blank Corrected Pk Area (A-s): -0.028
Concentration (ug/L ): -0.23

Replicate 3 (Peak Stored) Time: 09:41
Peak Area (A-s): 0.004 Peak Height (A): 0.045
Background Pk Area (A-s): 0.009 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L ): -0.04

Mean Conc (ug/L ): -0.11 <0.5 SD: 0.110 RSD(%): 104.18

QC sample is within range -0.50 - +0.50

INORGANICS DEPARTMENT

Raw Data - Cover Sheet

Date of Analysis 07 / 13 / 98 Analyst David Taylor

LIMS ID

Optima 3000 ICP "Scanwater 10" E8_0381

Clients included in this data package

| Client | Sub. # | Due Date | full | Sub. # | Due Date | full | Sub. # | Due Date | |
|---|---|---|---|---|---|---|---|---|---|
| 1. [redacted] | 12448 | 07/27/98 | ☐ | 12479 | 01/01/01 | ☐ | 12480 | 01/01/01 | ☐ |
| 2. Ecology & Environ | 12497 | 07/17/98 | ☐ | | | ☐ | | | ☐ |
| 3. [redacted] | 12498 | 01/01/01 | ☐ | | | ☐ | | | ☐ |
| 4. [redacted] | 12470 | 07/16/98 | ☐ | | | ☐ | | | ☐ |
| 5. [redacted] | 12500 | 07/24/98 | ☐ | 12501 | 01/01/01 | ☐ | 12502 | 01/01/01 | ☐ |
| 6. [redacted] | 12495 | 07/20/98 | ☐ | | | ☐ | | | ☐ |
| [redacted] | 12494 | 07/14/98 | ☐ | | | ☐ | | | ☐ |
| [redacted] | 12512 | 07/20/98 | ☐ | | | ☐ | | | ☐ |
| [redacted] | 12510 | 07/27/98 | ☐ | 12511 | 07/27/98 | ☐ | 12514 | 01/01/01 | ☐ |
| 10. | | | ☐ | | | ☐ | | | ☐ |

TJJ
07/14/98

| TIER I REVIEW - (Analyst) | Comments: |
|---|---|
| ☑ Calculations are accurate and complete. | |
| ☑ QC frequency is satisfied. | |
| ☑ QC group requirements are satisfied. | |
| ☑ All appropriate instrument printouts are attached. | |

TD
7/14/98

| TIER II REVIEW - (Senior Analyst) | Comments. |
|---|---|
| ☐ 10% calculation review completed. | |
| ☐ Quality control review completed. | |
| ☐ All rejected results have been documented. | |

/ /

| TIER III REVIEW - (Data Management) | Comments |
|---|---|
| ☐ 20% calculation review completed. | |
| ☐ Quality Control review completed | |
| ☐ Data accepted. | |
| ☐ Data rejected. | |
| ☐ All rejected results have been documented and rescheduled. | |
| ☐ Data is summarized. | |

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[illegible]

# OPTIMA METALS STANDARDS

## TRACEABILITY / TRACKING SHEET

| E8_0381 | 07/13/98 | David Taylor |
|---|---|---|
| ICP FILE ID | DATE | ANALYST |

| CALIBRATION STANDARDS | TRACEABILITY CODE |
|---|---|
| A-1, A-3, & A-4 | 15 |
| B-1, B-3, & B-4 | 14 |
| C-1, C-3, & C-4 | 14 |
| Fe-LOW, Fe-MID, & Fe-HI | 12 |
| Ag-LOW, Ag-MID, & Ag-HI | 13 |

| QC STANDARDS | TRACEABILITY CODE |
|---|---|
| ICV/CCV | ICV- 224 |
| ICSA | ICSA- 17 |
| ICSAB | ICSAB- 19 |
| LRA | LRA-_____ |
| $LRA_{Ti,B,Mo}$ | LRA-_____ |
| $LRA_{Ca,Mg}$ | LRA-_____ |
| $LRA_{Fe}$ | LRA-_____ |

©

Sample Information Detail Report
Document Name: E8_0381

File Description
Default Sample Information File

Parameters Common To All Samples

Volume Units mL
Weight Units g

Parameters That Vary With All Samples

| | A/S Location | Sample ID | Batch ID | Diluted To Vol. |
|---|---|---|---|---|
| 001 | 24 | 200085480B | ICPG1301 | |
| 002 | 25 | 200085628C | ICPG1301 | |
| 003 | 26 | 200085481B | ICPG1302 | |
| 004 | 27 | 200085629C | ICPG1302 | |
| 005 | 28 | 200085754CD | ICPG1302 | |
| 006 | 29 | 200085482B | ICPG1304 | |
| 007 | 30 | 200085630C | ICPG1304 | |
| 008 | 31 | 200085483B | ICPG1305 | |
| 009 | 32 | 200085631C | ICPG1305 | |
| 010 | 33 | 200085755CD | ICPG1305 | |
| 011 | 34 | 200086879 | ICPG1003 | |
| 012 | 35 | 200087014 | ICPG1204 | 10 |
| 013 | 36 | 200087015 | ICPG1204 | 10 |
| 014 | 37 | 200087016 | ICPG1204 | 10 |
| 015 | 38 | 200087017 | ICPG1204 | 10 |
| 016 | 39 | 200087018 | ICPG1204 | 10 |
| 017 | 40 | 200087019 | ICPG1204 | 10 |
| 018 | 41 | 200087019D | ICPG1204 | 10 |
| 019 | 42 | 200087019S | ICPG1204 | 10 |
| 020 | 1 | RINSE | | |
| 021 | 43 | 200087022 | ICPG1204 | 10 |
| 022 | 44 | 200086953 | ICPG1302 | |
| 023 | 45 | 200086953L | ICPG1302 | 5 |
| 024 | 46 | 200086953 | ICPG1302 | 10 |
| 025 | 47 | 200087084 | ICPG1302 | |
| 026 | 48 | 200087085 | ICPG1302 | |
| 027 | 49 | 200087086 | ICPG1302 | |
| 028 | 50 | 200087087 | ICPG1302 | |
| 029 | 51 | 200087088 | ICPG1302 | |
| 030 | 8 | RINSE | | |
| 031 | 52 | 200087088S | ICPG1302 | |
| 032 | 53 | 200087088A | ICPG1302 | |
| 033 | 54 | 200087092 | ICPG1302 | |
| 034 | 55 | 200087094 | ICPG1302 | |
| 035 | 56 | 200087094D | ICPG1302 | |
| 036 | 57 | 200087084 | ICPG1302 | 10 |
| 037 | 58 | 200087085 | ICPG1302 | 10 |
| 038 | 59 | 200087086 | ICPG1302 | 10 |
| 039 | 60 | 200087087 | ICPG1302 | 10 |
| 040 | 1 | RINSE | | |
| 041 | 61 | 200087088 | ICPG1302 | 10 |
| 042 | 62 | 200087088S | ICPG1302 | 10 |
| 043 | 63 | 200087088A | ICPG1302 | 10 |
| 044 | 64 | 200087092 | ICPG1302 | 10 |
| 045 | 65 | 200087094 | ICPG1302 | 10 |
| 046 | 66 | 200087094D | ICPG1302 | 10 |
| 047 | 67 | 200087052 | ICPG1302 | |
| 048 | 68 | 200087053 | ICPG1302 | |
| 049 | 69 | 200087054 | ICPG1302 | |
| 050 | 8 | RINSE | | |

| | | | | |
|---|---|---|---|---|
| 051 | 70 | 200087059 | ICPG1301 | |
| 052 | 71 | 200087061 | ICPG1301 | |
| 053 | 72 | 200087061S | ICPG1301 | |
| 054 | 73 | 200087061SD | ICPG1301 | |
| 055 | 74 | 200087061A | ICPG1301 | |
| 056 | 75 | 200087059 | ICPG1301 | 10 |
| 057 | 76 | 200087061 | ICPG1301 | 10 |
| 058 | 77 | 200087061S | ICPG1301 | 10 |
| 059 | 78 | 200087061SD | ICPG1301 | 10 |
| 060 | 1 | RINSE | | |
| 061 | 79 | 200087061A | ICPG1301 | 10 |
| 062 | 80 | 200087063 | ICPG1301 | |
| 063 | 81 | 200087064 | ICPG1301 | |
| 064 | 82 | 200087065 | ICPG1301 | |
| 065 | 83 | 200087066 | ICPG1301 | |
| 066 | 84 | 200087067 | ICPG1301 | |
| 067 | 85 | 200087068 | ICPG1301 | |
| 068 | 86 | 200087069 | ICPG1301 | |
| 069 | 87 | 200087069D | ICPG1301 | |
| 070 | 8 | RINSE | | |
| 071 | 88 | 200087070 | ICPG1301 | |
| 072 | 89 | 200087071 | ICPG1301 | |
| 073 | 90 | 200087072 | ICPG1301 | |
| 074 | 91 | 200087073 | ICPG1301 | |
| 075 | 92 | 200087074 | ICPG1301 | |
| 076 | 93 | 200087075 | ICPG1301 | |
| 077 | 94 | 200087043 | ICPG1304 | |
| 078 | 95 | 200087044 | ICPG1304 | |
| 079 | 96 | 200087045 | ICPG1304 | |
| 080 | 1 | RINSE | | |
| 081 | 97 | 200087046 | ICPG1304 | |
| 082 | 98 | 200087047 | ICPG1304 | |
| 083 | 99 | 200087048 | ICPG1304 | |
| 084 | 100 | 200087123 | ICPG1305 | |
| 085 | 101 | 200087123D | ICPG1305 | |
| 086 | 102 | 200087123S | ICPG1305 | |
| 087 | 103 | 200087123A | ICPG1305 | |
| 088 | 104 | 200087124 | ICPG1305 | |
| 089 | 105 | 200087125 | ICPG1305 | |
| 090 | 8 | RINSE | | |
| 091 | 106 | 200087126 | ICPG1305 | |
| 092 | 107 | 200087127 | ICPG1305 | |
| 093 | 108 | 200087128 | ICPG1305 | |
| 094 | 109 | 200087129 | ICPG1305 | |
| 095 | 110 | 200087130 | ICPG1305 | |
| 096 | 111 | 200087131 | ICPG1305 | |
| 097 | 112 | 200087132 | ICPG1305 | |
| 098 | 113 | 200087139 | ICPG1305 | |
| 099 | 114 | 200087142 | ICPG1305 | |
| 100 | 1 | RINSE | | |
| 101 | 115 | 200087146 | ICPG1305 | |
| 102 | 116 | 200087147 | ICPG1305 | |
| 103 | 117 | 200087123 | ICPG1305 | 10 |
| 104 | 118 | 200087123D | ICPG1305 | 10 |
| 105 | 119 | 200087123S | ICPG1305 | 10 |
| 106 | 120 | 200087123A | ICPG1305 | 10 |
| 107 | 121 | 200087124 | ICPG1305 | 10 |
| 108 | 122 | 200087125 | ICPG1305 | 10 |
| 109 | 123 | 200087126 | ICPG1305 | 10 |
| 110 | 8 | RINSE | | |
| 111 | 124 | 200087127 | ICPG1305 | 10 |
| 112 | 125 | 200087128 | ICPG1305 | 10 |
| 113 | 126 | 200087129 | ICPG1305 | 10 |

| | | | | |
|---|---|---|---|---|
| 114 | 127 | 200087130 | ICPG1305 | 10 |
| 115 | 128 | 200087131 | ICPG1305 | 10 |
| 116 | 129 | 200087132 | ICPG1305 | 10 |
| 117 | 130 | 200087139 | ICPG1305 | 10 |
| 118 | 131 | 200087142 | ICPG1305 | 10 |
| 119 | 132 | 200087146 | ICPG1305 | 10 |
| 120 | 1 | RINSE | | |
| 121 | 133 | 200087147 | ICPG1305 | 10 |
| 122 | 8 | RINSE | | |

| | Matrix Check Sample | Analyze QCs Before |
|---|---|---|
| 001 | | 3-9,1-4 |
| 002 | Recovery(1) of 1 | |
| 003 | | |
| 004 | Recovery(1) of 3 | |
| 005 | Duplicate of 4 | |
| 006 | | |
| 007 | Recovery(1) of 6 | |
| 008 | | |
| 009 | Recovery(1) of 8 | |
| 010 | Duplicate of 9 | |
| 011 | | 10,11 |
| 012 | | |
| 013 | | |
| 014 | | |
| 015 | | |
| 016 | | |
| 017 | | |
| 018 | Duplicate of 17 | |
| 019 | Recovery(1) of 17 | |
| 020 | | |
| 021 | | 3,4 |
| 022 | | |
| 023 | | |
| 024 | | |
| 025 | | |
| 026 | | |
| 027 | | |
| 028 | | |
| 029 | | |
| 030 | | |
| 031 | Recovery(1) of 29 | 10,11 |
| 032 | | |
| 033 | | |
| 034 | | |
| 035 | Duplicate of 34 | |
| 036 | | |
| 037 | | |
| 038 | | |
| 039 | | |
| 040 | | |
| 041 | | 3,4 |
| 042 | Recovery(1) of 41 | |
| 043 | | |
| 044 | | |
| 045 | | |
| 046 | Duplicate of 45 | |
| 047 | | |
| 048 | | |
| 049 | | |
| 050 | | |

| | | |
|---|---|---|
| 051 | | 10,11 |
| 052 | | |
| 053 | Recovery(1) of 52 | |
| 054 | Duplicate of 53 | |
| 055 | | |
| 056 | | |
| 057 | | |
| 058 | Recovery(1) of 57 | |
| 059 | Duplicate of 58 | |
| 060 | | |
| 061 | | 3,4 |
| 062 | | |
| 063 | | |
| 064 | | |
| 065 | | |
| 066 | | |
| 067 | | |
| 068 | | |
| 069 | Duplicate of 68 | |
| 070 | | |
| 071 | | 10,11 |
| 072 | | |
| 073 | | |
| 074 | | |
| 075 | | |
| 076 | | |
| 077 | | |
| 078 | | |
| 079 | | |
| 080 | | |
| 081 | | 3,4 |
| 082 | | |
| 083 | | |
| 084 | | |
| 085 | Duplicate of 84 | |
| 086 | Recovery(1) of 85 | |
| 087 | | |
| 088 | | |
| 089 | | |
| 090 | | |
| 091 | | 10,11 |
| 092 | | |
| 093 | | |
| 094 | | |
| 095 | | |
| 096 | | |
| 097 | | |
| 098 | | |
| 099 | | |
| 100 | | |
| 101 | | 3,4 |
| 102 | | |
| 103 | | |
| 104 | Duplicate of 103 | |
| 105 | Recovery(1) of 103 | |
| 106 | | |
| 107 | | |
| 108 | | |
| 109 | | |
| 110 | | |
| 111 | | 10,11 |
| 112 | | |
| 113 | | |

114
115
116
117
118
119
120 AFTER 3,4
121
122 AFTER 1,2,10,11

# E8_0381 Calibration Report

| Analyte | Sample Date | Correlation | Slope | Y-Intercept |
|---|---|---|---|---|
| Ag 328.068 | 7/13/98 | 0.999999535 | 15017.55167 | -43.47367679 |
| Ag 338.289 | 7/13/98 | 0.99998583 | 7748.389008 | -105.1238878 |
| Al 308.215 | 7/13/98 | 0.999999998 | 1870.846973 | 103.4280503 |
| Al 396.152 | 7/13/98 | 0.999999998 | 7346.569632 | -170.5824548 |
| As 188.979 | 7/13/98 | 1 | 354.5455082 | 9.372451887 |
| As 193.696 | 7/13/98 | 0.999999999 | 340.7719025 | 13.7658303 |
| B 182.527 | 7/13/98 | 0.999999974 | 502.921892 | 12.6935412 |
| B 249.773 | 7/13/98 | 0.999999999 | 11239.48622 | 411.1468202 |
| Ba 233.527 | 7/13/98 | 1 | 7674.745994 | -21.82164218 |
| Be 234.861 | 7/13/98 | 0.999999995 | 145341.4153 | -131.2023408 |
| Be 313.107 | 7/13/98 | 1 | 289021.7009 | 980.3424988 |
| Ca 317.933 | 7/13/98 | 0.999999994 | 8799.506131 | 241.0830715 |
| Cd 214.438 | 7/13/98 | 0.999999998 | 6838.01141 | 31.41005809 |
| Cd 226.502 | 7/13/98 | 0.999999999 | 4212.719793 | -2.773425502 |
| Co 228.616 | 7/13/98 | 0.999999998 | 3512.350232 | -3.231899249 |
| Cr 205.552 | 7/13/98 | 0.999999999 | 2227.498456 | 7.515796526 |
| Cr 206.149 | 7/13/98 | 0.999999995 | 2230.836826 | 18.52144229 |
| Cu 224.700 | 7/13/98 | 1 | 2398.959216 | 11.71248269 |
| Cu 324.754 | 7/13/98 | 0.999999998 | 29889.86363 | 230.2981941 |
| Fe 238.204 | 7/13/98 | 0.999999999 | 10044.59043 | 60.05215616 |
| Fe 239.562 | 7/13/98 | 0.999999998 | 5366.703431 | -35.81331174 |
| K 766.491 | 7/13/98 | 0.999999968 | 4025.660676 | 834.3323086 |
| Mg 279.079 | 7/13/98 | 0.999999998 | 986.2216019 | -329.5980234 |
| Mn 257.610 | 7/13/98 | 0.999999999 | 61269.35852 | -33.76918933 |
| Mn 260.569 | 7/13/98 | 0.999999998 | 33898.48463 | 77.33488543 |
| Mo 202.030 | 7/13/98 | 1 | 1555.006383 | -0.928154757 |
| Mo 203.844 | 7/13/98 | 0.999999999 | 922.8398413 | 17.31706988 |
| Na 589.592 | 7/13/98 | 0.999999989 | 14322.4882 | 794.1667165 |
| Ni 231.604 | 7/13/98 | 0.999999999 | 1941.827602 | -28.69647993 |
| Ni 232.003 | 7/13/98 | 0.999999999 | 1682.684714 | 67.61776977 |
| Pb 220.353 | 7/13/98 | 0.999999976 | 413.2204813 | -0.854332214 |
| Sb 206.833 | 7/13/98 | 0.999999993 | 317.1351101 | 1.86645957 |
| Sb 217.581 | 7/13/98 | 0.999999994 | 263.2212516 | 22.70903005 |
| Se 196.026 | 7/13/98 | 0.999999995 | 310.5001097 | -2.404258627 |
| Si 212.412 | 7/13/98 | 0.999999982 | 885.8900608 | 117.2653629 |
| Si 251.606 | 7/13/98 | 0.999999985 | 4208.984191 | 673.8434654 |
| Sn 189.933 | 7/13/98 | 0.9999998 | 575.1014397 | 19.49899166 |
| Ti 334.941 | 7/13/98 | 0.999999999 | 62334.13589 | 172.2839352 |
| Ti 336.117 | 7/13/98 | 0.999999999 | 43641.33918 | 427.7911343 |
| Tl 190.800 | 7/13/98 | 0.999999999 | 229.2691379 | 0.90815976 |
| V 292.402 | 7/13/98 | 0.999999998 | 14514.23843 | 37.8099683 |
| Zn 202.548 | 7/13/98 | 0.999999982 | 5034.104624 | 60.68589483 |
| Zn 213.856 | 7/13/98 | 0.999999979 | 8166.280754 | 101.1356894 |

Created: 9:01 AM 7/14/98

# ICPG1301

| Element | % | Run_Name | Flag |
|---|---|---|---|
| Aluminum | 100 | E8_0381 | |
| Antimony | 103 | E8_0381 | |
| Arsenic | 102 | E8_0381 | |
| Barium | 99 | E8_0381 | |
| Beryllium | 103 | E8_0381 | |
| Boron | 102 | E8_0381 | |
| Cadmium | 102 | E8_0381 | |
| Calcium | 102 | E8_0381 | |
| Chromium | 102 | E8_0381 | |
| Cobalt | 97 | E8_0381 | |
| Copper | 99 | E8_0381 | |
| Iron | 98 | E8_0381 | |
| Lead | 98 | E8_0381 | |
| Magnesium | 100 | E8_0381 | |
| Manganese | 101 | E8_0381 | |
| Molybdenum | 101 | E8_0381 | |
| Nickel | 99 | E8_0381 | |
| Potassium | 100 | E8_0381 | |
| Selenium | 102 | E8_0381 | |
| Silicon | 108 | E8_0381 | |
| Silver | 100 | E8_0381 | |
| Sodium | 101 | E8_0381 | |
| Thallium | 96 | E8_0381 | |
| Tin | 95 | E8_0381 | |
| Titanium | 103 | E8_0381 | |
| Vanadium | 101 | E8_0381 | |
| Zinc | 99 | E8_0381 | |

# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 16 28 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 49995207 | | mg/L | 0 01 | 99 990414 | YES |
| Aluminum | 50 5664089 | | mg/L | 0 1 | 101 132818 | YES |
| Arsenic | 2 05102227 | | mg/L | 0 05 | 102 551114 | YES |
| Boron | 2 71140057 | | mg/L | 0 1 | 108 456023 | YES |
| Barium | 0 99687046 | | mg/L | 0 01 | 99 687046 | YES |
| Beryllium | 0 20362274 | | mg/L | 0 005 | 101 81137 | YES |
| Calcium | 51 7554481 | | mg/L | 0 1 | 103 510896 | YES |
| Cadmium | 0 20540358 | | mg/L | 0 005 | 102 70179 | YES |
| Cobalt | 0 97400323 | | mg/L | 0 015 | 97 400323 | YES |
| Chromium | 1 00955855 | | mg/L | 0 02 | 100 955855 | YES |
| Copper | 0 9914514 | | mg/L | 0 02 | 99 14514 | YES |
| Iron | 4 91096779 | | mg/L | 0 02 | 98 2193558 | YES |
| Potassium | 50 6901286 | | mg/L | 0 1 | 101 380257 | YES |
| Magnesium | 50 5721673 | | mg/L | 0 1 | 101 144335 | YES |
| Manganese | 0 19874602 | | mg/L | 0 005 | 99 37301 | YES |
| Molybdenum | 2 53133344 | | mg/L | 0 1 | 101 253338 | YES |
| Sodium | 51 2767995 | | mg/L | 0 1 | 102 553599 | YES |
| Nickel | 0 98765881 | | mg/L | 0 02 | 98 765881 | YES |
| Lead | 0 98740205 | | mg/L | 0 02 | 98 740205 | YES |
| Antimony | 1 05035508 | | mg/L | 0 05 | 105 035508 | YES |
| Selenium | 2 05537945 | | mg/L | 0 05 | 102 768973 | YES |
| Tin | 4 76005315 | | mg/L | 0 1 | 95 201063 | YES |
| Silicon | 5 29380741 | | mg/L | 0 2 | 105 876148 | YES |
| Titanium | 1 02339635 | | mg/L | 0 05 | 102 339635 | YES |
| Thallium | 0 98304324 | | mg/L | 0 05 | 98 304324 | YES |
| Vanadium | 0 99682565 | | mg/L | 0 02 | 99 682565 | YES |
| Zinc | 0 98964603 | | mg/L | 0 02 | 98 964603 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 16 28 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 49851113 | | mg/L | 0 01 | 99 702226 | D |
| Aluminum | 51 5459175 | | mg/L | 0 1 | 103 091835 | D |
| Arsenic | 2 04594083 | | mg/L | 0 05 | 102 297042 | D |
| Boron | 2 4920566 | | mg/L | 0 1 | 99 682264 | D |
| Beryllium | 0 1991061 | | mg/L | 0 005 | 99 55305 | D |
| Cadmium | 0 20292096 | | mg/L | 0 005 | 101 46048 | D |
| Chromium | 1 00952391 | | mg/L | 0 02 | 100 952391 | D |
| Copper | 0 95347034 | | mg/L | 0 02 | 95 347034 | D |
| Iron | 4 89915925 | | mg/L | 0 02 | 97 983185 | D |
| Manganese | 0 19754601 | | mg/L | 0 005 | 98 773005 | D |
| Molybdenum | 2 51546831 | | mg/L | 0 1 | 100 618732 | D |
| Nickel | 0 97240121 | | mg/L | 0 02 | 97 240121 | D |
| Antimony | 1 05685924 | | mg/L | 0 05 | 105 685924 | D |
| Silicon | 5 37396042 | | mg/L | 0 2 | 107 479208 | D |
| Titanium | 1 01056787 | | mg/L | 0 05 | 101 056787 | D |
| Zinc | 0 99277593 | | mg/L | 0 02 | 99 277593 | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 20 43 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00052689 | U | mg/L | 0 01 | | YES |
| Aluminum | -0 0003321 | U | mg/L | 0 1 | | YES |
| Arsenic | 0 00395794 | U | mg/L | 0 05 | | YES |
| Boron | 0 01004537 | U | mg/L | 0 1 | | YES |
| Barium | 0 00132107 | U | mg/L | 0 01 | | YES |
| Beryllium | 0 00050039 | U | mg/L | 0 005 | | YES |
| Calcium | -0 0061519 | U | mg/L | 0 1 | | YES |
| Cadmium | -0 0004285 | U | mg/L | 0 005 | | YES |
| Cobalt | 0 00082421 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0044274 | U | mg/L | 0 02 | | YES |
| Copper | -0 0020748 | U | mg/L | 0 02 | | YES |
| Iron | -0 0010292 | U | mg/L | 0 02 | | YES |
| Potassium | -0 0096179 | U | mg/L | 0 1 | | YES |
| Magnesium | 0 0025578 | U | mg/L | 0 1 | | YES |
| Manganese | 0 00015463 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 0035431 | U | mg/L | 0 1 | | YES |
| Sodium | -0 0071188 | U | mg/L | 0 1 | | YES |
| Nickel | -0 0001626 | U | mg/L | 0 02 | | YES |
| Lead | -0 0042106 | U | mg/L | 0 02 | | YES |
| Antimony | -0 0157688 | U | mg/L | 0 05 | | YES |
| Selenium | -0 0033627 | U | mg/L | 0 05 | | YES |
| Tin | -0 0115399 | U | mg/L | 0 1 | | YES |
| Silicon | -0 0372253 | U | mg/L | 0 2 | | YES |
| Titanium | -0 0010101 | U | mg/L | 0 05 | | YES |
| Thallium | 0 00557814 | U | mg/L | 0 05 | | YES |
| Vanadium | 0 00116441 | U | mg/L | 0 02 | | YES |
| Zinc | -0 0101095 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 20 43 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00185709 | U | mg/L | 0 01 | | D |
| Aluminum | -0 008388 | U | mg/L | 0 1 | | D |
| Arsenic | 0 00194822 | U | mg/L | 0 05 | | D |
| Boron | 0 0229027 | U | mg/L | 0 1 | | D |
| Beryllium | 0 00018239 | U | mg/L | 0 005 | | D |
| Cadmium | -0 0000159 | U | mg/L | 0 005 | | D |
| Chromium | -0 0034991 | U | mg/L | 0 02 | | D |
| Copper | -0 0007409 | U | mg/L | 0 02 | | D |
| Iron | -0 0008075 | U | mg/L | 0 02 | | D |
| Manganese | 0 00010753 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 00077536 | U | mg/L | 0 1 | | D |
| Nickel | 0 00376814 | U | mg/L | 0 02 | | D |
| Antimony | -0 00291 | U | mg/L | 0 05 | | D |
| Silicon | -0 0339969 | U | mg/L | 0 2 | | D |
| Titanium | -0 0014852 | U | mg/L | 0 05 | | D |
| Zinc | -0 0101751 | U | mg/L | 0 02 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | A-1 HIGH STANDARD |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 24 31 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 0601633 | N | mg/L | 0 01 | | YES |
| Aluminum | 0 0837371 | U | mg/L | 0 1 | | YES |
| Arsenic | 99 949645 | | mg/L | 0 05 | | YES |
| Boron | 104 729816 | | mg/L | 0 1 | | C |
| Barium | 49 4002964 | | mg/L | 0 01 | | YES |
| Beryllium | 9 89544699 | | mg/L | 0 005 | | YES |
| Calcium | 0 05274689 | U | mg/L | 0 1 | | YES |
| Cadmium | 10 0204976 | | mg/L | 0 005 | | YES |
| Cobalt | 49 5028229 | | mg/L | 0 015 | | YES |
| Chromium | 49 8544795 | | mg/L | 0 02 | | YES |
| Copper | 49 5910413 | | mg/L | 0 02 | | YES |
| Iron | -0 0044894 | U | mg/L | 0 02 | | YES |
| Potassium | -0 030488 | U | mg/L | 0 1 | | YES |
| Magnesium | -0 1376108 | N | mg/L | 0.1 | | YES |
| Manganese | 9 89105222 | | mg/L | 0 005 | | YES |
| Molybdenum | -0 0067505 | U | mg/L | 0 1 | | YES |
| Sodium | 0 00836177 | U | mg/L | 0 1 | | YES |
| Nickel | 49 6691771 | | mg/L | 0 02 | | YES |
| Lead | 49 318074 | | mg/L | 0 02 | | YES |
| Antimony | -0 0219387 | U | mg/L | 0 05 | | YES |
| Selenium | 100 156657 | | mg/L | 0 05 | | YES |
| Tin | -0 0109249 | U | mg/L | 0 1 | | YES |
| Silicon | -0 0371702 | U | mg/L | 0 2 | | YES |
| Titanium | 0 01117327 | U | mg/L | 0 05 | | YES |
| Thallium | 99 0846895 | | mg/L | 0 05 | | YES |
| Vanadium | 49 5050771 | | mg/L | 0 02 | | YES |
| Zinc | 49 2011994 | | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | A-1 HIGH STANDARD |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 24 31 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 0345728 | N | mg/L | 0 01 | | D |
| Aluminum | -0 0134953 | U | mg/L | 0 1 | | D |
| Arsenic | 99 9445267 | | mg/L | 0 05 | | D |
| Boron | 98 894399 | | mg/L | 0 1 | | YES |
| Beryllium | 9 91303626 | | mg/L | 0 005 | | D |
| Cadmium | 10 0125372 | | mg/L | 0 005 | | D |
| Chromium | 49 9029299 | | mg/L | 0 02 | | D |
| Copper | 49 2867049 | | mg/L | 0 02 | | D |
| Iron | -0 0100449 | U | mg/L | 0 02 | | D |
| Manganese | 9 86992037 | | mg/L | 0 005 | | D |
| Molybdenum | -0 0203979 | U | mg/L | 0 1 | | D |
| Nickel | 48 245407 | | mg/L | 0 02 | | D |
| Antimony | -0 0507371 | N | mg/L | 0 05 | | D |
| Silicon | -0 0181442 | U | mg/L | 0 2 | | D |
| Titanium | -0 2255372 | N | mg/L | 0 05 | | D |
| Zinc | 49 1476328 | | mg/L | 0 02 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | B-1 HIGH STANDARD |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 28 15 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 0033264 | U | mg/L | 0 01 | | YES |
| Aluminum | 101 626365 | | mg/L | 0 1 | | YES |
| Arsenic | 0 02385257 | U | mg/L | 0 05 | | YES |
| Boron | 0 36990356 | | mg/L | 0 1 | | C |
| Barium | 0 00314443 | U | mg/L | 0 01 | | YES |
| Beryllium | 0 00060482 | U | mg/L | 0 005 | | YES |
| Calcium | 99 7114728 | | mg/L | 0 1 | | YES |
| Cadmium | -0 0014931 | U | mg/L | 0 005 | | YES |
| Cobalt | 0 00168469 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0030393 | U | mg/L | 0 02 | | YES |
| Copper | 0 00505781 | U | mg/L | 0 02 | | YES |
| Iron | 0 0053476 | U | mg/L | 0 02 | | YES |
| Potassium | 101 908081 | | mg/L | 0 1 | | YES |
| Magnesium | 99 9973165 | | mg/L | 0 1 | | YES |
| Manganese | 0 0021295 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 00563456 | U | mg/L | 0 1 | | YES |
| Sodium | 102 155308 | | mg/L | 0 1 | | YES |
| Nickel | 0 00038167 | U | mg/L | 0 02 | | YES |
| Lead | 0 00070423 | U | mg/L | 0 02 | | YES |
| Antimony | 0 00221781 | U | mg/L | 0 05 | | YES |
| Selenium | 0 01290021 | U | mg/L | 0 05 | | YES |
| Tin | -0 0001577 | U | mg/L | 0 1 | | YES |
| Silicon | -0 0470428 | U | mg/L | 0 2 | | YES |
| Titanium | -0 0019893 | U | mg/L | 0 05 | | YES |
| Thallium | 0 0397249 | U | mg/L | 0 05 | | YES |
| Vanadium | 0 00155688 | U | mg/L | 0 02 | | YES |
| Zinc | -0 002263 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | B-1 HIGH STANDARD |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 28 15 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 0123314 | N | mg/L | 0 01 | | D |
| Aluminum | 102 352024 | | mg/L | 0 1 | | D |
| Arsenic | 0 03292903 | U | mg/L | 0 05 | | D |
| Boron | 0 38542412 | | mg/L | 0 1 | | YES |
| Beryllium | 0 00005995 | U | mg/L | 0 005 | | D |
| Cadmium | 0 00064166 | U | mg/L | 0 005 | | D |
| Chromium | -0 0026304 | U | mg/L | 0 02 | | D |
| Copper | 0 00435794 | U | mg/L | 0 02 | | D |
| Iron | 0 00470193 | U | mg/L | 0 02 | | D |
| Manganese | 0 00332309 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 00786749 | U | mg/L | 0 1 | | D |
| Nickel | 0 00190964 | U | mg/L | 0 02 | | D |
| Antimony | -0 0005966 | U | mg/L | 0 05 | | D |
| Silicon | -0 0337735 | U | mg/L | 0 2 | | D |
| Titanium | -0 0041304 | U | mg/L | 0 05 | | D |
| Zinc | 0 00626096 | U | mg/L | 0 02 | | D |

# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | C-1 HIGH STANDARD |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 31 59 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00917161 | U | mg/L | 0 01 | | YES |
| Aluminum | 0 02302601 | U | mg/L | 0 1 | | YES |
| Arsenic | -1 5590584 | N | mg/L | 0 05 | | YES |
| Boron | 0 45390465 | | mg/L | 0 1 | | C |
| Barium | 0 04302791 | | mg/L | 0 01 | | YES |
| Beryllium | 0 00087199 | U | mg/L | 0 005 | | YES |
| Calcium | -0 0288106 | U | mg/L | 0 1 | | YES |
| Cadmium | 0 00854265 | | mg/L | 0 005 | | YES |
| Cobalt | 0 00713912 | U | mg/L | 0 015 | | YES |
| Chromium | 0 01874948 | U | mg/L | 0 02 | | YES |
| Copper | -0 0147305 | U | mg/L | 0 02 | | YES |
| Iron | 0 00726364 | U | mg/L | 0 02 | | YES |
| Potassium | 0 03132186 | U | mg/L | 0 1 | | YES |
| Magnesium | -0 2505568 | N | mg/L | 0 1 | | YES |
| Manganese | -0 0023511 | U | mg/L | 0 005 | | YES |
| Molybdenum | 100 781202 | | mg/L | 0 1 | | YES |
| Sodium | 0 3120977 | | mg/L | 0 1 | | YES |
| Nickel | -0 0123329 | U | mg/L | 0 02 | | YES |
| Lead | -0 1210066 | N | mg/L | 0 02 | | YES |
| Antimony | 102 281785 | | mg/L | 0 05 | | YES |
| Selenium | -0 0361143 | U | mg/L | 0 05 | | YES |
| Tin | 99 9109054 | | mg/L | 0 1 | | YES |
| Silicon | 99 5580015 | | mg/L | 0 2 | | YES |
| Titanium | 101 466599 | | mg/L | 0 05 | | YES |
| Thallium | -0 4652013 | N | mg/L | 0 05 | | YES |
| Vanadium | 0 19763985 | | mg/L | 0 02 | | YES |
| Zinc | -0 0118603 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | C-1 HIGH STANDARD |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 31 59 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 1744212 | N | mg/L | 0 01 | | D |
| Aluminum | 0 27330904 | | mg/L | 0 1 | | D |
| Arsenic | 0 09998185 | | mg/L | 0 05 | | D |
| Boron | 0 44616146 | | mg/L | 0 1 | | YES |
| Beryllium | -0 009086 | N | mg/L | 0 005 | | D |
| Cadmium | 0 0066788 | | mg/L | 0 005 | | D |
| Chromium | 0 0160242 | U | mg/L | 0 02 | | D |
| Copper | 0 00412475 | U | mg/L | 0 02 | | D |
| Iron | -0 0182535 | U | mg/L | 0 02 | | D |
| Manganese | 0 01739124 | | mg/L | 0 005 | | D |
| Molybdenum | 99 8636031 | | mg/L | 0 1 | | D |
| Nickel | -0 0127265 | U | mg/L | 0 02 | | D |
| Antimony | 101 156406 | | mg/L | 0 05 | | D |
| Silicon | 102 904556 | S | mg/L | 0 2 | | D |
| Titanium | 101 56367 | | mg/L | 0 05 | | D |
| Zinc | -0 0065774 | U | mg/L | 0 02 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | Fe HIGH STANDARD |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 36 19 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 000472 | U | mg/L | 0 01 | | YES |
| Aluminum | -0 0078191 | U | mg/L | 0 1 | | YES |
| Arsenic | 0 00057755 | U | mg/L | 0 05 | | YES |
| Boron | 0 09052387 | U | mg/L | 0 1 | | C |
| Barium | 0 00267678 | U | mg/L | 0 01 | | YES |
| Beryllium | 0 00358122 | U | mg/L | 0 005 | | YES |
| Calcium | 0 00061951 | U | mg/L | 0 1 | | YES |
| Cadmium | 0 00525803 | | mg/L | 0 005 | | YES |
| Cobalt | 0 0027953 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0042629 | U | mg/L | 0 02 | | YES |
| Copper | -0 0016327 | U | mg/L | 0 02 | | YES |
| Iron | 49 9112827 | | mg/L | 0 02 | | YES |
| Potassium | -0 0270607 | U | mg/L | 0 1 | | YES |
| Magnesium | 0 03746759 | U | mg/L | 0 1 | | YES |
| Manganese | 0 00023435 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 0102757 | U | mg/L | 0 1 | | YES |
| Sodium | -0 0110499 | U | mg/L | 0 1 | | YES |
| Nickel | -0 0001419 | U | mg/L | 0 02 | | YES |
| Lead | 0 00743287 | U | mg/L | 0 02 | | YES |
| Antimony | 0 16436252 | | mg/L | 0 05 | | YES |
| Selenium | 0 02059177 | U | mg/L | 0 05 | | YES |
| Tin | -0 0011899 | U | mg/L | 0 1 | | YES |
| Silicon | 1 64923322 | | mg/L | 0 2 | | YES |
| Titanium | -0 0012206 | U | mg/L | 0 05 | | YES |
| Thallium | 0 00927084 | U | mg/L | 0 05 | | YES |
| Vanadium | -0 0024985 | U | mg/L | 0 02 | | YES |
| Zinc | -0 0062335 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | Fe HIGH STANDARD |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 36 19 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00215754 | U | mg/L | 0 01 | | D |
| Aluminum | -0 0035466 | U | mg/L | 0 1 | | D |
| Arsenic | 0 00664858 | U | mg/L | 0 05 | | D |
| Boron | 0 08595055 | U | mg/L | 0 1 | | YES |
| Beryllium | 0 00029865 | U | mg/L | 0 005 | | D |
| Cadmium | 0 01012511 | | mg/L | 0 005 | | D |
| Chromium | -0 0016816 | U | mg/L | 0 02 | | D |
| Copper | 0 00022413 | U | mg/L | 0 02 | | D |
| Iron | 50 1602486 | | mg/L | 0 02 | | D |
| Manganese | 0 00205147 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 01235351 | U | mg/L | 0 1 | | D |
| Nickel | -0 0127205 | U | mg/L | 0 02 | | D |
| Antimony | 0 17155555 | | mg/L | 0 05 | | D |
| Silicon | 1 81771633 | | mg/L | 0 2 | | D |
| Titanium | 0 00023339 | U | mg/L | 0 05 | | D |
| Zinc | -0 0045031 | U | mg/L | 0 02 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | Ag HIGH STANDARD |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 39 59 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 1 02228914 | | mg/L | 0 01 | | YES |
| Aluminum | -0 006731 | U | mg/L | 0 1 | | YES |
| Arsenic | 0 00776404 | U | mg/L | 0 05 | | YES |
| Boron | 0 09454532 | U | mg/L | 0 1 | | C |
| Barium | 0 00127591 | U | mg/L | 0 01 | | YES |
| Beryllium | 0 00049214 | U | mg/L | 0 005 | | YES |
| Calcium | -0 0033235 | U | mg/L | 0 1 | | YES |
| Cadmium | -0 0003391 | U | mg/L | 0 005 | | YES |
| Cobalt | 0 00056713 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0047767 | U | mg/L | 0 02 | | YES |
| Copper | 0 00053817 | U | mg/L | 0 02 | | YES |
| Iron | -0 0002043 | U | mg/L | 0 02 | | YES |
| Potassium | -0 011257 | U | mg/L | 0 1 | | YES |
| Magnesium | -0 001903 | U | mg/L | 0 1 | | YES |
| Manganese | 0 00025578 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 00506351 | U | mg/L | 0 1 | | YES |
| Sodium | -0 0070302 | U | mg/L | 0 1 | | YES |
| Nickel | 0 00046976 | U | mg/L | 0 02 | | YES |
| Lead | -0 0036791 | U | mg/L | 0 02 | | YES |
| Antimony | 0 05163662 | | mg/L | 0 05 | | YES |
| Selenium | 0 00282105 | U | mg/L | 0 05 | | YES |
| Tin | -0 0154146 | U | mg/L | 0 1 | | YES |
| Silicon | 0 33388676 | | mg/L | 0 2 | | YES |
| Titanium | -0 0016789 | U | mg/L | 0 05 | | YES |
| Thallium | 0 00112455 | U | mg/L | 0 05 | | YES |
| Vanadium | 0 00086116 | U | mg/L | 0 02 | | YES |
| Zinc | -0 0100224 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | Ag HIGH STANDARD |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 39 59 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 1 00766366 | | mg/L | 0 01 | | D |
| Aluminum | -0 0007022 | U | mg/L | 0 1 | | D |
| Arsenic | 0 01095836 | U | mg/L | 0 05 | | D |
| Boron | 0 09349351 | U | mg/L | 0 1 | | YES |
| Beryllium | 0 00022531 | U | mg/L | 0 005 | | D |
| Cadmium | -0 0003616 | U | mg/L | 0 005 | | D |
| Chromium | -0 0037501 | U | mg/L | 0 02 | | D |
| Copper | -0 0004248 | U | mg/L | 0 02 | | D |
| Iron | 0 0001415 | U | mg/L | 0 02 | | D |
| Manganese | -0 0000056 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 00467125 | U | mg/L | 0 1 | | D |
| Nickel | 0 00030867 | U | mg/L | 0 02 | | D |
| Antimony | 0 04370737 | U | mg/L | 0 05 | | D |
| Silicon | 0 34065577 | | mg/L | 0 2 | | D |
| Titanium | -0 0007097 | U | mg/L | 0 05 | | D |
| Zinc | -0 010801 | U | mg/L | 0 02 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICSA |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 43 45 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00792048 | U | mg/L | 0 01 | | YES |
| Aluminum | 506 590534 | S | mg/L | 0 1 | 101 318107 | S |
| Arsenic | 0 03644008 | U | mg/L | 0 05 | | YES |
| Boron | 0 01406799 | U | mg/L | 0 1 | | C |
| Barium | 0 01254456 | | mg/L | 0 01 | | YES |
| Beryllium | -0 0021969 | U | mg/L | 0 005 | | YES |
| Calcium | 491 567956 | | mg/L | 0 1 | 98 3135912 | YES |
| Cadmium | 0 00664648 | | mg/L | 0 005 | | YES |
| Cobalt | -0 006977 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0077127 | U | mg/L | 0 02 | | YES |
| Copper | -0 0072484 | U | mg/L | 0 02 | | YES |
| Iron | 178 806621 | | mg/L | 0 02 | 89 4033105 | YES |
| Potassium | 0 02067108 | U | mg/L | 0 1 | | YES |
| Magnesium | 510 386395 | S | mg/L | 0 1 | 102 077279 | S |
| Manganese | -0 0008802 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 0110138 | U | mg/L | 0 1 | | YES |
| Sodium | -0 0096967 | U | mg/L | 0 1 | | YES |
| Nickel | -0 0074244 | U | mg/L | 0 02 | | YES |
| Lead | 0 02203071 | | mg/L | 0 02 | | YES |
| Antimony | 0 02824752 | U | mg/L | 0 05 | | YES |
| Selenium | 0 04293221 | U | mg/L | 0 05 | | YES |
| Tin | -0 0067271 | U | mg/L | 0 1 | | YES |
| Silicon | 0 04373429 | U | mg/L | 0 2 | | YES |
| Titanium | -0 0038214 | U | mg/L | 0 05 | | YES |
| Thallium | -0 015897 | U | mg/L | 0 05 | | YES |
| Vanadium | -0 0112615 | U | mg/L | 0 02 | | YES |
| Zinc | 0 00385067 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICSA |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 43 45 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00805311 | U | mg/L | 0 01 | | D |
| Aluminum | 509 147425 | S | mg/L | 0 1 | 101 829485 | S |
| Arsenic | 0 20120754 | | mg/L | 0 05 | | D |
| Boron | 0 06134816 | U | mg/L | 0 1 | | YES |
| Beryllium | -0 0000068 | U | mg/L | 0 005 | | D |
| Cadmium | 0 02742529 | | mg/L | 0 005 | | D |
| Chromium | -0 0014059 | U | mg/L | 0 02 | | D |
| Copper | -0 0073022 | U | mg/L | 0 02 | | D |
| Iron | 179 95831 | | mg/L | 0 02 | 89 979155 | D |
| Manganese | 0 00106667 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 03532958 | U | mg/L | 0 1 | | D |
| Nickel | -0 0250283 | N | mg/L | 0 02 | | N |
| Antimony | 0 06104921 | | mg/L | 0 05 | | D |
| Silicon | 0 09615386 | U | mg/L | 0 2 | | D |
| Titanium | -0 0225185 | U | mg/L | 0 05 | | D |
| Zinc | 0 00660758 | U | mg/L | 0 02 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICSAB |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 47 28 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 24957545 | | mg/L | 0 01 | 99 83018 | YES |
| Aluminum | 499 110464 | | mg/L | 0 1 | 99 8220928 | YES |
| Arsenic | 1 0209226 | | mg/L | 0 05 | 102 09226 | YES |
| Boron | 1 29942082 | | mg/L | 0 1 | 103 953666 | C |
| Barium | 0 46535002 | | mg/L | 0 01 | 93 070004 | YES |
| Beryllium | 0 09546855 | | mg/L | 0 005 | 95 46855 | YES |
| Calcium | 484 649515 | | mg/L | 0 1 | 96 929903 | YES |
| Cadmium | 0 09743539 | | mg/L | 0 005 | 97 43539 | YES |
| Cobalt | 0 43602961 | | mg/L | 0 015 | 87 205922 | YES |
| Chromium | 0 45487605 | | mg/L | 0 02 | 90 97521 | YES |
| Copper | 0 45244469 | | mg/L | 0 02 | 90 488938 | YES |
| Iron | 176 355613 | | mg/L | 0 02 | 88 1778065 | YES |
| Potassium | -0 0435277 | U | mg/L | 0 1 | | YES |
| Magnesium | 502 915682 | S | mg/L | 0 1 | 100 583136 | S |
| Manganese | 0 09010426 | | mg/L | 0 005 | 90 10426 | YES |
| Molybdenum | 1 17890178 | | mg/L | 0 1 | 94 3121424 | YES |
| Sodium | 0 00242717 | U | mg/L | 0 1 | | YES |
| Nickel | 0 43904083 | | mg/L | 0 02 | 87 808166 | YES |
| Lead | 0 47546832 | | mg/L | 0 02 | 95 093664 | YES |
| Antimony | 0 50528483 | | mg/L | 0 05 | 101 056966 | YES |
| Selenium | 1 02350885 | | mg/L | 0 05 | 102 350885 | YES |
| Tin | 2 27024305 | | mg/L | 0 1 | 90 809722 | YES |
| Silicon | 2 56450282 | | mg/L | 0 2 | 102 580113 | YES |
| Titanium | 0 47742769 | | mg/L | 0 05 | 95 485538 | YES |
| Thallium | 0 42264762 | | mg/L | 0 05 | 84 529524 | YES |
| Vanadium | 0 44844871 | | mg/L | 0 02 | 89 689742 | YES |
| Zinc | 0 450978 | | mg/L | 0 02 | 90 1956 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICSAB |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 47 28 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 22276866 | | mg/L | 0 01 | 89 107464 | D |
| Aluminum | 501 013475 | S | mg/L | 0 1 | 100 202695 | S |
| Arsenic | 1 17330648 | | mg/L | 0 05 | 117 330648 | D |
| Boron | 1 23818255 | | mg/L | 0 1 | 99 054604 | YES |
| Beryllium | 0 09297228 | | mg/L | 0 005 | 92 97228 | D |
| Cadmium | 0 11751134 | | mg/L | 0 005 | 117 51134 | D |
| Chromium | 0 46138332 | | mg/L | 0 02 | 92 276664 | D |
| Copper | 0 43807673 | | mg/L | 0 02 | 87 615346 | D |
| Iron | 177 616819 | | mg/L | 0 02 | 88 8084095 | D |
| Manganese | 0 09036715 | | mg/L | 0 005 | 90 36715 | D |
| Molybdenum | 1 18474858 | | mg/L | 0 1 | 94 7798864 | D |
| Nickel | 0 43865951 | | mg/L | 0 02 | 87 731902 | D |
| Antimony | 0 55581681 | | mg/L | 0 05 | 111 163362 | D |
| Silicon | 2 6529991 | | mg/L | 0 2 | 106 119964 | D |
| Titanium | 0 45273168 | | mg/L | 0 05 | 90 546336 | D |
| Zinc | 0 47409147 | | mg/L | 0 02 | 94 818294 | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 51 45 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 5105868 | | mg/L | 0 01 | 102 11736 | YES |
| Aluminum | 51 5461643 | | mg/L | 0 1 | 103 092329 | YES |
| Arsenic | 2 05220075 | | mg/L | 0 05 | 102 610038 | YES |
| Boron | 2 77637446 | | mg/L | 0 1 | 111 054978 | NO |
| Barium | 0 99958552 | | mg/L | 0 01 | 99 958552 | YES |
| Beryllium | 0 20526019 | | mg/L | 0 005 | 102 630095 | YES |
| Calcium | 53 0612242 | | mg/L | 0 1 | 106 122448 | YES |
| Cadmium | 0 20659238 | | mg/L | 0 005 | 103 29619 | YES |
| Cobalt | 0 97807671 | | mg/L | 0 015 | 97 807671 | YES |
| Chromium | 1 01533682 | | mg/L | 0 02 | 101 533682 | YES |
| Copper | 0 99778034 | | mg/L | 0 02 | 99 778034 | YES |
| Iron | 4 95909553 | | mg/L | 0 02 | 99 1819106 | YES |
| Potassium | 52 4213479 | | mg/L | 0 1 | 104 842696 | YES |
| Magnesium | 51 5179283 | | mg/L | 0 1 | 103 035857 | YES |
| Manganese | 0 20191866 | | mg/L | 0 005 | 100 95933 | YES |
| Molybdenum | 2 55079068 | | mg/L | 0 1 | 102 031627 | YES |
| Sodium | 53 115909 | | mg/L | 0 1 | 106 231818 | YES |
| Nickel | 0 99654389 | | mg/L | 0 02 | 99 654389 | YES |
| Lead | 0 99285807 | | mg/L | 0 02 | 99 285807 | YES |
| Antimony | 1 05249546 | | mg/L | 0 05 | 105 249546 | YES |
| Selenium | 2 05716991 | | mg/L | 0 05 | 102 858496 | YES |
| Tin | 4 7781236 | | mg/L | 0 1 | 95 562472 | YES |
| Silicon | 5 30715518 | | mg/L | 0 2 | 106 143104 | YES |
| Titanium | 1 03995067 | | mg/L | 0 05 | 103 995067 | YES |
| Thallium | 0 96609108 | | mg/L | 0 05 | 96 609108 | YES |
| Vanadium | 1 00657207 | | mg/L | 0 02 | 100 657207 | YES |
| Zinc | 0 98756468 | | mg/L | 0 02 | 98 756468 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 51 45 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 49107962 | | mg/L | 0 01 | 98 215924 | D |
| Aluminum | 52 8698976 | | mg/L | 0 1 | 105 739795 | D |
| Arsenic | 2 04872063 | | mg/L | 0 05 | 102 436032 | D |
| Boron | 2 60563063 | | mg/L | 0 1 | 104 225225 | YES |
| Beryllium | 0 20306666 | | mg/L | 0 005 | 101 53333 | D |
| Cadmium | 0 20337177 | | mg/L | 0 005 | 101 685885 | D |
| Chromium | 1 01459913 | | mg/L | 0 02 | 101 459913 | D |
| Copper | 0 97873451 | | mg/L | 0 02 | 97 873451 | D |
| Iron | 4 96080672 | | mg/L | 0 02 | 99 2161344 | D |
| Manganese | 0 19891272 | | mg/L | 0 005 | 99 45636 | D |
| Molybdenum | 2 53295779 | | mg/L | 0 1 | 101 318312 | D |
| Nickel | 0 97511232 | | mg/L | 0 02 | 97 511232 | D |
| Antimony | 1 07929624 | | mg/L | 0 05 | 107 929624 | D |
| Silicon | 5 42294456 | | mg/L | 0 2 | 108 458891 | D |
| Titanium | 1 02878044 | | mg/L | 0 05 | 102 878044 | D |
| Zinc | 1 01020392 | | mg/L | 0 02 | 101 020392 | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 55 24 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 0012529 | U | mg/L | 0 01 | | YES |
| Aluminum | -0 0020873 | U | mg/L | 0 1 | | YES |
| Arsenic | -0 0004062 | U | mg/L | 0 05 | | YES |
| Boron | 0 06877352 | U | mg/L | 0 1 | | YES |
| Barium | 0 00031238 | U | mg/L | 0 01 | | YES |
| Beryllium | 0 00050928 | U | mg/L | 0 005 | | YES |
| Calcium | -0 0069246 | U | mg/L | 0 1 | | YES |
| Cadmium | 0 00022861 | U | mg/L | 0 005 | | YES |
| Cobalt | -0 0003825 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0030696 | U | mg/L | 0 02 | | YES |
| Copper | -0 0017569 | U | mg/L | 0 02 | | YES |
| Iron | 0 00008693 | U | mg/L | 0 02 | | YES |
| Potassium | -0 0117395 | U | mg/L | 0 1 | | YES |
| Magnesium | -0 0021539 | U | mg/L | 0 1 | | YES |
| Manganese | 0 00002304 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 00388168 | U | mg/L | 0 1 | | YES |
| Sodium | -0 0012041 | U | mg/L | 0 1 | | YES |
| Nickel | 0 00097693 | U | mg/L | 0 02 | | YES |
| Lead | 0 00825229 | U | mg/L | 0 02 | | YES |
| Antimony | -0 0080715 | U | mg/L | 0 05 | | YES |
| Selenium | 0 00716627 | U | mg/L | 0 05 | | YES |
| Tin | -0 0016869 | U | mg/L | 0 1 | | YES |
| Silicon | -0 0487002 | U | mg/L | 0 2 | | YES |
| Titanium | -0 0002958 | U | mg/L | 0 05 | | YES |
| Thallium | 0 03185347 | U | mg/L | 0 05 | | YES |
| Vanadium | 0 00092462 | U | mg/L | 0 02 | | YES |
| Zinc | -0 010412 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 55 24 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00374997 | U | mg/L | 0 01 | | D |
| Aluminum | -0 0083975 | U | mg/L | 0 1 | | D |
| Arsenic | 0 01142241 | U | mg/L | 0 05 | | D |
| Boron | 0 06992369 | U | mg/L | 0 1 | | D |
| Beryllium | 0 0001737 | U | mg/L | 0 005 | | D |
| Cadmium | 0 00005952 | U | mg/L | 0 005 | | D |
| Chromium | -0 0031457 | U | mg/L | 0 02 | | D |
| Copper | 0 00031214 | U | mg/L | 0 02 | | D |
| Iron | 0 00057841 | U | mg/L | 0 02 | | D |
| Manganese | -0 0000861 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 0039559 | U | mg/L | 0 1 | | D |
| Nickel | -0 0009159 | U | mg/L | 0 02 | | D |
| Antimony | -0 0060288 | U | mg/L | 0 05 | | D |
| Silicon | -0 0447439 | U | mg/L | 0 2 | | D |
| Titanium | -0 0014115 | U | mg/L | 0 05 | | D |
| Zinc | -0 0106694 | U | mg/L | 0 02 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200085480B |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 59 00 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00078319 | U | mg/L | 0 01 | | YES |
| Aluminum | 0 00299862 | U | mg/L | 0 1 | | YES |
| Arsenic | 0 00320503 | U | mg/L | 0 05 | | YES |
| Boron | 0 06615576 | U | mg/L | 0 1 | | C |
| Barium | 0 00107532 | U | mg/L | 0 01 | | YES |
| Beryllium | 0 00049605 | U | mg/L | 0 005 | | YES |
| Calcium | 0 00092091 | U | mg/L | 0 1 | | YES |
| Cadmium | -0 0006031 | U | mg/L | 0 005 | | YES |
| Cobalt | 0 00039501 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0042689 | U | mg/L | 0 02 | | YES |
| Copper | 0 00063755 | U | mg/L | 0 02 | | YES |
| Iron | 0 00236768 | U | mg/L | 0 02 | | YES |
| Potassium | 0 02920543 | U | mg/L | 0 1 | | YES |
| Magnesium | -0 0053337 | U | mg/L | 0 1 | | YES |
| Manganese | 0 00022989 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 00252239 | U | mg/L | 0 1 | | YES |
| Sodium | 0 03571064 | U | mg/L | 0 1 | | YES |
| Nickel | 0 00097609 | U | mg/L | 0 02 | | YES |
| Lead | 0 00347877 | U | mg/L | 0 02 | | YES |
| Antimony | 0 00002646 | U | mg/L | 0 05 | | YES |
| Selenium | 0 00874207 | U | mg/L | 0 05 | | YES |
| Tin | -0 0085179 | U | mg/L | 0 1 | | YES |
| Silicon | 0 06164379 | U | mg/L | 0 2 | | YES |
| Titanium | -0 0007693 | U | mg/L | 0 05 | | YES |
| Thallium | 0 01068645 | U | mg/L | 0 05 | | YES |
| Vanadium | 0 00079654 | U | mg/L | 0 02 | | YES |
| Zinc | -0 0072592 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200085480B |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 20 59 00 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00207317 | U | mg/L | 0 01 | | D |
| Aluminum | -0 0015572 | U | mg/L | 0 1 | | D |
| Arsenic | 0 00795234 | U | mg/L | 0 05 | | D |
| Boron | 0 07291461 | U | mg/L | 0 1 | | YES |
| Beryllium | 0 00037511 | U | mg/L | 0 005 | | D |
| Cadmium | -0 0003382 | U | mg/L | 0 005 | | D |
| Chromium | -0 0032546 | U | mg/L | 0 02 | | D |
| Copper | 0 00192184 | U | mg/L | 0 02 | | D |
| Iron | 0 00157917 | U | mg/L | 0 02 | | D |
| Manganese | 0 00023362 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 00713912 | U | mg/L | 0 1 | | D |
| Nickel | 0 00113575 | U | mg/L | 0 02 | | D |
| Antimony | -0 011329 | U | mg/L | 0 05 | | D |
| Silicon | 0 06278883 | U | mg/L | 0 2 | | D |
| Titanium | -0 0008209 | U | mg/L | 0 05 | | D |
| Zinc | -0 0083782 | U | mg/L | 0 02 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200085628C |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 21 02 37 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 50233897 | | mg/L | 0 01 | 100 | YES |
| Aluminum | 50 1789591 | | mg/L | 0 1 | 100 | YES |
| Arsenic | 2 03663073 | | mg/L | 0 05 | 102 | YES |
| Boron | 2 72294403 | | mg/L | 0 1 | 109 | C |
| Barium | 0 99451019 | | mg/L | 0 01 | 99 | YES |
| Beryllium | 0 20545492 | | mg/L | 0 005 | 103 | YES |
| Calcium | 51 0138811 | | mg/L | 0 1 | 102 | YES |
| Cadmium | 0 20370931 | | mg/L | 0 005 | 102 | YES |
| Cobalt | 0 97353898 | | mg/L | 0 015 | 97 | YES |
| Chromium | 1 0154494 | | mg/L | 0 02 | 102 | YES |
| Copper | 0 98602967 | | mg/L | 0 02 | 99 | YES |
| Iron | 4 90241516 | | mg/L | 0 02 | 98 | YES |
| Potassium | 50 0585316 | | mg/L | 0 1 | 100 | YES |
| Magnesium | 50 141544 | | mg/L | 0 1 | 100 | YES |
| Manganese | 0 20129004 | | mg/L | 0 005 | 101 | YES |
| Molybdenum | 2 52575548 | | mg/L | 0 1 | 101 | YES |
| Sodium | 50 5123918 | | mg/L | 0 1 | 101 | YES |
| Nickel | 0 98812884 | | mg/L | 0 02 | 99 | YES |
| Lead | 0 97914935 | | mg/L | 0 02 | 98 | YES |
| Antimony | 1 03493812 | | mg/L | 0 05 | 103 | YES |
| Selenium | 2 03366657 | | mg/L | 0 05 | 102 | YES |
| Tin | 4 76312551 | | mg/L | 0 1 | 95 | YES |
| Silicon | 5 3962361 | | mg/L | 0 2 | 108 | YES |
| Titanium | 1 03301305 | | mg/L | 0 05 | 103 | YES |
| Thallium | 0 96227673 | | mg/L | 0 05 | 96 | YES |
| Vanadium | 1 01089623 | | mg/L | 0 02 | 101 | YES |
| Zinc | 0 98858556 | | mg/L | 0 02 | 99 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200085628C |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 21 02 37 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 50111253 | | mg/L | 0 01 | 100 | D |
| Aluminum | 50 7229138 | | mg/L | 0 1 | 101 | D |
| Arsenic | 2 03835801 | | mg/L | 0 05 | 102 | D |
| Boron | 2 54800313 | | mg/L | 0 1 | 102 | YES |
| Beryllium | 0 20172076 | | mg/L | 0 005 | 101 | D |
| Cadmium | 0 20037534 | | mg/L | 0 005 | 100 | D |
| Chromium | 1 01196175 | | mg/L | 0 02 | 101 | D |
| Copper | 0 96429346 | | mg/L | 0 02 | 96 | D |
| Iron | 4 89385721 | | mg/L | 0 02 | 98 | D |
| Manganese | 0 19886975 | | mg/L | 0 005 | 99 | D |
| Molybdenum | 2 51032988 | | mg/L | 0 1 | 100 | D |
| Nickel | 0 96143334 | | mg/L | 0 02 | 96 | D |
| Antimony | 1 06333299 | | mg/L | 0 05 | 106 | D |
| Silicon | 5 5358342 | | mg/L | 0 2 | 111 | D |
| Titanium | 1 02169433 | | mg/L | 0 05 | 102 | D |
| Zinc | 1 00816301 | | mg/L | 0 02 | 101 | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 21 37 22 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 50520233 | | mg/L | 0 01 | 101 040466 | YES |
| Aluminum | 50 643996 | | mg/L | 0 1 | 101 287992 | YES |
| Arsenic | 2 05084003 | | mg/L | 0 05 | 102 542002 | YES |
| Boron | 2 7323417 | | mg/L | 0 1 | 109 293668 | YES |
| Barium | 0 99189694 | | mg/L | 0 01 | 99 189694 | YES |
| Beryllium | 0 20311576 | | mg/L | 0 005 | 101 55788 | YES |
| Calcium | 50 7598975 | | mg/L | 0 1 | 101 519795 | YES |
| Cadmium | 0 20465952 | | mg/L | 0 005 | 102 32976 | YES |
| Cobalt | 0 97270987 | | mg/L | 0 015 | 97 270987 | YES |
| Chromium | 1 01039257 | | mg/L | 0 02 | 101 039257 | YES |
| Copper | 0 99264387 | | mg/L | 0 02 | 99 264387 | YES |
| Iron | 4 90849376 | | mg/L | 0 02 | 98 1698752 | YES |
| Potassium | 50 1273312 | | mg/L | 0 1 | 100 254662 | YES |
| Magnesium | 50 7377284 | | mg/L | 0 1 | 101 475457 | YES |
| Manganese | 0 19699104 | | mg/L | 0 005 | 98 49552 | YES |
| Molybdenum | 2 53404716 | | mg/L | 0 1 | 101 361886 | YES |
| Sodium | 50 7579619 | | mg/L | 0 1 | 101 515924 | YES |
| Nickel | 0 99060281 | | mg/L | 0 02 | 99 060281 | YES |
| Lead | 0 99540091 | | mg/L | 0 02 | 99 540091 | YES |
| Antimony | 1 03740439 | | mg/L | 0 05 | 103 740439 | YES |
| Selenium | 2 05723068 | | mg/L | 0 05 | 102 861534 | YES |
| Tin | 4 78496562 | | mg/L | 0 1 | 95 6993124 | YES |
| Silicon | 5 23810042 | | mg/L | 0 2 | 104 762008 | YES |
| Titanium | 1 0234433 | | mg/L | 0 05 | 102 34433 | YES |
| Thallium | 0 97278034 | | mg/L | 0 05 | 97 278034 | YES |
| Vanadium | 0 99213025 | | mg/L | 0 02 | 99 213025 | YES |
| Zinc | 0 98464327 | | mg/L | 0 02 | 98 464327 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 21 37 22 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 49966756 | | mg/L | 0 01 | 99 933512 | D |
| Aluminum | 50 8240826 | | mg/L | 0 1 | 101 648165 | D |
| Arsenic | 2 04776617 | | mg/L | 0 05 | 102 388309 | D |
| Boron | 2 52581494 | | mg/L | 0 1 | 101 032598 | D |
| Beryllium | 0 20001689 | | mg/L | 0 005 | 100 008445 | D |
| Cadmium | 0 20319366 | | mg/L | 0 005 | 101 59683 | D |
| Chromium | 1 00669607 | | mg/L | 0 02 | 100 669607 | D |
| Copper | 0 95949379 | | mg/L | 0 02 | 95 949379 | D |
| Iron | 4 89898781 | | mg/L | 0 02 | 97 9797562 | D |
| Manganese | 0 19589807 | | mg/L | 0 005 | 97 949035 | D |
| Molybdenum | 2 52411404 | | mg/L | 0 1 | 100 964562 | D |
| Nickel | 0 97314836 | | mg/L | 0 02 | 97 314836 | D |
| Antimony | 1 0563635 | | mg/L | 0 05 | 105 63635 | D |
| Silicon | 5 31969155 | | mg/L | 0 2 | 106 393831 | D |
| Titanium | 1 01606482 | | mg/L | 0 05 | 101 606482 | D |
| Zinc | 0 99966862 | | mg/L | 0 02 | 99 966862 | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 21 41 02 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 0005843 | U | mg/L | 0 01 | | YES |
| Aluminum | -0 0076735 | U | mg/L | 0 1 | | YES |
| Arsenic | 0 00456976 | U | mg/L | 0 05 | | YES |
| Boron | 0 02185536 | U | mg/L | 0 1 | | YES |
| Barium | 0 00088936 | U | mg/L | 0 01 | | YES |
| Beryllium | 0 00048224 | U | mg/L | 0 005 | | YES |
| Calcium | -0 0097762 | U | mg/L | 0 1 | | YES |
| Cadmium | -0 0000542 | U | mg/L | 0 005 | | YES |
| Cobalt | -0 0001847 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0049169 | U | mg/L | 0 02 | | YES |
| Copper | -0 0008229 | U | mg/L | 0 02 | | YES |
| Iron | -0 0004942 | U | mg/L | 0 02 | | YES |
| Potassium | 0 01383395 | U | mg/L | 0 1 | | YES |
| Magnesium | 0 00083707 | U | mg/L | 0 1 | | YES |
| Manganese | 0 00005332 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 00204758 | U | mg/L | 0 1 | | YES |
| Sodium | -0 0002002 | U | mg/L | 0 1 | | YES |
| Nickel | 0 00013978 | U | mg/L | 0 02 | | YES |
| Lead | -0 0071195 | U | mg/L | 0 02 | | YES |
| Antimony | -0 0026911 | U | mg/L | 0 05 | | YES |
| Selenium | -0 0028074 | U | mg/L | 0 05 | | YES |
| Tin | 0 00821935 | U | mg/L | 0 1 | | YES |
| Silicon | -0 0761093 | U | mg/L | 0 2 | | YES |
| Titanium | -0 0014969 | U | mg/L | 0 05 | | YES |
| Thallium | 0 01589199 | U | mg/L | 0 05 | | YES |
| Vanadium | 0 00127999 | U | mg/L | 0 02 | | YES |
| Zinc | -0 0114182 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/13/98 |
| TIME ANALYZED | 21 41 02 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00371915 | U | mg/L | 0 01 | | D |
| Aluminum | -0 0085779 | U | mg/L | 0 1 | | D |
| Arsenic | 0 00687356 | U | mg/L | 0 05 | | D |
| Boron | 0 03358463 | U | mg/L | 0 1 | | D |
| Beryllium | 0 00014 | U | mg/L | 0 005 | | D |
| Cadmium | 0 00031158 | U | mg/L | 0 005 | | D |
| Chromium | -0 0065843 | U | mg/L | 0 02 | | D |
| Copper | 0 00021434 | U | mg/L | 0 02 | | D |
| Iron | -0 0000655 | U | mg/L | 0 02 | | D |
| Manganese | -0 0001748 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 00537269 | U | mg/L | 0 1 | | D |
| Nickel | -0 0010074 | U | mg/L | 0 02 | | D |
| Antimony | -0 0082215 | U | mg/L | 0 05 | | D |
| Silicon | -0 0736773 | U | mg/L | 0 2 | | D |
| Titanium | -0 001077 | U | mg/L | 0 05 | | D |
| Zinc | -0 011076 | U | mg/L | 0 02 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 00 42 09 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 50324664 | | mg/L | 0 01 | 100 649328 | YES |
| Aluminum | 50 8466337 | | mg/L | 0 1 | 101 693267 | YES |
| Arsenic | 2 03139251 | | mg/L | 0 05 | 101 569626 | YES |
| Boron | 2 63714036 | | mg/L | 0 1 | 105 485614 | YES |
| Barium | 0 98386766 | | mg/L | 0 01 | 98 386766 | YES |
| Beryllium | 0 20337426 | | mg/L | 0 005 | 101 68713 | YES |
| Calcium | 51 6395663 | | mg/L | 0 1 | 103 279133 | YES |
| Cadmium | 0 20229261 | | mg/L | 0 005 | 101 146305 | YES |
| Cobalt | 0 96282277 | | mg/L | 0 015 | 96 282277 | YES |
| Chromium | 1 00111077 | | mg/L | 0 02 | 100 111077 | YES |
| Copper | 0 98354476 | | mg/L | 0 02 | 98 354476 | YES |
| Iron | 4 9178432 | | mg/L | 0 02 | 98 356864 | YES |
| Potassium | 51 592431 | | mg/L | 0 1 | 103 184862 | YES |
| Magnesium | 50 6557441 | | mg/L | 0 1 | 101 311488 | YES |
| Manganese | 0 19806559 | | mg/L | 0 005 | 99 032795 | YES |
| Molybdenum | 2 50298023 | | mg/L | 0 1 | 100 119209 | YES |
| Sodium | 52 244257 | | mg/L | 0 1 | 104 488514 | YES |
| Nickel | 0 98046627 | | mg/L | 0 02 | 98 046627 | YES |
| Lead | 0 96504468 | | mg/L | 0 02 | 96 504468 | YES |
| Antimony | 1 03513206 | | mg/L | 0 05 | 103 513206 | YES |
| Selenium | 2 0383153 | | mg/L | 0 05 | 101 915765 | YES |
| Tin | 4 73748657 | | mg/L | 0 1 | 94 7497314 | YES |
| Silicon | 5 21752397 | | mg/L | 0 2 | 104 350479 | YES |
| Titanium | 1 02216542 | | mg/L | 0 05 | 102 216542 | YES |
| Thallium | 0 94858807 | | mg/L | 0 05 | 94 858807 | YES |
| Vanadium | 0 99956165 | | mg/L | 0 02 | 99 956165 | YES |
| Zinc | 0 98725589 | | mg/L | 0 02 | 98 725589 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 00 42 09 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 48222791 | | mg/L | 0 01 | 96 445582 | D |
| Aluminum | 51 9686144 | | mg/L | 0 1 | 103 937229 | D |
| Arsenic | 2 0309583 | | mg/L | 0 05 | 101 547915 | D |
| Boron | 2 51220444 | | mg/L | 0 1 | 100 488178 | D |
| Beryllium | 0 20204764 | | mg/L | 0 005 | 101 02382 | D |
| Cadmium | 0 20112602 | | mg/L | 0 005 | 100 56301 | D |
| Chromium | 0 9992452 | | mg/L | 0 02 | 99 92452 | D |
| Copper | 0 96299583 | | mg/L | 0 02 | 96 299583 | D |
| Iron | 4 91331318 | | mg/L | 0 02 | 98 2662636 | D |
| Manganese | 0 19617329 | | mg/L | 0 005 | 98 086645 | D |
| Molybdenum | 2 48614826 | | mg/L | 0 1 | 99 4459304 | D |
| Nickel | 0 96781698 | | mg/L | 0 02 | 96 781698 | D |
| Antimony | 1 05995648 | | mg/L | 0 05 | 105 995648 | D |
| Silicon | 5 30946646 | | mg/L | 0 2 | 106 189329 | D |
| Titanium | 1 01615749 | | mg/L | 0 05 | 101 615749 | D |
| Zinc | 1 00116149 | | mg/L | 0 02 | 100 116149 | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 00 45 50 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 0000127 | U | mg/L | 0 01 | | YES |
| Aluminum | -0 0039111 | U | mg/L | 0 1 | | YES |
| Arsenic | 0 00640449 | U | mg/L | 0 05 | | YES |
| Boron | -0 0050518 | U | mg/L | 0 1 | | YES |
| Barium | 0 00083213 | U | mg/L | 0 01 | | YES |
| Beryllium | 0 00051221 | U | mg/L | 0 005 | | YES |
| Calcium | -0 0089663 | U | mg/L | 0 1 | | YES |
| Cadmium | 0 00001523 | U | mg/L | 0 005 | | YES |
| Cobalt | 0 00037306 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0040479 | U | mg/L | 0 02 | | YES |
| Copper | -0 0012069 | U | mg/L | 0 02 | | YES |
| Iron | -0 0008242 | U | mg/L | 0 02 | | YES |
| Potassium | -0 0268956 | U | mg/L | 0 1 | | YES |
| Magnesium | -0 0027349 | U | mg/L | 0 1 | | YES |
| Manganese | -0 0000446 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 0045001 | U | mg/L | 0 1 | | YES |
| Sodium | 0 03511814 | U | mg/L | 0 1 | | YES |
| Nickel | -0 0018472 | U | mg/L | 0 02 | | YES |
| Lead | 0 0025574 | U | mg/L | 0 02 | | YES |
| Antimony | -0 0160224 | U | mg/L | 0 05 | | YES |
| Selenium | 0 01064497 | U | mg/L | 0 05 | | YES |
| Tin | -0 0145005 | U | mg/L | 0 1 | | YES |
| Silicon | -0 0997887 | U | mg/L | 0 2 | | YES |
| Titanium | -0 0011748 | U | mg/L | 0 05 | | YES |
| Thallium | 0 01556437 | U | mg/L | 0 05 | | YES |
| Vanadium | 0 00170169 | U | mg/L | 0 02 | | YES |
| Zinc | -0 0110551 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 00 45 50 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00256765 | U | mg/L | 0 01 | | D |
| Aluminum | -0 0060843 | U | mg/L | 0 1 | | D |
| Arsenic | 0 00649063 | U | mg/L | 0 05 | | D |
| Boron | 0 00368675 | U | mg/L | 0 1 | | D |
| Beryllium | 0 00032217 | U | mg/L | 0 005 | | D |
| Cadmium | -0 0003955 | U | mg/L | 0 005 | | D |
| Chromium | -0 0061987 | U | mg/L | 0 02 | | D |
| Copper | -0 0010126 | U | mg/L | 0 02 | | D |
| Iron | -0 0003234 | U | mg/L | 0 02 | | D |
| Manganese | -0 000053 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 0002358 | U | mg/L | 0 1 | | D |
| Nickel | 0 00307059 | U | mg/L | 0 02 | | D |
| Antimony | -0 0058656 | U | mg/L | 0 05 | | D |
| Silicon | -0 0975986 | U | mg/L | 0 2 | | D |
| Titanium | -0 0007561 | U | mg/L | 0 05 | | D |
| Zinc | -0 0114515 | U | mg/L | 0 02 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087059 |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 00 49 42 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 02931005 | | mg/L | 0 01 | | I |
| Aluminum | 3 19733288 | | mg/L | 0 1 | | YES |
| Arsenic | 0 43222311 | | mg/L | 0 05 | | YES |
| Boron | 0 20357931 | | mg/L | 0 1 | | YES |
| Barium | 1 77752146 | | mg/L | 0 01 | | YES |
| Beryllium | -0 0067411 | N | mg/L | 0 005 | | I |
| Calcium | 168 188918 | | mg/L | 0 1 | | YES |
| Cadmium | 0 07005665 | | mg/L | 0 005 | | I |
| Cobalt | -0 0209952 | N | mg/L | 0 015 | | I |
| Chromium | 0 14830978 | | mg/L | 0 02 | | I |
| Copper | 0 77641212 | | mg/L | 0 02 | | I |
| Iron | 891 091825 | S | mg/L | 0 02 | | S |
| Potassium | 68 6142367 | | mg/L | 0 1 | | YES |
| Magnesium | 1 75087994 | | mg/L | 0 1 | | I |
| Manganese | 1 41463077 | | mg/L | 0 005 | | YES |
| Molybdenum | 0 09598614 | U | mg/L | 0 1 | | YES |
| Sodium | 30 9123915 | | mg/L | 0 1 | | YES |
| Nickel | 0 0974234 | | mg/L | 0 02 | | YES |
| Lead | 3 3432822 | | mg/L | 0 02 | | I |
| Antimony | 0 14076945 | | mg/L | 0 05 | | YES |
| Selenium | 0 12914285 | | mg/L | 0 05 | | YES |
| Tin | 0 63228546 | | mg/L | 0 1 | | YES |
| Silicon | 9 0210077 | | mg/L | 0 2 | | YES |
| Titanium | 6 92912177 | | mg/L | 0 05 | | YES |
| Thallium | -0 146802 | N | mg/L | 0 05 | | N |
| Vanadium | 0 18481211 | | mg/L | 0 02 | | YES |
| Zinc | 0 40258738 | | mg/L | 0 02 | | I |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087059 |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 00 49 42 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00494982 | U | mg/L | 0 01 | | YES |
| Aluminum | 3 19207181 | | mg/L | 0 1 | | D |
| Arsenic | 0 50849863 | | mg/L | 0 05 | | D |
| Boron | 0 18361305 | | mg/L | 0 1 | | I |
| Beryllium | 0 0003876 | U | mg/L | 0 005 | | YES |
| Cadmium | 0 14124239 | | mg/L | 0 005 | | I |
| Chromium | 0 14266685 | | mg/L | 0 02 | | YES |
| Copper | 0 68623055 | | mg/L | 0 02 | | YES |
| Iron | 937 911278 | S | mg/L | 0 02 | | S |
| Manganese | 1 41347118 | | mg/L | 0 005 | | I |
| Molybdenum | 0 12343895 | | mg/L | 0 1 | | D |
| Nickel | -0 0186008 | U | mg/L | 0 02 | | I |
| Antimony | 0 08735745 | | mg/L | 0 05 | | D |
| Silicon | 8 99108231 | | mg/L | 0 2 | | D |
| Titanium | 6 88601629 | | mg/L | 0 05 | | D |
| Zinc | 0 42267287 | | mg/L | 0 02 | | I |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087061 |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 00 53 24 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 03092999 | | mg/L | 0 01 | | I |
| Aluminum | 20 8453746 | | mg/L | 0 1 | | YES |
| Arsenic | 0 48647172 | | mg/L | 0 05 | | YES |
| Boron | 0 19537795 | | mg/L | 0 1 | | YES |
| Barium | 3 54506002 | | mg/L | 0 01 | | YES |
| Beryllium | -0 0025679 | U | mg/L | 0 005 | | I |
| Calcium | 49 5680316 | | mg/L | 0 1 | | YES |
| Cadmium | 0 08344654 | | mg/L | 0 005 | | I |
| Cobalt | 0 01546082 | | mg/L | 0 015 | | I |
| Chromium | 0 42306894 | | mg/L | 0 02 | | I |
| Copper | 0 68841201 | | mg/L | 0 02 | | I |
| Iron | 760 176834 | S | mg/L | 0 02 | | S |
| Potassium | 22 9165279 | | mg/L | 0 1 | | YES |
| Magnesium | 5 77027146 | | mg/L | 0 1 | | I |
| Manganese | 3 58911829 | | mg/L | 0 005 | | YES |
| Molybdenum | 0 10082993 | | mg/L | 0 1 | | YES |
| Sodium | 11 4990553 | | mg/L | 0 1 | | YES |
| Nickel | 0 29112198 | | mg/L | 0 02 | | YES |
| Lead | 7 66200991 | | mg/L | 0 02 | | I |
| Antimony | 0 20373993 | | mg/L | 0 05 | | YES |
| Selenium | 0 12210409 | | mg/L | 0 05 | | YES |
| Tin | 1 52074206 | | mg/L | 0 1 | | YES |
| Silicon | 12 6693637 | | mg/L | 0 2 | | YES |
| Titanium | 4 78222355 | | mg/L | 0 05 | | YES |
| Thallium | -0 1244874 | N | mg/L | 0 05 | | N |
| Vanadium | 0 23801714 | | mg/L | 0 02 | | YES |
| Zinc | 5 18176559 | | mg/L | 0 02 | | I |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087061 |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 00 53 24 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 0122453 | | mg/L | 0 01 | | YES |
| Aluminum | 21 1928405 | | mg/L | 0 1 | | D |
| Arsenic | 0 57901985 | | mg/L | 0 05 | | D |
| Boron | 0 2106511 | | mg/L | 0 1 | | I |
| Beryllium | 0 00400098 | U | mg/L | 0 005 | | YES |
| Cadmium | 0 13369681 | | mg/L | 0 005 | | I |
| Chromium | 0 41600474 | | mg/L | 0 02 | | YES |
| Copper | 0 64261296 | | mg/L | 0 02 | | YES |
| Iron | 792 542839 | S | mg/L | 0 02 | | S |
| Manganese | 3 53673318 | | mg/L | 0 005 | | I |
| Molybdenum | 0 12843225 | | mg/L | 0 1 | | D |
| Nickel | 0 19615604 | | mg/L | 0 02 | | I |
| Antimony | 0 12147257 | | mg/L | 0 05 | | D |
| Silicon | 12 7384445 | | mg/L | 0 2 | | D |
| Titanium | 4 72592962 | | mg/L | 0 05 | | D |
| Zinc | 5 18497319 | | mg/L | 0 02 | | I |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200086029S |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 00 57 47 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 50446388 | | mg/L | 0 01 | 95 | I |
| Aluminum | 83 7114357 | | mg/L | 0 1 | 126 | YES |
| Arsenic | 2 48819045 | | mg/L | 0 05 | 100 | YES |
| Boron | 2 80496249 | | mg/L | 0 1 | 104 | YES |
| Barium | 4 44053653 | | mg/L | 0 01 | 89 | YES |
| Beryllium | 0 19263652 | | mg/L | 0 005 | 97 | I |
| Calcium | 113 791915 | | mg/L | 0 1 | 129 | YES |
| Cadmium | 0 29683235 | | mg/L | 0 005 | 107 | I |
| Cobalt | 0 83528374 | | mg/L | 0 015 | 82 | I |
| Chromium | 1 45574258 | | mg/L | 0 02 | 104 | I |
| Copper | 1 55914355 | | mg/L | 0 02 | 87 | I |
| Iron | 958 204864 | S | mg/L | 0 02 | 3960 | S |
| Potassium | 72 3226858 | | mg/L | 0 1 | 99 | YES |
| Magnesium | 55 8772677 | | mg/L | 0 1 | 100 | I |
| Manganese | 4 6705291 | | mg/L | 0 005 | 540 | YES |
| Molybdenum | 2 43852307 | | mg/L | 0 1 | 94 | YES |
| Sodium | 59 5713525 | | mg/L | 0 1 | 96 | YES |
| Nickel | 1 01071044 | | mg/L | 0 02 | 72 | YES |
| Lead | 9 06652357 | | mg/L | 0 02 | 141 | I |
| Antimony | 0 97574231 | | mg/L | 0 05 | 77 | YES |
| Selenium | 2 07344362 | | mg/L | 0 05 | 97 | YES |
| Tin | 5 46245708 | | mg/L | 0 1 | 79 | YES |
| Silicon | 19 1722324 | | mg/L | 0 2 | 130 | YES |
| Titanium | 5 99092413 | | mg/L | 0 05 | 121 | YES |
| Thallium | 0 62356296 | | mg/L | 0 05 | 62 | YES |
| Vanadium | 1 17217718 | | mg/L | 0 02 | 93 | YES |
| Zinc | 6 40387594 | | mg/L | 0 02 | 122 | I |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200086029S |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 00 57 47 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 48900896 | | mg/L | 0 01 | 95 | YES |
| Aluminum | 84 6482895 | | mg/L | 0 1 | 127 | D |
| Arsenic | 2 5259104 | | mg/L | 0 05 | 98 | D |
| Boron | 2 68013042 | | mg/L | 0 1 | 99 | I |
| Beryllium | 0 19343164 | | mg/L | 0 005 | 97 | YES |
| Cadmium | 0 37448616 | | mg/L | 0 005 | 120 | I |
| Chromium | 1 42795723 | | mg/L | 0 02 | 101 | YES |
| Copper | 1 47191415 | | mg/L | 0 02 | 83 | YES |
| Iron | 1013 73816 | S | mg/L | 0 02 | 4420 | S |
| Manganese | 4 67193168 | | mg/L | 0 005 | 565 | I |
| Molybdenum | 2 46781177 | | mg/L | 0 1 | 94 | D |
| Nickel | 0 89276322 | | mg/L | 0 02 | 70 | I |
| Antimony | 0 94105949 | | mg/L | 0 05 | 82 | D |
| Silicon | 19 2953637 | | mg/L | 0 2 | 132 | D |
| Titanium | 5 91816315 | | mg/L | 0 05 | 119 | D |
| Zinc | 6 51542287 | | mg/L | 0 02 | 134 | I |

# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200086100SD |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 01 34 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 51581623 | | mg/L | 0 01 | 97/2 4 | I |
| Aluminum | 89 1946361 | | mg/L | 0 1 | 137/6 4 | YES |
| Arsenic | 2 49737927 | | mg/L | 0 05 | 101/0 4 | YES |
| Boron | 2 85074826 | | mg/L | 0 1 | 106/1 8 | YES |
| Barium | 4 99656083 | | mg/L | 0 01 | 145/12 | YES |
| Beryllium | 0 19030046 | | mg/L | 0 005 | 95/1 6 | I |
| Calcium | 118 775815 | | mg/L | 0 1 | 138/4 3 | YES |
| Cadmium | 0 29639651 | | mg/L | 0 005 | 106/0 3 | I |
| Cobalt | 0 66488195 | | mg/L | 0 015 | 65/23 | I |
| Chromium | 1 48631159 | | mg/L | 0 02 | 106/2 | I |
| Copper | 1 42538989 | | mg/L | 0 02 | 74/8 7 | I |
| Iron | 966 532416 | S | mg/L | 0 02 | 4127/0 9 | S |
| Potassium | 73 3612117 | | mg/L | 0 1 | 101/1 5 | YES |
| Magnesium | 57 5080273 | | mg/L | 0 1 | 103/2 8 | I |
| Manganese | 5 02919039 | | mg/L | 0 005 | 720/7 4 | YES |
| Molybdenum | 2 45478486 | | mg/L | 0 1 | 94/0 4 | YES |
| Sodium | 60 2435692 | | mg/L | 0 1 | 97/1 | YES |
| Nickel | 0 67670362 | | mg/L | 0 02 | 39/39 | YES |
| Lead | 14 1940887 | | mg/L | 0 02 | 653/44 | I |
| Antimony | 0 78563669 | | mg/L | 0 05 | 58/22 | YES |
| Selenium | 1 92292994 | | mg/L | 0 05 | 90/7 5 | YES |
| Tin | 5 03075836 | | mg/L | 0 1 | 70/8 2 | YES |
| Silicon | 13 0059266 | | mg/L | 0 2 | Jul-39 | YES |
| Titanium | 6 07348074 | | mg/L | 0 05 | 129/1 3 | YES |
| Thallium | 0 6296358 | | mg/L | 0 05 | 63/1 | YES |
| Vanadium | 1 20198795 | | mg/L | 0 02 | 96/2 5 | YES |
| Zinc | 6 66248868 | | mg/L | 0 02 | 148/4 | I |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200086100SD |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 01 34 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 48001983 | | mg/L | 0 01 | 94/1 9 | YES |
| Aluminum | 90 2253694 | | mg/L | 0 1 | 138/6 4 | D |
| Arsenic | 2 56892193 | | mg/L | 0 05 | 99/1 6 | D |
| Boron | 2 74386981 | | mg/L | 0 1 | 101/2 2 | I |
| Beryllium | 0 19957546 | | mg/L | 0 005 | 100/3 6 | YES |
| Cadmium | 0 37118079 | | mg/L | 0 005 | 119/0 8 | I |
| Chromium | 1 49984081 | | mg/L | 0 02 | 108/4 8 | YES |
| Copper | 1 3653469 | | mg/L | 0 02 | 72/7 | YES |
| Iron | 1020 11544 | S | mg/L | 0 02 | 4551/0 6 | S |
| Manganese | 5 01690953 | | mg/L | 0 005 | 740/7 2 | I |
| Molybdenum | 2 47940497 | | mg/L | 0 1 | 94/0 4 | D |
| Nickel | 0 54089153 | | mg/L | 0 02 | 34/49 | I |
| Antimony | 0 74726517 | | mg/L | 0 05 | 63/23 | D |
| Silicon | 13 0102554 | | mg/L | 0 2 | May-39 | D |
| Titanium | 6 01553188 | | mg/L | 0 05 | 129/1 7 | D |
| Zinc | 6 80508779 | | mg/L | 0 02 | 162/4 4 | I |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087061A |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 05 16 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 04286695 | | mg/L | 0 01 | 2 4 | I |
| Aluminum | 68 5329828 | | mg/L | 0 1 | 95 4 | YES |
| Arsenic | 2 44762778 | | mg/L | 0 05 | 98 2 | YES |
| Boron | 3 06363875 | | mg/L | 0 1 | 114 6 | YES |
| Barium | 4 13163637 | | mg/L | 0 01 | 58 | YES |
| Beryllium | 0 19341929 | | mg/L | 0 005 | 96 5 | I |
| Calcium | 94 5426966 | | mg/L | 0 1 | 89 8 | YES |
| Cadmium | 0 26640401 | | mg/L | 0 005 | 91 3 | I |
| Cobalt | 0 96138275 | | mg/L | 0 015 | 94 55 | I |
| Chromium | 1 36874215 | | mg/L | 0 02 | 94 7 | I |
| Copper | 1 57172945 | | mg/L | 0 02 | 88 2 | I |
| Iron | 686 212511 | S | mg/L | 0 02 | -1480 | S |
| Potassium | 70 5788833 | | mg/L | 0 1 | 95 4 | YES |
| Magnesium | 54 1668981 | | mg/L | 0 1 | 96 86 | I |
| Manganese | 3 36784445 | | mg/L | 0 005 | -110 | YES |
| Molybdenum | 2 54445433 | | mg/L | 0 1 | 97 56 | YES |
| Sodium | 60 4746248 | | mg/L | 0 1 | 98 | YES |
| Nickel | 1 23064587 | | mg/L | 0 02 | 93 9 | YES |
| Lead | 7 82070746 | | mg/L | 0 02 | 16 | I |
| Antimony | 1 16250326 | | mg/L | 0 05 | 95 6 | YES |
| Selenium | 2 14641001 | | mg/L | 0 05 | 101 4 | YES |
| Tin | 6 12767204 | | mg/L | 0 1 | 92 2 | YES |
| Silicon | 16 6045687 | | mg/L | 0 2 | 78 | YES |
| Titanium | 5 18699782 | | mg/L | 0 05 | 41 | YES |
| Thallium | 0 85076354 | | mg/L | 0 05 | 85 1 | YES |
| Vanadium | 1 19336048 | | mg/L | 0 02 | 95 2 | YES |
| Zinc | 5 56262559 | | mg/L | 0 02 | 38 | I |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087061A |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 05 16 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 01565079 | | mg/L | 0 01 | 0 7 | YES |
| Aluminum | 69 0232195 | | mg/L | 0 1 | 95 6 | D |
| Arsenic | 2 48409565 | | mg/L | 0 05 | 95 05 | D |
| Boron | 2 64151223 | | mg/L | 0 1 | 97 16 | I |
| Beryllium | 0 19902977 | | mg/L | 0 005 | 99 5 | YES |
| Cadmium | 0 32030407 | | mg/L | 0 005 | 93 | I |
| Chromium | 1 37615964 | | mg/L | 0 02 | 96 4 | YES |
| Copper | 1 53008912 | | mg/L | 0 02 | 88 7 | YES |
| Iron | 712 451414 | S | mg/L | 0 02 | -1620 | S |
| Manganese | 3 3778596 | | mg/L | 0 005 | -80 | I |
| Molybdenum | 2 55151876 | | mg/L | 0 1 | 96 88 | D |
| Nickel | 1 08699481 | | mg/L | 0 02 | 89 4 | I |
| Antimony | 1 15050575 | | mg/L | 0 05 | 102 9 | D |
| Silicon | 16 7958308 | | mg/L | 0 2 | 82 | D |
| Titanium | 5 17806584 | | mg/L | 0 05 | 45 | D |
| Zinc | 5 67904214 | | mg/L | 0 02 | 50 | I |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087059 |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 08 55 |
| DILUTION FACTOR | 10 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 0046529 | U | mg/L | 0 1 | | D |
| Aluminum | 3 3889431 | | mg/L | 1 | | D |
| Arsenic | 0 4720991 | U | mg/L | 0 5 | | D |
| Boron | 0 109659 | U | mg/L | 1 | | D |
| Barium | 1 9669713 | | mg/L | 0 1 | | D |
| Beryllium | -0 02122 | U | mg/L | 0 05 | | YES |
| Calcium | 181 871058 | | mg/L | 1 | | D |
| Cadmium | 0 1150446 | | mg/L | 0 05 | | YES |
| Cobalt | 0 0617692 | U | mg/L | 0 15 | | YES |
| Chromium | 0 0849339 | U | mg/L | 0 2 | | D |
| Copper | 0 7846927 | | mg/L | 0 2 | | D |
| Iron | 1092 98086 | | mg/L | 0 2 | | YES |
| Potassium | 70 8208463 | | mg/L | 1 | | D |
| Magnesium | 1 8603917 | | mg/L | 1 | | YES |
| Manganese | 1 5673945 | | mg/L | 0 05 | | D |
| Molybdenum | 0 1321569 | U | mg/L | 1 | | D |
| Sodium | 32 5710025 | | mg/L | 1 | | D |
| Nickel | 0 0677754 | U | mg/L | 0 2 | | D |
| Lead | 3 9239167 | | mg/L | 0 2 | | YES |
| Antimony | 0 0467754 | U | mg/L | 0 5 | | D |
| Selenium | 0 1744673 | U | mg/L | 0 5 | | D |
| Tin | 0 4137913 | U | mg/L | 1 | | D |
| Silicon | 8 765207 | | mg/L | 2 | | D |
| Titanium | 7 4011666 | | mg/L | 0 5 | | D |
| Thallium | -0 224711 | U | mg/L | 0 5 | | YES |
| Vanadium | 0 2127198 | | mg/L | 0 2 | | D |
| Zinc | 0 9246711 | | mg/L | 0 2 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087059 |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 08 55 |
| DILUTION FACTOR | 10 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 0636292 | U | mg/L | 0 1 | | D |
| Aluminum | 3 4415465 | | mg/L | 1 | | D |
| Arsenic | 0 60249 | | mg/L | 0 5 | | D |
| Boron | 0 0458549 | U | mg/L | 1 | | D |
| Beryllium | 0 001846 | U | mg/L | 0 05 | | D |
| Cadmium | 0 1368993 | | mg/L | 0 05 | | D |
| Chromium | 0 0987522 | U | mg/L | 0 2 | | D |
| Copper | 0 7269825 | | mg/L | 0 2 | | D |
| Iron | 1101 84523 | | mg/L | 0 2 | | D |
| Manganese | 1 6076743 | | mg/L | 0 05 | | D |
| Molybdenum | 0 1573832 | U | mg/L | 1 | | D |
| Nickel | -0 016877 | U | mg/L | 0 2 | | D |
| Antimony | 0 047921 | U | mg/L | 0 5 | | D |
| Silicon | 8 7538207 | | mg/L | 2 | | D |
| Titanium | 7 3965776 | | mg/L | 0 5 | | D |
| Zinc | 0 8532204 | | mg/L | 0 2 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087061 |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 13 13 |
| DILUTION FACTOR | 10 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 0222312 | U | mg/L | 0 1 | | D |
| Aluminum | 21 7800215 | | mg/L | 1 | | D |
| Arsenic | 0 5445589 | | mg/L | 0 5 | | D |
| Boron | 0 1064599 | U | mg/L | 1 | | D |
| Barium | 3 7562689 | | mg/L | 0 1 | | D |
| Beryllium | -0 008913 | U | mg/L | 0 05 | | D |
| Calcium | 51 8122942 | | mg/L | 1 | | D |
| Cadmium | 0 1120259 | | mg/L | 0 05 | | YES |
| Cobalt | 0 0756232 | U | mg/L | 0 15 | | YES |
| Chromium | 0 3870603 | | mg/L | 0 2 | | D |
| Copper | 0 7008807 | | mg/L | 0 2 | | D |
| Iron | 895 142064 | | mg/L | 0 2 | | YES |
| Potassium | 23 5442915 | | mg/L | 1 | | D |
| Magnesium | 6 0426402 | | mg/L | 1 | | YES |
| Manganese | 3 8044687 | | mg/L | 0 05 | | D |
| Molybdenum | 0 1218894 | U | mg/L | 1 | | D |
| Sodium | 12 0808468 | | mg/L | 1 | | D |
| Nickel | 0 2934976 | | mg/L | 0 2 | | D |
| Lead | 8 3716532 | | mg/L | 0 2 | | YES |
| Antimony | 0 2353925 | U | mg/L | 0 5 | | D |
| Selenium | 0 2185907 | U | mg/L | 0 5 | | D |
| Tin | 1 3023893 | | mg/L | 1 | | D |
| Silicon | 12 3758325 | | mg/L | 2 | | D |
| Titanium | 4 8921279 | | mg/L | 0 5 | | D |
| Thallium | -0 219645 | U | mg/L | 0 5 | | YES |
| Vanadium | 0 255089 | | mg/L | 0 2 | | D |
| Zinc | 5 9724018 | | mg/L | 0 2 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087061 |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 13 13 |
| DILUTION FACTOR | 10 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 001338 | U | mg/L | 0 1 | | D |
| Aluminum | 21 9034116 | | mg/L | 1 | | D |
| Arsenic | 0 6338156 | | mg/L | 0 5 | | D |
| Boron | 0 0283798 | U | mg/L | 1 | | D |
| Beryllium | 0 0074199 | U | mg/L | 0 05 | | D |
| Cadmium | 0 142325 | | mg/L | 0 05 | | D |
| Chromium | 0 3738129 | | mg/L | 0 2 | | D |
| Copper | 0 6826854 | | mg/L | 0 2 | | D |
| Iron | 900 459166 | | mg/L | 0 2 | | D |
| Manganese | 3 8224848 | | mg/L | 0 05 | | D |
| Molybdenum | 0 1200701 | U | mg/L | 1 | | D |
| Nickel | 0 1872829 | U | mg/L | 0 2 | | D |
| Antimony | 0 0334387 | U | mg/L | 0 5 | | D |
| Silicon | 12 5562952 | | mg/L | 2 | | D |
| Titanium | 4 9122419 | | mg/L | 0 5 | | D |
| Zinc | 5 9127879 | | mg/L | 0 2 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200086029S |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 16 54 |
| DILUTION FACTOR | 10 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 5217263 | | mg/L | 0 1 | 104 | D |
| Aluminum | 86 6057509 | | mg/L | 1 | 130 | D |
| Arsenic | 2 5847292 | | mg/L | 0 5 | 102 | D |
| Boron | 2 8428747 | | mg/L | 1 | 114 | D |
| Barium | 4 8603537 | | mg/L | 0 1 | 110 | D |
| Beryllium | 0 1961476 | | mg/L | 0 05 | 98 | D |
| Calcium | 120 48459 | | mg/L | 1 | 136 | D |
| Cadmium | 0 3680224 | | mg/L | 0 05 | 128 | YES |
| Cobalt | 0 9787505 | | mg/L | 0 15 | 98 | YES |
| Chromium | 1 4707193 | | mg/L | 0 2 | 108 | D |
| Copper | 1 6592796 | | mg/L | 0 2 | 96 | D |
| Iron | 1161 01037 | | mg/L | 0 2 | 5320 | YES |
| Potassium | 74 084026 | | mg/L | 1 | 101 | D |
| Magnesium | 59 9334491 | | mg/L | 1 | 108 | YES |
| Manganese | 4 9609637 | | mg/L | 0 05 | 580 | D |
| Molybdenum | 2 6114122 | | mg/L | 1 | 104 | D |
| Sodium | 62 1930534 | | mg/L | 1 | 100 | D |
| Nickel | 1 097246 | | mg/L | 0 2 | 81 | D |
| Lead | 9 9854512 | | mg/L | 0 2 | 162 | YES |
| Antimony | 0 9703884 | | mg/L | 0 5 | 97 | D |
| Selenium | 2 1486515 | | mg/L | 0 5 | 108 | D |
| Tin | 5 5788506 | | mg/L | 1 | 86 | D |
| Silicon | 19 5913167 | | mg/L | 2 | 144 | D |
| Titanium | 6 1842878 | | mg/L | 0 5 | 129 | D |
| Thallium | 0 7991681 | | mg/L | 0 5 | 80 | D |
| Vanadium | 1 2400842 | | mg/L | 0 2 | 99 | D |
| Zinc | 7 5280023 | | mg/L | 0 2 | 156 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200086029S |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 16 54 |
| DILUTION FACTOR | 10 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 5141249 | | mg/L | 0 1 | 103 | D |
| Aluminum | 87 7850882 | | mg/L | 1 | 132 | D |
| Arsenic | 2 8152858 | | mg/L | 0 5 | 109 | D |
| Boron | 2 5576652 | | mg/L | 1 | 102 | D |
| Beryllium | 0 2094739 | | mg/L | 0 05 | 105 | D |
| Cadmium | 0 4005283 | | mg/L | 0 05 | 130 | D |
| Chromium | 1 5053991 | | mg/L | 0 2 | 114 | D |
| Copper | 1 5750965 | | mg/L | 0 2 | 90 | D |
| Iron | 1170 9161 | | mg/L | 0 2 | 5420 | D |
| Manganese | 4 9999162 | | mg/L | 0 05 | 590 | D |
| Molybdenum | 2 6015305 | | mg/L | 1 | 104 | D |
| Nickel | 0 9398459 | | mg/L | 0 2 | 94 | D |
| Antimony | 0 7687399 | | mg/L | 0 5 | 77 | D |
| Silicon | 19 8730637 | | mg/L | 2 | 146 | D |
| Titanium | 6 1962353 | | mg/L | 0 5 | 129 | D |
| Zinc | 7 4521664 | | mg/L | 0 2 | 154 | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200086100SD |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 20 35 |
| DILUTION FACTOR | 10 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 5444218 | | mg/L | 0 1 | 109/4 1 | D |
| Aluminum | 95 4151194 | | mg/L | 1 | 147/9 7 | D |
| Arsenic | 2 5993589 | | mg/L | 0 5 | 103/0 8 | D |
| Boron | 2 7851642 | | mg/L | 1 | 111/1 8 | D |
| Barium | 5 4725188 | | mg/L | 0 1 | 172/12 | D |
| Beryllium | 0 1982094 | | mg/L | 0 05 | 99/1 | D |
| Calcium | 129 02293 | | mg/L | 1 | 154/7 2 | D |
| Cadmium | 0 3624262 | | mg/L | 0 05 | 125/1 6 | YES |
| Cobalt | 0 8113093 | | mg/L | 0 15 | 81/19 | YES |
| Chromium | 1 5272796 | | mg/L | 0 2 | 114/4 | D |
| Copper | 1 5472528 | | mg/L | 0 2 | 85/6 9 | D |
| Iron | 1194 05212 | | mg/L | 0 2 | 5978/2 8 | YES |
| Potassium | 78 6677719 | | mg/L | 1 | 110/6 | D |
| Magnesium | 61 1709095 | | mg/L | 1 | 110/2 1 | YES |
| Manganese | 5 4751972 | | mg/L | 0 05 | 835/10 | D |
| Molybdenum | 2 6622507 | | mg/L | 1 | 106/1 9 | D |
| Sodium | 65 0554562 | | mg/L | 1 | 106/4 6 | D |
| Nickel | 0 7368924 | | mg/L | 0 2 | 44/40 | D |
| Lead | 15 8247417 | | mg/L | 0 2 | 745/45 | YES |
| Antimony | 0 7197652 | | mg/L | 0 5 | 72/30 | D |
| Selenium | 2 1530134 | | mg/L | 0 5 | 108/0 | D |
| Tin | 5 2351303 | | mg/L | 1 | 79/6 3 | D |
| Silicon | 12 4024441 | | mg/L | 2 | Jan-45 | D |
| Titanium | 6 4638028 | | mg/L | 0 5 | 157/4 4 | D |
| Thallium | 0 7034025 | | mg/L | 0 5 | 70/13 | D |
| Vanadium | 1 2414654 | | mg/L | 0 2 | 99/0 | D |
| Zinc | 7 823319 | | mg/L | 0 2 | 185/3 8 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200086100SD |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 20 35 |
| DILUTION FACTOR | 10 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 4916331 | | mg/L | 0 1 | 98/4 4 | D |
| Aluminum | 96 8746779 | | mg/L | 1 | 150/9 9 | D |
| Arsenic | 2 9648661 | | mg/L | 0 5 | 117/4 8 | D |
| Boron | 2 4647077 | | mg/L | 1 | 99/4 | D |
| Beryllium | 0 2132196 | | mg/L | 0 05 | 107/1 9 | D |
| Cadmium | 0 3891221 | | mg/L | 0 05 | 123/3 | D |
| Chromium | 1 5377564 | | mg/L | 0 2 | 116/2 | D |
| Copper | 1 4460409 | | mg/L | 0 2 | 76/8 6 | D |
| Iron | 1205 04017 | | mg/L | 0 2 | 6092/2 9 | D |
| Manganese | 5 5064558 | | mg/L | 0 05 | 842/9 7 | D |
| Molybdenum | 2 6771054 | | mg/L | 1 | 107/3 | D |
| Nickel | 0 60782 | | mg/L | 0 2 | 61/43 | D |
| Antimony | 0 629978 | | mg/L | 0 5 | 63/20 | D |
| Silicon | 12 5041109 | | mg/L | 2 | -1/46 | D |
| Titanium | 6 4537837 | | mg/L | 0 5 | 154/4 | D |
| Zinc | 7 688338 | | mg/L | 0 2 | 178/3 2 | D |

# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 28 28 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 5088306 | | mg/L | 0 01 | 101 76612 | YES |
| Aluminum | 50 5873965 | | mg/L | 0 1 | 101 174793 | YES |
| Arsenic | 2 04617068 | | mg/L | 0 05 | 102 308534 | YES |
| Boron | 2 66609853 | | mg/L | 0 1 | 106 643941 | YES |
| Barium | 1 00272302 | | mg/L | 0 01 | 100 272302 | YES |
| Beryllium | 0 20388777 | | mg/L | 0 005 | 101 943885 | YES |
| Calcium | 52 5161034 | | mg/L | 0 1 | 105 032207 | YES |
| Cadmium | 0 20684694 | | mg/L | 0 005 | 103 42347 | YES |
| Cobalt | 0 97931696 | | mg/L | 0 015 | 97 931696 | YES |
| Chromium | 1 01357558 | | mg/L | 0 02 | 101 357558 | YES |
| Copper | 0 99294007 | | mg/L | 0 02 | 99 294007 | YES |
| Iron | 4 95010477 | | mg/L | 0 02 | 99 0020954 | YES |
| Potassium | 51 5931683 | | mg/L | 0 1 | 103 186337 | YES |
| Magnesium | 50 5881615 | | mg/L | 0 1 | 101 176323 | YES |
| Manganese | 0 19925955 | | mg/L | 0 005 | 99 629775 | YES |
| Molybdenum | 2 53958892 | | mg/L | 0 1 | 101 583557 | YES |
| Sodium | 52 1148051 | | mg/L | 0 1 | 104 22961 | YES |
| Nickel | 0 99681356 | | mg/L | 0 02 | 99 681356 | YES |
| Lead | 0 98232822 | | mg/L | 0 02 | 98 232822 | YES |
| Antimony | 1 03871376 | | mg/L | 0 05 | 103 871376 | YES |
| Selenium | 2 0536472 | | mg/L | 0 05 | 102 68236 | YES |
| Tin | 4 79291365 | | mg/L | 0 1 | 95 858273 | YES |
| Silicon | 5 23657023 | | mg/L | 0 2 | 104 731405 | YES |
| Titanium | 1 0223109 | | mg/L | 0 05 | 102 23109 | YES |
| Thallium | 0 98562483 | | mg/L | 0 05 | 98 562483 | YES |
| Vanadium | 0 99899743 | | mg/L | 0 02 | 99 899743 | YES |
| Zinc | 1 00125533 | | mg/L | 0 02 | 100 125533 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 28 28 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 49128851 | | mg/L | 0 01 | 98 257702 | D |
| Aluminum | 52 0811864 | | mg/L | 0 1 | 104 162373 | D |
| Arsenic | 2 05526339 | | mg/L | 0 05 | 102 76317 | D |
| Boron | 2 49346346 | | mg/L | 0 1 | 99 7385384 | D |
| Beryllium | 0 2008717 | | mg/L | 0 005 | 100 43585 | D |
| Cadmium | 0 20393725 | | mg/L | 0 005 | 101 968625 | D |
| Chromium | 1 01265126 | | mg/L | 0 02 | 101 265126 | D |
| Copper | 0 95167733 | | mg/L | 0 02 | 95 167733 | D |
| Iron | 4 91962441 | | mg/L | 0 02 | 98 3924882 | D |
| Manganese | 0 19796158 | | mg/L | 0 005 | 98 98079 | D |
| Molybdenum | 2 52228004 | | mg/L | 0 1 | 100 891202 | D |
| Nickel | 0 98180445 | | mg/L | 0 02 | 98 180445 | D |
| Antimony | 1 04819911 | | mg/L | 0 05 | 104 819911 | D |
| Silicon | 5 31120982 | | mg/L | 0 2 | 106 224196 | D |
| Titanium | 1 01528126 | | mg/L | 0 05 | 101 528126 | D |
| Zinc | 1 00944625 | | mg/L | 0 02 | 100 944625 | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 32 07 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 0012099 | U | mg/L | 0 01 | | YES |
| Aluminum | -0 0023506 | U | mg/L | 0 1 | | YES |
| Arsenic | 0 00265345 | U | mg/L | 0 05 | | YES |
| Boron | -0 0101379 | U | mg/L | 0 1 | | YES |
| Barium | 0 00103297 | U | mg/L | 0 01 | | YES |
| Beryllium | 0 00049622 | U | mg/L | 0 005 | | YES |
| Calcium | 0 00137708 | U | mg/L | 0 1 | | YES |
| Cadmium | -0 0003515 | U | mg/L | 0 005 | | YES |
| Cobalt | 0 00008003 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0038679 | U | mg/L | 0 02 | | YES |
| Copper | -0 0020453 | U | mg/L | 0 02 | | YES |
| Iron | 0 0010772 | U | mg/L | 0 02 | | YES |
| Potassium | -0 0000483 | U | mg/L | 0 1 | | YES |
| Magnesium | -0 0049985 | U | mg/L | 0 1 | | YES |
| Manganese | 0 00007887 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 00345142 | U | mg/L | 0 1 | | YES |
| Sodium | 0 00939527 | U | mg/L | 0 1 | | YES |
| Nickel | -0 0026183 | U | mg/L | 0 02 | | YES |
| Lead | 0 00662014 | U | mg/L | 0 02 | | YES |
| Antimony | -0 0103771 | U | mg/L | 0 05 | | YES |
| Selenium | 0 00896262 | U | mg/L | 0 05 | | YES |
| Tin | -0 0180867 | U | mg/L | 0 1 | | YES |
| Silicon | -0 1036172 | U | mg/L | 0 2 | | YES |
| Titanium | -0 001237 | U | mg/L | 0 05 | | YES |
| Thallium | 0 00665814 | U | mg/L | 0 05 | | YES |
| Vanadium | 0 00110943 | U | mg/L | 0 02 | | YES |
| Zinc | -0 0101291 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 32 07 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00242208 | U | mg/L | 0 01 | | D |
| Aluminum | -0 0018532 | U | mg/L | 0 1 | | D |
| Arsenic | 0 00882494 | U | mg/L | 0 05 | | D |
| Boron | 0 00182387 | U | mg/L | 0 1 | | D |
| Beryllium | 0 00049626 | U | mg/L | 0 005 | | D |
| Cadmium | -0 0001851 | U | mg/L | 0 005 | | D |
| Chromium | -0 006783 | U | mg/L | 0 02 | | D |
| Copper | -0 0016082 | U | mg/L | 0 02 | | D |
| Iron | 0 00120784 | U | mg/L | 0 02 | | D |
| Manganese | -0 0001012 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 00770614 | U | mg/L | 0 1 | | D |
| Nickel | 0 00268169 | U | mg/L | 0 02 | | D |
| Antimony | -0 0226252 | U | mg/L | 0 05 | | D |
| Silicon | -0 1001197 | U | mg/L | 0 2 | | D |
| Titanium | -0 0004128 | U | mg/L | 0 05 | | D |
| Zinc | -0 0103138 | U | mg/L | 0 02 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087061A |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 35 51 |
| DILUTION FACTOR | 10 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 0476716 | U | mg/L | 0 1 | 0 | D |
| Aluminum | 536 056721 | | mg/L | 1 | 63 6 | D |
| Arsenic | 20 0123566 | | mg/L | 0 5 | 72 75 | D |
| Boron | 26 678668 | | mg/L | 1 | 106 8 | D |
| Barium | 13 9669415 | | mg/L | 0 1 | -236 | D |
| Beryllium | 2 0493715 | | mg/L | 0 05 | 102 5 | D |
| Calcium | 573 494704 | | mg/L | 1 | 11 | D |
| Cadmium | 2 1790688 | | mg/L | 0 05 | 53 | YES |
| Cobalt | 10 0766639 | | mg/L | 0 15 | 101 | YES |
| Chromium | 10 5696835 | | mg/L | 0 2 | 67 3 | D |
| Copper | 10 7064882 | | mg/L | 0 2 | 36 9 | D |
| Iron | 915 994206 | | mg/L | 0 2 | -16068 | YES |
| Potassium | 539 044206 | | mg/L | 1 | 60 8 | D |
| Magnesium | 520 510514 | | mg/L | 1 | 92 12 | YES |
| Manganese | 5 7105761 | | mg/L | 0 05 | -1614 5 | D |
| Molybdenum | 25 7512199 | | mg/L | 1 | 103 2 | D |
| Sodium | 532 41907 | | mg/L | 1 | 82 2 | D |
| Nickel | 10 3307392 | | mg/L | 0 2 | 73 7 | D |
| Lead | 18 0296099 | | mg/L | 0 2 | -657 | YES |
| Antimony | 9 6629514 | | mg/L | 0 5 | 96 6 | D |
| Selenium | 20 8536172 | | mg/L | 0 5 | 104 5 | D |
| Tin | 51 0541492 | | mg/L | 1 | 76 2 | D |
| Silicon | 65 7423608 | | mg/L | 2 | -116 6 | D |
| Titanium | 15 1273538 | | mg/L | 0 5 | -338 | D |
| Thallium | 9 7769633 | | mg/L | 0 5 | 97 8 | D |
| Vanadium | 10 3876097 | | mg/L | 0 2 | 78 5 | D |
| Zinc | 15 7995767 | | mg/L | 0 2 | -439 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087061A |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 01 35 51 |
| DILUTION FACTOR | 10 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 1411142 | | mg/L | 0 1 | 2 82 | D |
| Aluminum | 542 648648 | | mg/L | 1 | 64 8 | D |
| Arsenic | 20 3936857 | | mg/L | 0 5 | 70 3 | D |
| Boron | 25 4288704 | | mg/L | 1 | 101 6 | D |
| Beryllium | 2 0294063 | | mg/L | 0 05 | 101 5 | D |
| Cadmium | 2 177788 | | mg/L | 0 05 | 38 | D |
| Chromium | 10 5559169 | | mg/L | 0 2 | 68 6 | D |
| Copper | 10 5094211 | | mg/L | 0 2 | 36 7 | D |
| Iron | 921 117083 | | mg/L | 0 2 | -16158 | D |
| Manganese | 5 7480348 | | mg/L | 0 05 | -1622 5 | D |
| Molybdenum | 25 2395819 | | mg/L | 1 | 100 8 | D |
| Nickel | 9 9492977 | | mg/L | 0 2 | 99 5 | D |
| Antimony | 9 9469389 | | mg/L | 0 5 | 99 5 | D |
| Silicon | 67 0697941 | | mg/L | 2 | -117 8 | D |
| Titanium | 15 0817799 | | mg/L | 0 5 | -340 | D |
| Zinc | 16 0970303 | | mg/L | 0 2 | -430 | D |

# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200085979D |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 02 07 00 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00735539 | U | mg/L | 0 01 | NC | YES |
| Aluminum | 135 786165 | | mg/L | 0 1 | 18 6666667 | YES |
| Arsenic | 0 03980669 | U | mg/L | 0 05 | NC | YES |
| Boron | 0 00113337 | U | mg/L | 0 1 | NC | YES |
| Barium | 0 32876612 | | mg/L | 0 01 | 1 80722892 | YES |
| Beryllium | 0 00507465 | | mg/L | 0 005 | 35 2558895 | YES |
| Calcium | 22 6348144 | | mg/L | 0 1 | 3 6036036 | YES |
| Cadmium | 0 03053485 | | mg/L | 0 005 | 11 7283951 | YES |
| Cobalt | 0 12186272 | | mg/L | 0 015 | 106 918239 | YES |
| Chromium | 0 41793168 | | mg/L | 0 02 | 19 047619 | YES |
| Copper | 0 17921689 | | mg/L | 0 02 | 18 7341772 | YES |
| Iron | 410 714801 | | mg/L | 0 02 | 16 3128492 | YES |
| Potassium | 5 74032516 | | mg/L | 0 1 | 30 3030303 | YES |
| Magnesium | 8 58173732 | | mg/L | 0 1 | 9 33333333 | YES |
| Manganese | 3 86353636 | | mg/L | 0 005 | 16 5497896 | YES |
| Molybdenum | -0 0076298 | U | mg/L | 0 1 | NC | YES |
| Sodium | 0 38227689 | | mg/L | 0 1 | 7 55667506 | YES |
| Nickel | 0 19427237 | | mg/L | 0 02 | 24 4343891 | YES |
| Lead | 0 07544659 | | mg/L | 0 02 | 10 4336895 | YES |
| Antimony | 0 01559029 | U | mg/L | 0 05 | NC | YES |
| Selenium | 0 0333306 | U | mg/L | 0 05 | NC | YES |
| Tin | -0 0490614 | U | mg/L | 0 1 | NC | YES |
| Silicon | 22 8980237 | | mg/L | 0 2 | 34 8717949 | YES |
| Titanium | 1 60757228 | | mg/L | 0 05 | 4 44444444 | YES |
| Thallium | -0 0662027 | N | mg/L | 0 05 | NC | N |
| Vanadium | 0 84138579 | | mg/L | 0 02 | 16 5757906 | YES |
| Zinc | 1 39503405 | | mg/L | 0 02 | 26 0869565 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200085979D |
| QC SET ID | ICPG1301 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 02 07 00 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 0046497 | U | mg/L | 0 01 | NC | D |
| Aluminum | 136 724167 | | mg/L | 0 1 | 18 5430464 | D |
| Arsenic | 0 15136874 | | mg/L | 0 05 | 13 5802469 | D |
| Boron | -0 0229057 | U | mg/L | 0 1 | NC | D |
| Beryllium | 0 00888657 | | mg/L | 0 005 | 20 3132895 | D |
| Cadmium | 0 05826387 | | mg/L | 0 005 | 14 4789181 | D |
| Chromium | 0 41245191 | | mg/L | 0 02 | 18 3020948 | D |
| Copper | 0 1620809 | | mg/L | 0 02 | 21 978022 | D |
| Iron | 420 743948 | | mg/L | 0 02 | 16 7573449 | D |
| Manganese | 3 75975119 | | mg/L | 0 005 | 15 1645207 | D |
| Molybdenum | 0 01523108 | U | mg/L | 0 1 | NC | D |
| Nickel | 0 12722221 | | mg/L | 0 02 | 26 0273973 | D |
| Antimony | -0 0250841 | U | mg/L | 0 05 | NC | D |
| Silicon | 23 0692933 | | mg/L | 0 2 | 34 5177665 | D |
| Titanium | 1 63377049 | | mg/L | 0 05 | 4 38871473 | D |
| Zinc | 1 38246505 | | mg/L | 0 02 | 26 9592476 | D |

# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 02 15 01 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 51534438 | | mg/L | 0 01 | 103 068876 | YES |
| Aluminum | 51 3722785 | | mg/L | 0 1 | 102 744557 | YES |
| Arsenic | 2 05521872 | | mg/L | 0 05 | 102 760936 | YES |
| Boron | 2 65333895 | | mg/L | 0 1 | 106 133558 | YES |
| Barium | 1 02643031 | | mg/L | 0 01 | 102 643031 | YES |
| Beryllium | 0 20600489 | | mg/L | 0 005 | 103 002445 | YES |
| Calcium | 51 9009055 | | mg/L | 0 1 | 103 801811 | YES |
| Cadmium | 0 20578884 | | mg/L | 0 005 | 102 89442 | YES |
| Cobalt | 1 01009412 | | mg/L | 0 015 | 101 009412 | YES |
| Chromium | 1 01805328 | | mg/L | 0 02 | 101 805328 | YES |
| Copper | 0 99060752 | | mg/L | 0 02 | 99 060752 | YES |
| Iron | 5 00876606 | | mg/L | 0 02 | 100 175321 | YES |
| Potassium | 50 4172066 | | mg/L | 0 1 | 100 834413 | YES |
| Magnesium | 51 3215291 | | mg/L | 0 1 | 102 643058 | YES |
| Manganese | 0 20107488 | | mg/L | 0 005 | 100 53744 | YES |
| Molybdenum | 2 57454548 | | mg/L | 0 1 | 102 981819 | YES |
| Sodium | 50 8026083 | | mg/L | 0 1 | 101 605217 | YES |
| Nickel | 0 99750916 | | mg/L | 0 02 | 99 750916 | YES |
| Lead | 0 99300178 | | mg/L | 0 02 | 99 300178 | YES |
| Antimony | 1 05519465 | | mg/L | 0 05 | 105 519465 | YES |
| Selenium | 2 05627676 | | mg/L | 0 05 | 102 813838 | YES |
| Tin | 4 76811702 | | mg/L | 0 1 | 95 3623404 | YES |
| Silicon | 5 37866806 | | mg/L | 0 2 | 107 573361 | YES |
| Titanium | 1 03583979 | | mg/L | 0 05 | 103 583979 | YES |
| Thallium | 0 96289334 | | mg/L | 0 05 | 96 289334 | YES |
| Vanadium | 1 00992144 | | mg/L | 0 02 | 100 992144 | YES |
| Zinc | 1 00798074 | | mg/L | 0 02 | 100 798074 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 02 15 01 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 50571339 | | mg/L | 0 01 | 101 142678 | D |
| Aluminum | 51 1570997 | | mg/L | 0 1 | 102 314199 | D |
| Arsenic | 2 05871247 | | mg/L | 0 05 | 102 935624 | D |
| Boron | 2 51844308 | | mg/L | 0 1 | 100 737723 | D |
| Beryllium | 0 20411101 | | mg/L | 0 005 | 102 055505 | D |
| Cadmium | 0 20433669 | | mg/L | 0 005 | 102 168345 | D |
| Chromium | 1 01249253 | | mg/L | 0 02 | 101 249253 | D |
| Copper | 0 96961572 | | mg/L | 0 02 | 96 961572 | D |
| Iron | 5 01257719 | | mg/L | 0 02 | 100 251544 | D |
| Manganese | 0 20148842 | | mg/L | 0 005 | 100 74421 | D |
| Molybdenum | 2 52930112 | | mg/L | 0 1 | 101 172045 | D |
| Nickel | 0 9713469 | | mg/L | 0 02 | 97 13469 | D |
| Antimony | 1 08164978 | | mg/L | 0 05 | 108 164978 | D |
| Silicon | 5 3745098 | | mg/L | 0 2 | 107 490196 | D |
| Titanium | 1 03102822 | | mg/L | 0 05 | 103 102822 | D |
| Zinc | 1 01296635 | | mg/L | 0 02 | 101 296635 | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 02 18 41 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 0037155 | U | mg/L | 0 01 | | YES |
| Aluminum | -0 0003921 | U | mg/L | 0 1 | | YES |
| Arsenic | 0 00525128 | U | mg/L | 0 05 | | YES |
| Boron | -0 0171574 | U | mg/L | 0 1 | | YES |
| Barium | 0 00086247 | U | mg/L | 0 01 | | YES |
| Beryllium | 0 00049888 | U | mg/L | 0 005 | | YES |
| Calcium | -0 0037221 | U | mg/L | 0 1 | | YES |
| Cadmium | -0 0002357 | U | mg/L | 0 005 | | YES |
| Cobalt | 0 0001714 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0042527 | U | mg/L | 0 02 | | YES |
| Copper | -0 0037099 | U | mg/L | 0 02 | | YES |
| Iron | 0 00214019 | U | mg/L | 0 02 | | YES |
| Potassium | -0 0131601 | U | mg/L | 0 1 | | YES |
| Magnesium | -0 001962 | U | mg/L | 0 1 | | YES |
| Manganese | 0 00000291 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 00147454 | U | mg/L | 0 1 | | YES |
| Sodium | -0 0039424 | U | mg/L | 0 1 | | YES |
| Nickel | -0 0008417 | U | mg/L | 0 02 | | YES |
| Lead | -0 0030202 | U | mg/L | 0 02 | | YES |
| Antimony | -0 0067471 | U | mg/L | 0 05 | | YES |
| Selenium | 0 02095805 | U | mg/L | 0 05 | | YES |
| Tin | -0 020202 | U | mg/L | 0 1 | | YES |
| Silicon | -0 1062334 | U | mg/L | 0 2 | | YES |
| Titanium | -0 0009653 | U | mg/L | 0 05 | | YES |
| Thallium | 0 00894226 | U | mg/L | 0 05 | | YES |
| Vanadium | 0 00090421 | U | mg/L | 0 02 | | YES |
| Zinc | -0 010375 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 02 18 41 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00138234 | U | mg/L | 0 01 | | D |
| Aluminum | -0 0097269 | U | mg/L | 0 1 | | D |
| Arsenic | 0 01148291 | U | mg/L | 0 05 | | D |
| Boron | -0 0045845 | U | mg/L | 0 1 | | D |
| Beryllium | 0 0004655 | U | mg/L | 0 005 | | D |
| Cadmium | -0 000084 | U | mg/L | 0 005 | | D |
| Chromium | -0 006767 | U | mg/L | 0 02 | | D |
| Copper | -0 0008452 | U | mg/L | 0 02 | | D |
| Iron | 0 00160459 | U | mg/L | 0 02 | | D |
| Manganese | 0 00012356 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 00030653 | U | mg/L | 0 1 | | D |
| Nickel | 0 00029363 | U | mg/L | 0 02 | | D |
| Antimony | -0 0055138 | U | mg/L | 0 05 | | D |
| Silicon | -0 1020161 | U | mg/L | 0 2 | | D |
| Titanium | -0 0001565 | U | mg/L | 0 05 | | D |
| Zinc | -0 0107676 | U | mg/L | 0 02 | | D |

# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 06 07 18 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00041375 | U | mg/L | 0 01 | | YES |
| Aluminum | 0 00023504 | U | mg/L | 0 1 | | YES |
| Arsenic | 0 00708818 | U | mg/L | 0 05 | | YES |
| Boron | -0 0124005 | U | mg/L | 0 1 | | YES |
| Barium | 0 00077645 | U | mg/L | 0 01 | | YES |
| Beryllium | 0 00050734 | U | mg/L | 0 005 | | YES |
| Calcium | -0 0059313 | U | mg/L | 0 1 | | YES |
| Cadmium | -0 0002049 | U | mg/L | 0 005 | | YES |
| Cobalt | 0 00045562 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0047178 | U | mg/L | 0 02 | | YES |
| Copper | -0 0012303 | U | mg/L | 0 02 | | YES |
| Iron | 0 00042718 | U | mg/L | 0 02 | | YES |
| Potassium | -0 0178866 | U | mg/L | 0 1 | | YES |
| Magnesium | -0 0014916 | U | mg/L | 0 1 | | YES |
| Manganese | -0 0000074 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 00400162 | U | mg/L | 0 1 | | YES |
| Sodium | 0 0505235 | U | mg/L | 0 1 | | YES |
| Nickel | -0 0009056 | U | mg/L | 0 02 | | YES |
| Lead | -0 0042098 | U | mg/L | 0 02 | | YES |
| Antimony | -0 0160221 | U | mg/L | 0 05 | | YES |
| Selenium | 0 00390414 | U | mg/L | 0 05 | | YES |
| Tin | -0 0142591 | U | mg/L | 0 1 | | YES |
| Silicon | -0 108911 | U | mg/L | 0 2 | | YES |
| Titanium | -0 0023222 | U | mg/L | 0 05 | | YES |
| Thallium | -0 0026232 | U | mg/L | 0 05 | | YES |
| Vanadium | 0 00164897 | U | mg/L | 0 02 | | YES |
| Zinc | -0 0116783 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 06 07 18 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00182998 | U | mg/L | 0 01 | | D |
| Aluminum | -0 0036665 | U | mg/L | 0 1 | | D |
| Arsenic | 0 00910326 | U | mg/L | 0 05 | | D |
| Boron | -0 0021245 | U | mg/L | 0 1 | | D |
| Beryllium | 0 00032325 | U | mg/L | 0 005 | | D |
| Cadmium | 0 00055196 | U | mg/L | 0 005 | | D |
| Chromium | -0 0082118 | U | mg/L | 0 02 | | D |
| Copper | -0 0000896 | U | mg/L | 0 02 | | D |
| Iron | 0 00030961 | U | mg/L | 0 02 | | D |
| Manganese | -0 0000978 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 00688674 | U | mg/L | 0 1 | | D |
| Nickel | -0 0009865 | U | mg/L | 0 02 | | D |
| Antimony | -0 0023548 | U | mg/L | 0 05 | | D |
| Silicon | -0 1050813 | U | mg/L | 0 2 | | D |
| Titanium | -0 0000864 | U | mg/L | 0 05 | | D |
| Zinc | -0 0111102 | U | mg/L | 0 02 | | D |

# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087147 |
| QC SET ID | ICPG1305 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 06 10 56 |
| DILUTION FACTOR | 10 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 008347 | U | mg/L | 0 1 | | D |
| Aluminum | -0 030648 | U | mg/L | 1 | | D |
| Arsenic | 0 0840979 | U | mg/L | 0 5 | | D |
| Boron | 1 1160863 | | mg/L | 1 | | D |
| Barium | 0 0518827 | U | mg/L | 0 1 | | D |
| Beryllium | 0 0048363 | U | mg/L | 0 05 | | D |
| Calcium | 225 0457 | | mg/L | 1 | | D |
| Cadmium | 0 0000176 | U | mg/L | 0 05 | | D |
| Cobalt | -0 007912 | U | mg/L | 0 15 | | D |
| Chromium | -0 058537 | U | mg/L | 0 2 | | D |
| Copper | -0 025656 | U | mg/L | 0 2 | | D |
| Iron | 0 0262507 | U | mg/L | 0 2 | | D |
| Potassium | 13 7410678 | | mg/L | 1 | | D |
| Magnesium | 106 589705 | | mg/L | 1 | | D |
| Manganese | 0 4087412 | | mg/L | 0 05 | | D |
| Molybdenum | 0 0176787 | U | mg/L | 1 | | D |
| Sodium | 678 164034 | | mg/L | 1 | | YES |
| Nickel | 0 0236225 | U | mg/L | 0 2 | | D |
| Lead | -0 036967 | U | mg/L | 0 2 | | D |
| Antimony | -0 127579 | U | mg/L | 0 5 | | D |
| Selenium | -0 083054 | U | mg/L | 0 5 | | D |
| Tin | -0 223315 | U | mg/L | 1 | | D |
| Silicon | 14 5617969 | | mg/L | 2 | | D |
| Titanium | -0 020908 | U | mg/L | 0 5 | | D |
| Thallium | 0 019199 | U | mg/L | 0 5 | | D |
| Vanadium | 0 0122861 | U | mg/L | 0 2 | | D |
| Zinc | 0 4012329 | | mg/L | 0 2 | | D |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | 200087147 |
| QC SET ID | ICPG1305 |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 06 10 56 |
| DILUTION FACTOR | 10 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | -0 04501 | U | mg/L | 0 1 | | D |
| Aluminum | 0 073863 | U | mg/L | 1 | | D |
| Arsenic | 0 125719 | U | mg/L | 0 5 | | D |
| Boron | 1 1123331 | | mg/L | 1 | | D |
| Beryllium | 0 0026468 | U | mg/L | 0 05 | | D |
| Cadmium | 0 0000291 | U | mg/L | 0 05 | | D |
| Chromium | -0 073612 | U | mg/L | 0 2 | | D |
| Copper | 0 0054717 | U | mg/L | 0 2 | | D |
| Iron | 0 0201465 | U | mg/L | 0 2 | | D |
| Manganese | 0 4068076 | | mg/L | 0 05 | | D |
| Molybdenum | 0 0029118 | U | mg/L | 1 | | D |
| Nickel | -0 004132 | U | mg/L | 0 2 | | D |
| Antimony | 0 055433 | U | mg/L | 0 5 | | D |
| Silicon | 14 7284979 | | mg/L | 2 | | D |
| Titanium | -0 013477 | U | mg/L | 0 5 | | D |
| Zinc | 0 405771 | | mg/L | 0 2 | | D |

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# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICSA |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 06 18 57 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 0072737 | U | mg/L | 0 01 | | YES |
| Aluminum | 500 342316 | S | mg/L | 0 1 | 100 068463 | S |
| Arsenic | 0 03200965 | U | mg/L | 0 05 | | YES |
| Boron | -0 0905237 | U | mg/L | 0 1 | | YES |
| Barium | 0 01289494 | | mg/L | 0 01 | | YES |
| Beryllium | -0 0020304 | U | mg/L | 0 005 | | YES |
| Calcium | 488 133423 | | mg/L | 0 1 | 97 6266846 | YES |
| Cadmium | 0 00587291 | | mg/L | 0 005 | | YES |
| Cobalt | -0 0056885 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0090962 | U | mg/L | 0 02 | | YES |
| Copper | -0 0049977 | U | mg/L | 0 02 | | YES |
| Iron | 177 353956 | | mg/L | 0 02 | 88 676978 | YES |
| Potassium | -0 0105062 | U | mg/L | 0 1 | | YES |
| Magnesium | 504 445235 | S | mg/L | 0 1 | 100 889047 | S |
| Manganese | -0 0015456 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 00913328 | U | mg/L | 0 1 | | YES |
| Sodium | 0 05422889 | U | mg/L | 0 1 | | YES |
| Nickel | -0 0078445 | U | mg/L | 0 02 | | YES |
| Lead | 0 02370523 | | mg/L | 0 02 | | YES |
| Antimony | -0 0273731 | U | mg/L | 0 05 | | YES |
| Selenium | 0 04260055 | U | mg/L | 0 05 | | YES |
| Tin | 0 00000545 | U | mg/L | 0 1 | | YES |
| Silicon | -0 1349592 | U | mg/L | 0 2 | | YES |
| Titanium | -0 0044417 | U | mg/L | 0 05 | | YES |
| Thallium | -0 0123428 | U | mg/L | 0 05 | | YES |
| Vanadium | -0 0087868 | U | mg/L | 0 02 | | YES |
| Zinc | 0 00011987 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICSA |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 06 18 57 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00708757 | U | mg/L | 0 01 | | D |
| Aluminum | 504 436196 | S | mg/L | 0 1 | 100 887239 | S |
| Arsenic | 0 21249682 | | mg/L | 0 05 | | D |
| Boron | -0 0344579 | U | mg/L | 0 1 | | D |
| Beryllium | -0 0000268 | U | mg/L | 0 005 | | D |
| Cadmium | 0 02637937 | | mg/L | 0 005 | | D |
| Chromium | -0 0079562 | U | mg/L | 0 02 | | D |
| Copper | -0 0090156 | U | mg/L | 0 02 | | D |
| Iron | 178 727915 | | mg/L | 0 02 | 89 3639575 | D |
| Manganese | 0 00097261 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 028676 | U | mg/L | 0 1 | | D |
| Nickel | -0 0200521 | N | mg/L | 0 02 | | N |
| Antimony | 0 07065296 | | mg/L | 0 05 | | D |
| Silicon | -0 0901123 | U | mg/L | 0 2 | | D |
| Titanium | -0 0224951 | U | mg/L | 0 05 | | D |
| Zinc | 0 00446312 | U | mg/L | 0 02 | | D |

# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICSAB |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 06 22 40 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 2488418 | | mg/L | 0 01 | 99 53672 | YES |
| Aluminum | 503 199094 | S | mg/L | 0 1 | 100 639819 | S |
| Arsenic | 1 00295008 | | mg/L | 0 05 | 100 295008 | YES |
| Boron | 1 17727662 | | mg/L | 0 1 | 94 1821298 | YES |
| Barium | 0 464637 | | mg/L | 0 01 | 92 9274 | YES |
| Beryllium | 0 09653552 | | mg/L | 0 005 | 96 53552 | YES |
| Calcium | 490 218551 | | mg/L | 0 1 | 98 0437102 | YES |
| Cadmium | 0 09571223 | | mg/L | 0 005 | 95 71223 | YES |
| Cobalt | 0 43556711 | | mg/L | 0 015 | 87 113422 | YES |
| Chromium | 0 4524784 | | mg/L | 0 02 | 90 49568 | YES |
| Copper | 0 44852971 | | mg/L | 0 02 | 89 705942 | YES |
| Iron | 178 021595 | | mg/L | 0 02 | 89 0107975 | YES |
| Potassium | -0 044334 | U | mg/L | 0 1 | | YES |
| Magnesium | 507 515324 | S | mg/L | 0 1 | 101 503065 | S |
| Manganese | 0 08946771 | | mg/L | 0 005 | 89 46771 | YES |
| Molybdenum | 1 16934492 | | mg/L | 0 1 | 93 5475936 | YES |
| Sodium | 0 04771637 | U | mg/L | 0 1 | | YES |
| Nickel | 0 43908981 | | mg/L | 0 02 | 87 817962 | YES |
| Lead | 0 47364133 | | mg/L | 0 02 | 94 728266 | YES |
| Antimony | 0 50715533 | | mg/L | 0 05 | 101 431066 | YES |
| Selenium | 0 99364254 | | mg/L | 0 05 | 99 364254 | YES |
| Tin | 2 26256979 | | mg/L | 0 1 | 90 5027916 | YES |
| Silicon | 2 46563963 | | mg/L | 0 2 | 98 6255852 | YES |
| Titanium | 0 47816556 | | mg/L | 0 05 | 95 633112 | YES |
| Thallium | 0 41099685 | | mg/L | 0 05 | 82 19937 | YES |
| Vanadium | 0 45173936 | | mg/L | 0 02 | 90 347872 | YES |
| Zinc | 0 42910285 | | mg/L | 0 02 | 85 82057 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICSAB |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 06 22 40 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 22608573 | | mg/L | 0 01 | 90 434292 | D |
| Aluminum | 506 481809 | S | mg/L | 0 1 | 101 296362 | S |
| Arsenic | 1 15597012 | | mg/L | 0 05 | 115 597012 | D |
| Boron | 1 17292331 | | mg/L | 0 1 | 93 8338648 | D |
| Beryllium | 0 09374025 | | mg/L | 0 005 | 93 74025 | D |
| Cadmium | 0 11620508 | | mg/L | 0 005 | 116 20508 | D |
| Chromium | 0 45682492 | | mg/L | 0 02 | 91 364984 | D |
| Copper | 0 44062123 | | mg/L | 0 02 | 88 124246 | D |
| Iron | 179 452601 | | mg/L | 0 02 | 89 7263005 | D |
| Manganese | 0 08981738 | | mg/L | 0 005 | 89 81738 | D |
| Molybdenum | 1 18255451 | | mg/L | 0 1 | 94 6043608 | D |
| Nickel | 0 43820706 | | mg/L | 0 02 | 87 641412 | D |
| Antimony | 0 56279923 | | mg/L | 0 05 | 112 559846 | D |
| Silicon | 2 5649431 | | mg/L | 0 2 | 102 597724 | D |
| Titanium | 0 45307636 | | mg/L | 0 05 | 90 615272 | D |
| Zinc | 0 47063371 | | mg/L | 0 02 | 94 126742 | D |

# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 06 26 23 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 50894092 | | mg/L | 0 01 | 101 788184 | YES |
| Aluminum | 51 0918671 | | mg/L | 0 1 | 102 183734 | YES |
| Arsenic | 2 04375396 | | mg/L | 0 05 | 102 187698 | YES |
| Boron | 2 65989398 | | mg/L | 0 1 | 106 395759 | YES |
| Barium | 1 02819658 | | mg/L | 0 01 | 102 819658 | YES |
| Beryllium | 0 20433871 | | mg/L | 0 005 | 102 169355 | YES |
| Calcium | 51 8776833 | | mg/L | 0 1 | 103 755367 | YES |
| Cadmium | 0 20485421 | | mg/L | 0 005 | 102 427105 | YES |
| Cobalt | 0 99403117 | | mg/L | 0 015 | 99 403117 | YES |
| Chromium | 1 01210325 | | mg/L | 0 02 | 101 210325 | YES |
| Copper | 0 98858707 | | mg/L | 0 02 | 98 858707 | YES |
| Iron | 4 9770429 | | mg/L | 0 02 | 99 540858 | YES |
| Potassium | 51 2782799 | | mg/L | 0 1 | 102 55656 | YES |
| Magnesium | 50 9285475 | | mg/L | 0 1 | 101 857095 | YES |
| Manganese | 0 20085577 | | mg/L | 0 005 | 100 427885 | YES |
| Molybdenum | 2 53483773 | | mg/L | 0 1 | 101 393509 | YES |
| Sodium | 51 6875303 | | mg/L | 0 1 | 103 375061 | YES |
| Nickel | 0 98751368 | | mg/L | 0 02 | 98 751368 | YES |
| Lead | 0 98498432 | | mg/L | 0 02 | 98 498432 | YES |
| Antimony | 1 03125143 | | mg/L | 0 05 | 103 125143 | YES |
| Selenium | 2 05354684 | | mg/L | 0 05 | 102 677342 | YES |
| Tin | 4 80952289 | | mg/L | 0 1 | 96 1904578 | YES |
| Silicon | 5 26863636 | | mg/L | 0 2 | 105 372727 | YES |
| Titanium | 1 03306249 | | mg/L | 0 05 | 103 306249 | YES |
| Thallium | 0 98845158 | | mg/L | 0 05 | 98 845158 | YES |
| Vanadium | 1 01265493 | | mg/L | 0 02 | 101 265493 | YES |
| Zinc | 1 00216219 | | mg/L | 0 02 | 100.216219 | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICV/CCV |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 06 26 23 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 50076343 | | mg/L | 0 01 | 100 152686 | D |
| Aluminum | 51 8135974 | | mg/L | 0 1 | 103 627195 | D |
| Arsenic | 2 04516048 | | mg/L | 0 05 | 102 258024 | D |
| Boron | 2 51534185 | | mg/L | 0 1 | 100 613674 | D |
| Beryllium | 0 20273007 | | mg/L | 0 005 | 101 365035 | D |
| Cadmium | 0 20322683 | | mg/L | 0 005 | 101 613415 | D |
| Chromium | 1 00689024 | | mg/L | 0 02 | 100 689024 | D |
| Copper | 0 96536528 | | mg/L | 0 02 | 96 536528 | D |
| Iron | 5 00316079 | | mg/L | 0 02 | 100 063216 | D |
| Manganese | 0 20066914 | | mg/L | 0 005 | 100 33457 | D |
| Molybdenum | 2 51246917 | | mg/L | 0 1 | 100 498767 | D |
| Nickel | 0 96775632 | | mg/L | 0 02 | 96 775632 | D |
| Antimony | 1 06458778 | | mg/L | 0 05 | 106 458778 | D |
| Silicon | 5 35466684 | | mg/L | 0 2 | 107 093337 | D |
| Titanium | 1 02393199 | | mg/L | 0 05 | 102 393199 | D |
| Zinc | 1 00795391 | | mg/L | 0 02 | 100 795391 | D |

# Data Analysis Sheet: Metals Run E8_0381

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 06 30 04 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 0026604 | U | mg/L | 0 01 | | YES |
| Aluminum | -0 0008166 | U | mg/L | 0 1 | | YES |
| Arsenic | 0 00538945 | U | mg/L | 0 05 | | YES |
| Boron | -0 016131 | U | mg/L | 0 1 | | YES |
| Barium | 0 00054901 | U | mg/L | 0 01 | | YES |
| Beryllium | 0 00052063 | U | mg/L | 0 005 | | YES |
| Calcium | -0 0066232 | U | mg/L | 0 1 | | YES |
| Cadmium | -0 0002747 | U | mg/L | 0 005 | | YES |
| Cobalt | 0 00062601 | U | mg/L | 0 015 | | YES |
| Chromium | -0 0043033 | U | mg/L | 0 02 | | YES |
| Copper | -0 0026152 | U | mg/L | 0 02 | | YES |
| Iron | 0 00131637 | U | mg/L | 0 02 | | YES |
| Potassium | -0 0406243 | U | mg/L | 0 1 | | YES |
| Magnesium | -0 0030729 | U | mg/L | 0 1 | | YES |
| Manganese | -0 0000475 | U | mg/L | 0 005 | | YES |
| Molybdenum | 0 00483973 | U | mg/L | 0 1 | | YES |
| Sodium | 0 02463664 | U | mg/L | 0 1 | | YES |
| Nickel | -0 0013589 | U | mg/L | 0 02 | | YES |
| Lead | -0 007422 | U | mg/L | 0 02 | | YES |
| Antimony | -0 003782 | U | mg/L | 0 05 | | YES |
| Selenium | 0 00848283 | U | mg/L | 0 05 | | YES |
| Tin | -0 0160752 | U | mg/L | 0 1 | | YES |
| Silicon | -0 1057384 | U | mg/L | 0 2 | | YES |
| Titanium | -0 000911 | U | mg/L | 0 05 | | YES |
| Thallium | 0 01032335 | U | mg/L | 0 05 | | YES |
| Vanadium | 0 0014737 | U | mg/L | 0 02 | | YES |
| Zinc | -0 0101322 | U | mg/L | 0 02 | | YES |

| | |
|---|---|
| CLIENT ID | |
| ENCOTEC ID | ICB/CCB |
| QC SET ID | |
| DATE ANALYZED | 07/14/98 |
| TIME ANALYZED | 06 30 04 |
| DILUTION FACTOR | 1 |

| ANALYTE | RESULT | FLAGS | UNITS | DETECTION LIMIT | QC RECOVERY | REPORT FIELD? |
|---|---|---|---|---|---|---|
| Silver | 0 00256343 | U | mg/L | 0 01 | | D |
| Aluminum | 0 00404836 | U | mg/L | 0 1 | | D |
| Arsenic | 0 01805678 | U | mg/L | 0 05 | | D |
| Boron | -0 00139 | U | mg/L | 0 1 | | D |
| Beryllium | 0 00037992 | U | mg/L | 0 005 | | D |
| Cadmium | 0 00019731 | U | mg/L | 0 005 | | D |
| Chromium | -0 0066845 | U | mg/L | 0 02 | | D |
| Copper | -0 0000012 | U | mg/L | 0 02 | | D |
| Iron | 0 0011959 | U | mg/L | 0 02 | | D |
| Manganese | -0 0000493 | U | mg/L | 0 005 | | D |
| Molybdenum | 0 00355904 | U | mg/L | 0 1 | | D |
| Nickel | 0 00188088 | U | mg/L | 0 02 | | D |
| Antimony | 0 00238582 | U | mg/L | 0 05 | | D |
| Silicon | -0 1083562 | U | mg/L | 0 2 | | D |
| Titanium | -0 0010494 | U | mg/L | 0 05 | | D |
| Zinc | -0 0111474 | U | mg/L | 0 02 | | D |

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INORGANICS DEPARTMENT

Raw Data - Cover Sheet

Date of Analysis: 07/14/98 Analyst: C. GRIFFITHS

LIMS ID

Hb G14986

Clients included in this data package

| | Client | Sub. # | Due Date | full | Sub. # | Due Date | full | Sub. # | Due Date |
|---|---|---|---|---|---|---|---|---|---|
| 1. | [redacted] | 12468 | | ☐ | | | ☐ | | |
| 2. | EEI | 12497 | | ☐ | | | ☐ | | |
| 3. | [redacted] | 12519 - | | ☐ | 12518 - | | ☐ | | |
| 4. | [redacted] | 12524 - | | ☐ | | | ☐ | | |
| 5. | | | | ☐ | | | ☐ | | |
| 6. | | | | ☐ | | | ☐ | | |
| 7. | | | | ☐ | | | ☐ | | |
| 8. | | | | ☐ | | | ☐ | | |
| 9. | | | | ☐ | | | ☐ | | |
| 10. | | | | ☐ | | | ☐ | | |

CGG 07/14/98

| TIER I REVIEW - (Analyst) | Comments: |
|---|---|
| ☑ Calculations are accurate and complete. | 87059MB RPD > 100 |
| ☑ QC frequency is satisfied. | |
| ☑ QC group requirements are satisfied. | |
| ☑ All appropriate instrument printouts are attached. | |

7/15/98

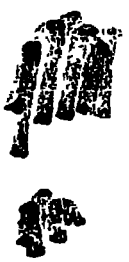
| TIER II REVIEW - (Senior Analyst) | Comments: |
|---|---|
| ☑ 10% calculation review completed. | |
| ☑ Quality control review completed. | |
| ☑ All rejected results have been documented. | |

/ /

| TIER III REVIEW - (Data Management) | Comments. |
|---|---|
| ☐ 20% calculation review completed. | |
| ☐ Quality Control review completed. | |
| ☐ Data accepted. | |
| ☐ Data rejected. | |
| ☐ All rejected results have been documented and rescheduled. | |
| ☐ Data is summarized. | |

C

COVER.XLS 08/29/97



# MERCURY DIGESTION COVERSHEET SOIL

Analyst: [illegible] Date: 7-13-98

Dilution Ref.
ID Code: HgCVAA Date standards made: 7-9-98

| ID | ug/L | Volume |
|---|---|---|
| 13 | BLANK | 95 mL |
| 137 | 0.2 | 95 mL |
| 271 | 0.5 | 95 mL |
| 310 | 1.0 | 95 mL |
| 311 | 2.0 | 95 mL |
| 335 | 5.0 | 95 mL |
| 352 | 10.0 | 95 mL |
| 389 | ICV 3.0 | 95 mL |
| 392 | ICB | 95 mL |

Note: LCS, LCD, MS, and MSD are spiked as follows:

2 mL of 100 [illegible] /L diluted to a final volume of 95mL yields a 2.105 ug/L spike.

Supervisor Approval M Daly Date: 7/13/98

IEXHGCVR.for 11/12/93

©

# Hg DIGESTION LOGSHEET

Date: 7-14-98

$H_2O$ Bath T 95 °C  Time In 11:10AM  Time Out 11:40AM

2.105 ug/L Hg Spike  Analyst: W

| Bottle ID | Submission Number | Client | Matrix | Spk/ Dup (mL) | ENCOTEC ID Number | Sample Amt (mL/g) | Super Q Volume (mL) | Final Volume (mL) |
|---|---|---|---|---|---|---|---|---|
| 12 | NA | BLANK | PO | | 85470 MBG1402 | 95mL | | 95mL |
| 14 | | LCS | | | 85619 LCSG1402 | 93mL | | |
| 50 | 12468 | JCR | SOL | | 86945 | 0.72g | 95mL | |
| 66 | | | | | 86946 | 0.71g | | |
| 231 | | | | | 86947 | 0.75g | | |
| 241 | | | | | 86948 | 0.74g | | |
| 242 | 12497 | EEI | | | 87059 ~~SOIL~~ | 0.80g | | |
| 253 | | | | MS | 86030 87059 | | 93mL | |
| 270 | | | | MSD | 86099 87059 | 0.79g | | |
| 303 | | | | MD | 85978 87059 | 0.80g | 95mL | |
| 304 | | | | | 87060 | 0.75g | | |
| 309 | 12519 | EQC | SOIL | | 87169 | 0.81g | | |
| 355 | | | | | 87170 | 0.70g | | |
| 359 | | | | | 87171 | | | |
| 366 | | | | | 87172 | 0.76g | | |
| 382 | | | | | 87173 | 0.79g | | |
| 383 | | | | | 87174 | 0.73g | | |
| 384 | | | | | 87175 | 0.81g | | |
| 398 | | | | | 87176 | 0.81g | | |
| 408 | | | | | 87177 | 0.75g | | |
| 414 | | | | | 87178 | 0.76g | | |
| 415 | | | | | 87179 | 0.77g | | |
| 416 | | | | | 87180 | 0.74g | | |
| 419 | | | | | 87181 | 0.85g | | |

Ref. Mthd. 7470 7471  SUPERVISOR APPROVAL



HGDIG.XLS 11/27.95

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION

# FLAME AND HYDRIDE ANALYSIS

WAVELENGTH: (nm) 253.7 | SCALE EXPANSION 1X | DATE: 07/14/98 | PARAMETER Hg

SLIT: (nm) 0.5 | EVAL TYPE P.A. | TIME 4.0 sec | ANALYST: C Duffie | PG 1 OF 6

DC ON ~~0~~ OFF 0 | SD ON 0 OFF ~~0~~ | HYD 0 | ABS ~~0~~ | EMISS 0 | INSTRUMENT CODE: AA-001 | LAMP (mA): 4 | BURNERHEAD ANGLE: —

| | SAMPLES | ABSORBANCE READINGS | MEAN ABS | MEAN -BLK | UNITS ug/L | DIL'N FACT | UNITS | SOIL WT (g) | VOL (mL) | UNITS NG/KG | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 2 3 2 | 2 | | | | | | | | |
| 2 | BLANK | 1 2 2 | 2 | 0 | <0.2 | | | | | | |
| 3 | | -0 4 2 | 2 | | | | | | | | |
| 4 | 0.2 | 12 13 12 | 12 | 10 | 0.216 | | | | | | 108% |
| 5 | | 2 3 -0 | 2 | | | | | | | | |
| 6 | 0.5 | 24 23 38 | 26 | 23 | 0.512 | | | | | | 102% |
| 7 | | 4 5 6 | 5 | | | | | | | | |
| 8 | 1.0 | 43 49 47 | 46 | 41 | X | | | | | | not in curve |
| 9 | | 6 4 4 | 5 | | | | | | | | |
| 10 | 2.0 | 94 94 93 | 94 | 89 | 2.01 | | | | | | 101% |
| 11 | | 5 5 6 | 5 | | | | | | | | |
| 12 | 5.0 | 220 223 224 | 223 | 218 | 4.95 | | | | | | 99% |
| 13 | | 4 4 7 | 5 | | | | | | | | |
| 14 | 10.0 | 444 447 447 | 446 | 441 | 10.02 | | | | | | 100.2% |
| 15 | | 6 5 3 | 5 | | | | | | | | |
| 16 | ICV 3.0 | 143 141 143 | 142 | 138 | 3.13 | | | | | | 104% |
| 17 | | 4 1 3 | 3 | | | | | | | | |
| 18 | ICB | 8 4 3 | 5 | 0 | <0.2 | | | | | | |
| 19 | | 6 6 5 | 6 | | | | | | | | |

CALIBRATION CURVE(S) STATISTICS

CORRELATION COEFFICIENT: 0.9999749 | SLOPE: 4395134 | Y-INTERCEPT: 0.5101957

CORRELATION COEFFICIENT: | SLOPE: | Y-INTERCEPT:

ENCOTED

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION

# FLAME AND HYDRIDE ANALYSIS

| | | |
|---|---|---|
| WAVELENGTH: (nm) _____ | SCALE EXPANSION _____ | DATE: 07/14/98 PARAMETER Hg |
| SLIT: (nm) _____ | EVAL TYPE _____ TIME _____ | ANALYST: C. Griffith PG 2 OF 6 |

| | | | | |
|---|---|---|---|---|
| BC ON [] OFF [] SB ON [] OFF [] | HYD [] | ABS [] | EMISS [] | INSTRUMENT CODE: _____ LAMP (mA): _____ BURNERHEAD ANGLE: _____ |

| | SAMPLES | ABSORBANCE READINGS | MEAN ABS | MEAN -BLK | UNITS ug/L | DIL'N FACT | UNITS ug/L | SOIL WT (g) | VOL (mL) | UNITS MG/KG | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 19/20 | 85470 BLK | 6 3 6 1 5 1 | 2 6 | -2 | <0.2 | | | | | | |
| 21/22 | 85619 CCS | 3 90 2 90 2 91 | 90 2 | 87 | 1.97 | | | | | | 93% |
| 23/24 | 86945 | 2 19 6 19 6 21 | 20 15 | 15 | 0.330 | – | | | | | |
| 25/26 | 86946 | 5 302 6 305 4 305 | 304 5 | 294 | 6.68 | 20 | 134 | | | | |
| 27/28 | 86947 | 16 32 16 31 16 30 | 31 16 | 14 | 0.307 | – | | | | | |
| 29/30 | 86948 | 18 381 16 381 17 381 | 381 17 | 365 | 8.29 | 20 | 166 | | | | |
| 31/32 | 87059 | 16 127 14 128 16 128 | 128 15 | 113 | 2.56 | 10 | 25.6 | | | | |
| 33/34 | 86030/87059 MS | 17 96 14 92 14 97 | 95 15 | 79 | 1.79 | 10 | 17.9 | | | | Aspk p.6 |
| 35/36 | 86099/87059 MSD | 15 117 18 18 17 115 | 117 17 | 102 | 2.31 | 10 | 23.1 | | | | RPD = 25.4 |
| 37/38 | 85978/87059 MD | 13 53 15 50 14 52 | 52 14 | 37 | 0.830 | 10 | 8.3 | | | | RPD = >100 |
| 39/40 | CCV3.0 | 15 151 16 156 16 156 | 154 16 | 138 | 3.13 | | | | | | 104% |
| 41/42 | CCB | 15 16 16 13 15 16 | 15 15 | 0 | <0.2 | | | | | | |

CALIBRATION CURVE(S) STATISTICS

CORRELATION COEFFICIENT: _____ SLOPE: _____ Y-INTERCEPT: _____

CORRELATION COEFFICIENT: _____ SLOPE: _____ Y-INTERCEPT: _____

FLAME3.Crm 12/15/93

20.5 16.95 75

ENCOTEC

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION

# FLAME AND HYDRIDE ANALYSIS

WAVELENGTH: (nm) _____ SCALE EXPANSION _____ DATE 07/14/98 PARAMETER HG

SLIT: (nm) _____ EVAL TYPE _____ TIME _____ ANALYST: C. G. [illegible] PG 3 OF 6

BC ON [ ] OFF [ ] SB ON [ ] OFF [ ] | HYD [ ] | ABS [ ] | EMISS [ ] | INSTRUMENT CODE: _____ LAMP (mA): _____ | BURNERHEAD ANGLE: _____

| | SAMPLES | ABSORBANCE READINGS | MEAN ABS | MEAN -BLK | UNITS ug/L | DIL'N FACT | UNITS ug/L | SOIL WT (g) | VOL (mL) | UNITS MG/KG | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 43/44 | 87061 | 13 83 14 86 15 83 | 84 14 | 70 | 1.58 | 10 | 15.8 | | | | |
| 45/46 | 87169 | 13 51 16 49 13 47 | 49 14 | 35 | 0.785 | – | | | | | |
| 47/48 | 87170 | 15 36 15 34 15 34 | 35 15 | 21 | 0.466 | – | | | | | |
| 49/50 | 87171 | 13 70 12 75 15 74 | 73 13 | 60 | 1.35 | – | | | | | |
| 51/52 | 87172 | 16 21 12 19 14 18 | 19 14 | 4 | <0.2 | – | | | | | |
| 53/54 | 87173 | 18 65 14 67 15 63 | 65 16 | 49 | 1.10 | – | | | | | |
| 55/56 | 87174 | 17 76 14 73 18 73 | 74 16 | 58 | 1.31 | | | | | | |
| 57/58 | 87175 | 13 20 15 20 17 24 | 21 15 | 6 | <0.2 | | | | | | |
| 59/60 | 87176 | 16 49 15 50 14 49 | 49 15 | 34 | 0.762 | | | | | | |
| 61/62 | 87177 | 16 19 14 19 15 19 | 19 15 | 3 | <0.2 | | | | | | |
| 63/64 | CCV3.0 | 17 153 14 153 19 156 | 154 17 | 138 | 3.13 | | | | | | 104% |
| 65/66 | CCB | 16 15 14 15 18 13 | 15 16 | 0 | <0.2 | | | | | | |

CALIBRATION CURVE(S) STATISTICS

CORRELATION COEFFICIENT: _____ SLOPE: _____ Y-INTERCEPT: _____

CORRELATION COEFFICIENT: _____ SLOPE: _____ Y-INTERCEPT: _____

**VOLATILES**

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MS/MSD
Corrective Action Forms

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Run Log
Form 8 - EICP and RT Summary Form
Tune (BFB or DFTPP)
Excel Calibration Sheet
Instrument Calibration Summary Printout
Calibration Standards arranged in chronological order
Raw Sample in order by date and time analyzed
Method Blank
LCS

**DATA PACKET**
Volatiles

# ANALYTICAL REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-011V**

| | | | |
|---|---|---|---|
| **Date Sampled:** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | VOSG1401S |
| **Analysis Date:** | 07/14/98 | **ENCOTEC Submission ID:** | 100012497 |
| **Second Analysis Date:** | N/A | **ENCOTEC Sample ID:** | 200087060 |
| **Method Reference:** | 8260 | **Percent Total Solids:** | N/A |
| **Matrix:** | SOLID | **Calculation Basis:** | Wet Weight |

| | **VOLATILE ORGANICS Hazardous Substance List** | **CAS #** | **Quant Limit (ug/Kg)** | **Dil** | **Conc (ug/Kg)** | **Flag** |
|---|---|---|---|---|---|---|
| 1 | Acetone | 67-64-1 | 10 | 1.0 | U | |
| 2 | Benzene | 71-43-2 | 5.0 | 1.0 | U | |
| 3 | Bromodichloromethane | 75-27-4 | 5.0 | 1.0 | U | |
| 4 | Bromoform | 75-25-2 | 5.0 | 1.0 | U | |
| 5 | Bromomethane | 74-83-9 | 10 | 1.0 | U | |
| 6 | 2-Butanone (MEK) | 78-93-3 | 10 | 1.0 | U | |
| 7 | Carbon disulfide | 75-15-0 | 5.0 | 1.0 | U | |
| 8 | Carbon tetrachloride | 56-23-5 | 5.0 | 1.0 | U | |
| 9 | Chlorobenzene | 108-90-7 | 5.0 | 1.0 | U | |
| 10 | Chloroethane | 75-00-3 | 10 | 1.0 | U | |
| 11 | 2-Chloroethyl vinyl ether | 110-75-8 | 10 | 1.0 | U | |
| 12 | Chloroform | 67-66-3 | 5.0 | 1.0 | U | |
| 13 | Chloromethane | 74-87-3 | 10 | 1.0 | U | |
| 14 | Dibromochloromethane | 124-48-1 | 5.0 | 1.0 | U | |
| 15 | 1,2-Dichloroethane | 107-06-2 | 5.0 | 1.0 | U | |
| 16 | 1,1-Dichloroethane | 75-34-3 | 5.0 | 1.0 | U | |
| 17 | cis-1,2-Dichloroethene | 156-59-2 | 5.0 | 1.0 | U | |
| 18 | 1,1-Dichloroethene | 75-35-4 | 5.0 | 1.0 | U | |
| 19 | total 1,2-Dichloroethene | 540-59-0 | 5.0 | 1.0 | U | |
| 20 | trans-1,2-Dichloroethene | 156-60-5 | 5.0 | 1.0 | U | |
| 21 | 1,2-Dichloropropane | 78-87-5 | 5.0 | 1.0 | U | |
| 22 | trans-1,3-Dichloropropene | 10061-02-6 | 5.0 | 1.0 | U | |
| 23 | cis-1,3-Dichloropropene | 10061-01-5 | 5.0 | 1.0 | U | |
| 24 | Ethylbenzene | 100-41-4 | 5.0 | 1.0 | U | |
| 25 | 2-Hexanone | 591-78-6 | 10 | 1.0 | U | |
| 26 | 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 10 | 1.0 | U | |
| 27 | Methylene chloride | 75-09-2 | 5.0 | 1.0 | U | |
| 28 | Styrene | 100-42-5 | 5.0 | 1.0 | U | |
| 29 | 1,1,2,2-Tetrachloroethane | 79-34-5 | 5.0 | 1.0 | U | |
| 30 | Tetrachloroethene | 127-18-4 | 5.0 | 1.0 | U | |
| 31 | Toluene | 108-88-3 | 5.0 | 1.0 | U | |
| 32 | 1,1,2-Trichloroethane | 79-00-5 | 5.0 | 1.0 | U | |
| 33 | 1,1,1-Trichloroethane | 71-55-6 | 5.0 | 1.0 | U | |
| 34 | Trichloroethene | 79-01-6 | 5.0 | 1.0 | U | |
| 35 | Vinyl acetate | 108-05-4 | 10 | 1.0 | U | |

**Laidlaw Environmental, Inc. / ENCOTEC**
3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034

**Report Date:** 07/15/98

# ANALYTICAL REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-011V**

| | | | |
|---|---|---|---|
| **Date Sampled:** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | VOSG1401S |
| **Analysis Date:** | 07/14/98 | **ENCOTEC Submission ID:** | 100012497 |
| **Second Analysis Date:** | N/A | **ENCOTEC Sample ID:** | 200087060 |
| **Method Reference:** | 8260 | **Percent Total Solids:** | N/A |
| **Matrix:** | SOLID | **Calculation Basis:** | Wet Weight |

| | VOLATILE ORGANICS Hazardous Substance List | CAS # | Quant Limit (ug/Kg) | Dil | Conc (ug/Kg) | Flag |
|---|---|---|---|---|---|---|
| 36 | Vinyl chloride | 75-01-4 | 5.0 | 1.0 | U | |
| 37 | total Xylenes | 1330-20-7 | 5.0 | 1.0 | U | |

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**Report Date:** 07/15/98

# ANALYTICAL REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-012V**

| | | | |
|---|---|---|---|
| **Date Sampled:** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | VOSG1401S |
| **Analysis Date:** | 07/14/98 | **ENCOTEC Submission ID:** | 100012497 |
| **Second Analysis Date:** | N/A | **ENCOTEC Sample ID:** | 200087062 |
| **Method Reference:** | 8260 | **Percent Total Solids:** | N/A |
| **Matrix:** | SOLID | **Calculation Basis:** | Wet Weight |

| | **VOLATILE ORGANICS Hazardous Substance List** | **CAS #** | **Quant Limit (ug/Kg)** | **Dil** | **Conc (ug/Kg)** | **Flag** |
|---|---|---|---|---|---|---|
| 1 | Acetone | 67-64-1 | 10 | 1.0 | U | |
| 2 | Benzene | 71-43-2 | 5.0 | 1.0 | U | |
| 3 | Bromodichloromethane | 75-27-4 | 5.0 | 1.0 | U | |
| 4 | Bromoform | 75-25-2 | 5.0 | 1.0 | U | |
| 5 | Bromomethane | 74-83-9 | 10 | 1.0 | U | |
| 6 | 2-Butanone (MEK) | 78-93-3 | 10 | 1.0 | U | |
| 7 | Carbon disulfide | 75-15-0 | 5.0 | 1.0 | U | |
| 8 | Carbon tetrachloride | 56-23-5 | 5.0 | 1.0 | U | |
| 9 | Chlorobenzene | 108-90-7 | 5.0 | 1.0 | U | |
| 10 | Chloroethane | 75-00-3 | 10 | 1.0 | U | |
| 11 | 2-Chloroethyl vinyl ether | 110-75-8 | 10 | 1.0 | U | |
| 12 | Chloroform | 67-66-3 | 5.0 | 1.0 | U | |
| 13 | Chloromethane | 74-87-3 | 10 | 1.0 | U | |
| 14 | Dibromochloromethane | 124-48-1 | 5.0 | 1.0 | U | |
| 15 | 1,2-Dichloroethane | 107-06-2 | 5.0 | 1.0 | U | |
| 16 | 1,1-Dichloroethane | 75-34-3 | 5.0 | 1.0 | U | |
| 17 | cis-1,2-Dichloroethene | 156-59-2 | 5.0 | 1.0 | U | |
| 18 | 1,1-Dichloroethene | 75-35-4 | 5.0 | 1.0 | U | |
| 19 | total 1,2-Dichloroethene | 540-59-0 | 5.0 | 1.0 | U | |
| 20 | trans-1,2-Dichloroethene | 156-60-5 | 5.0 | 1.0 | U | |
| 21 | 1,2-Dichloropropane | 78-87-5 | 5.0 | 1.0 | U | |
| 22 | trans-1,3-Dichloropropene | 10061-02-6 | 5.0 | 1.0 | U | |
| 23 | cis-1,3-Dichloropropene | 10061-01-5 | 5.0 | 1.0 | U | |
| 24 | Ethylbenzene | 100-41-4 | 5.0 | 1.0 | U | |
| 25 | 2-Hexanone | 591-78-6 | 10 | 1.0 | U | |
| 26 | 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 10 | 1.0 | U | |
| 27 | Methylene chloride | 75-09-2 | 5.0 | 1.0 | U | |
| 28 | Styrene | 100-42-5 | 5.0 | 1.0 | U | |
| 29 | 1,1,2,2-Tetrachloroethane | 79-34-5 | 5.0 | 1.0 | U | |
| 30 | Tetrachloroethene | 127-18-4 | 5.0 | 1.0 | U | |
| 31 | Toluene | 108-88-3 | 5.0 | 1.0 | U | |
| 32 | 1,1,2-Trichloroethane | 79-00-5 | 5.0 | 1.0 | U | |
| 33 | 1,1,1-Trichloroethane | 71-55-6 | 5.0 | 1.0 | U | |
| 34 | Trichloroethene | 79-01-6 | 5.0 | 1.0 | U | |
| 35 | Vinyl acetate | 108-05-4 | 10 | 1.0 | U | |

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3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034

**Report Date:** 07/15/98

# ANALYTICAL REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-012V**

| | | | |
|---|---|---|---|
| **Date Sampled:** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | N/A | **ENCOTEC QC Set ID:** | VOSG1401S |
| **Analysis Date:** | 07/14/98 | **ENCOTEC Submission ID:** | 100012497 |
| **Second Analysis Date:** | N/A | **ENCOTEC Sample ID:** | 200087062 |
| **Method Reference:** | 8260 | **Percent Total Solids:** | N/A |
| **Matrix:** | SOLID | **Calculation Basis:** | Wet Weight |

| | VOLATILE ORGANICS Hazardous Substance List | CAS # | Quant Limit (ug/Kg) | Dil | Conc (ug/Kg) | Flag |
|---|---|---|---|---|---|---|
| 36 | Vinyl chloride | 75-01-4 | 5.0 | 1.0 | U | |
| 37 | total Xylenes | 1330-20-7 | 5.0 | 1.0 | U | |

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**Report Date:** 07/15/98

# QUALITY ASSESSMENT REPORT - METHOD BLANK Analysis

| | | | |
|---|---|---|---|
| **Extraction Date:** | N/A | **ENCOTEC Project ID:** | 71060 |
| **Analysis Date:** | 07/14/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Second Analysis Date:** | N/A | **ENCOTEC QC Set ID:** | VOSG1401S |
| **Method Reference:** | 8260 | **ENCOTEC Submission ID:** | 100012497 |
| **Matrix:** | SOLID | **ENCOTEC Method Blank ID:** | 200085505 |

| | VOLATILE ORGANICS Hazardous Substance List | CAS # | Quant Limit (ug/Kg) | Dil | Conc (ug/Kg) | Flag |
|---|---|---|---|---|---|---|
| 1 | Acetone | 67-64-1 | 10 | 1.0 | U | |
| 2 | Benzene | 71-43-2 | 5.0 | 1.0 | U | |
| 3 | Bromodichloromethane | 75-27-4 | 5.0 | 1.0 | U | |
| 4 | Bromoform | 75-25-2 | 5.0 | 1.0 | U | |
| 5 | Bromomethane | 74-83-9 | 10 | 1.0 | U | |
| 6 | 2-Butanone (MEK) | 78-93-3 | 10 | 1.0 | U | |
| 7 | Carbon disulfide | 75-15-0 | 5.0 | 1.0 | U | |
| 8 | Carbon tetrachloride | 56-23-5 | 5.0 | 1.0 | U | |
| 9 | Chlorobenzene | 108-90-7 | 5.0 | 1.0 | U | |
| 10 | Chloroethane | 75-00-3 | 10 | 1.0 | U | |
| 11 | 2-Chloroethyl vinyl ether | 110-75-8 | 10 | 1.0 | U | |
| 12 | Chloroform | 67-66-3 | 5.0 | 1.0 | U | |
| 13 | Chloromethane | 74-87-3 | 10 | 1.0 | U | |
| 14 | Dibromochloromethane | 124-48-1 | 5.0 | 1.0 | U | |
| 15 | 1,2-Dichloroethane | 107-06-2 | 5.0 | 1.0 | U | |
| 16 | 1,1-Dichloroethane | 75-34-3 | 5.0 | 1.0 | U | |
| 17 | cis-1,2-Dichloroethene | 156-59-2 | 5.0 | 1.0 | U | |
| 18 | 1,1-Dichloroethene | 75-35-4 | 5.0 | 1.0 | U | |
| 19 | total 1,2-Dichloroethene | 540-59-0 | 5.0 | 1.0 | U | |
| 20 | trans-1,2-Dichloroethene | 156-60-5 | 5.0 | 1.0 | U | |
| 21 | 1,2-Dichloropropane | 78-87-5 | 5.0 | 1.0 | U | |
| 22 | trans-1,3-Dichloropropene | 10061-02-6 | 5.0 | 1.0 | U | |
| 23 | cis-1,3-Dichloropropene | 10061-01-5 | 5.0 | 1.0 | U | |
| 24 | Ethylbenzene | 100-41-4 | 5.0 | 1.0 | U | |
| 25 | 2-Hexanone | 591-78-6 | 10 | 1.0 | U | |
| 26 | 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 10 | 1.0 | U | |
| 27 | Methylene chloride | 75-09-2 | 5.0 | 1.0 | U | |
| 28 | Styrene | 100-42-5 | 5.0 | 1.0 | U | |
| 29 | 1,1,2,2-Tetrachloroethane | 79-34-5 | 5.0 | 1.0 | U | |
| 30 | Tetrachloroethene | 127-18-4 | 5.0 | 1.0 | U | |
| 31 | Toluene | 108-88-3 | 5.0 | 1.0 | U | |
| 32 | 1,1,2-Trichloroethane | 79-00-5 | 5.0 | 1.0 | U | |
| 33 | 1,1,1-Trichloroethane | 71-55-6 | 5.0 | 1.0 | U | |
| 34 | Trichloroethene | 79-01-6 | 5.0 | 1.0 | U | |
| 35 | Vinyl acetate | 108-05-4 | 10 | 1.0 | U | |
| 36 | Vinyl chloride | 75-01-4 | 5.0 | 1.0 | U | |
| 37 | total Xylenes | 1330-20-7 | 5.0 | 1.0 | U | |

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3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034



**Report Date:** 07/15/98

Laidlaw Environmental, Inc. / ENCOTEC
3985 Research Park Drive * Ann Arbor, MI 48108
734 / 761-1389

**SOIL MATRIX SURROGATE RECOVERY**
**VOLATILE ORGANICS**

Project Name: ECOLOGY & ENVIRONMENT, INC.
Project Number: 71060
Method: 8240 ___ 8260 _X_ 8260A ___
Report Date: July 16, 1998
QC Set I.D.: VOSG1401S

| ENCOTEC Sample I.D. | % Recovery Dibromofluoromethane (80-120) | % Recovery D4-1,2-Dichloroethane (70-121) | % Recovery D8-Toluene (81-117) | % Recovery BFB (74-121) |
|---|---|---|---|---|
| 200087060 | 105 | 109 | 100 | 118 |
| 200087062 | 104 | 105 | 98 | 116 |
| 200085505 MB | 103 | 103 | 101 | 111 |
| 200085644 LCS | 101 | 100 | 100 | 104 |
| 200087060 MS | 106 | 107 | 99 | 121 |
| 200087060 MSD | 103 | 105 | 101 | 115 |

* Value outside of established quality control windows.
DL = Sample matrix diluted, therefore surrogate recoveries are not applicable.
M = Matrix interferences caused distortion to recovery value.

**RECOVERY:** __0__ out of __24__ outside QC Windows.

Note:

Form 065VSL2G.GEN Rev. 09/27/97

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313 / 761-1389

**LABORATORY CONTROL SAMPLE (LCS)**
**VOLATILE ORGANICS - SOIL MATRIX**

Project Name: ENCOTEC
Project Number: 10000
QC Set ID: VOSG1401S

**ENCOTEC ID:** 200085644

| Compound | Conc. Spiked (mg/Kg) | Conc. LCS (mg/Kg) | Percent Recovery (%) | Quality Control Windows Recovery (%) |
|---|---|---|---|---|
| Benzene | 0.0500 | 0.0486 | 97 | 76-136 |
| Bromodichloromethane | 0.0500 | 0.0506 | 101 | 78-131 |
| Bromoform | 0.0500 | 0.0452 | 90 | 68-124 |
| Carbon tetrachloride | 0.0500 | 0.0522 | 104 | 70-136 |
| Chlorobenzene | 0.0500 | 0.0504 | 101 | 73-127 |
| Chloroform | 0.0500 | 0.0497 | 99 | 78-126 |
| Dibromochloromethane | 0.0500 | 0.0513 | 103 | 67-133 |
| 1,1-Dichloroethane | 0.0500 | 0.0463 | 93 | 66-140 |
| 1,2-Dichloroethane | 0.0500 | 0.0551 | 110 | 63-140 |
| 1,1-Dichloroethene | 0.0500 | 0.0537 | 107 | 47-187 |
| *trans*-1,2-Dichloroethene | 0.0500 | 0.0472 | 94 | 69-143 |
| 1,2-Dichloropropane | 0.0500 | 0.0471 | 94 | 70-122 |
| Ethylbenzene | 0.0500 | 0.0561 | 112 | 73-129 |
| Methylene chloride | 0.0500 | 0.0496 | 99 | 61-163 |
| 1,1,2,2-Tetrachloroethane | 0.0500 | 0.0541 | 108 | 68-120 |
| Tetrachloroethene | 0.0500 | 0.0475 | 95 | 61-135 |
| Toluene | 0.0500 | 0.0505 | 101 | 71-133 |
| 1,1,1-Trichloroethane | 0.0500 | 0.0553 | 111 | 67-129 |
| 1,1,2-Trichloroethane | 0.0500 | 0.0481 | 96 | 73-125 |
| Trichloroethene | 0.0500 | 0.0445 | 89 | 64-152 |

Recovery: 0 out of 20 outside QC windows

Note:
SAVED AS: C:\HPCHEM\1\DATA\QC\VLG14S1S.XLS Rev. 02/24/97

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313 / 761-1389

**MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD)**

**VOLATILE ORGANICS - SOIL MATRIX**

Project Name: ENCOTEC
Project Number: 10000
QC Set ID: VOSG1401S

**ENCOTEC ID: 200087060**

| Compound | Conc. Spiked (mg/Kg) | Sample Result (mg/Kg) | Conc. MS (mg/Kg) | Percent Recovery (%) | Conc. MSD (mg/Kg) | Percent Recovery (%) | RPD (%) | Quality Control Limits RPD (%) | Quality Control Limits Recovery (%) |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.0500 | U | 0.0225 | 45 * | 0.0240 | 48 * | 6.36 | 22 | 59-172 |
| Trichloroethene | 0.0500 | U | 0.0167 | 33 * | 0.0186 | 37 * | 10.82 | 24 | 62-137 |
| Chlorobenzene | 0.0500 | U | 0.0161 | 32 * | 0.0180 | 36 * | 11.03 | 21 | 60-133 |
| Toluene | 0.0500 | U | 0.0212 | 42 * | 0.0232 | 46 * | 9.02 | 21 | 59-139 |
| Benzene | 0.0500 | U | 0.0264 | 53 * | 0.0281 | 56 * | 6.20 | 21 | 66-142 |



RPD: 0 out of 5 outside of quality control limits.
Recovery: 10 out of 10 outside of quality control limits.

Note:
SAVED AS: C:\HPCHEM\1\DATA\QC\VMG14S1S.XLS

**RAW DATA**
Volatiles

# GC/MS V. . ANALYSIS LOG

e:

INSTRUMENT 019 CONDITONS: DB-624 (75M,.53mM,3u)

Std. ID: MV404 - 405D

Reference Std: S0G13S

Disk Space: ✓

Namelists: ✓

©

Analyst: RL ~~EMS~~/ITH

Date: 07/13/98

EMV: 2165

ENCOTEC Tape Number: 6-98-S

VOSG1301S

| No. | Client | Batch | Time | File Name | Matrix | pH Check | Dilution Scheme | Dil. Fact. | Voa No. | Mthd # | Re-runs | $MeCl_2$ Tracking | Cmpnds over Linear Rng |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Encotec | 10000 | 10:13a | BFBG13S | NA | NA | NA | NA | 1 | 1 | | | |
| 2 | | | 10:50 | 200G13S | | | | | 2 | | | | LCS# 85639 |
| 3 | | | 11:28 | 150G13S | | | | | 3 | | | | MB# 85497 |
| 4 | | | 12:05p | 100G13S | | | | | 4 | | | | |
| 5 | | | 12:42 | 50G13S | | | | | 5 | | | | |
| 6 | | | 1:19p | 10G13S | | | | | 6 | | | | |
| 7 | | | | LCSG13S | | | | | 7 | | | | |
| 8 | | | | VSBG131S | | | | | 8 | | | <1 | |
| 9 | | | | VSBG1351 | | | | | 9 | | | 1.66 | |
| 10 | BBA | 12369 | | 86471V | 5ml | NA | 5Dg → 5Dml | 1/1 | 10 | | | 1.65 | |
| 11 | | | | ~~86471VM~~ | | | | | 11 | | 1/1 | 2.26 | Re Run on |
| 12 | | | | ~~86471VD~~ | | | | | 12 | | 1/1 | 2.24 | 07/14/98 |
| 13 | | | | 86472V | | | | | 13 | | | <1 | |
| 14 | | | | 86473V | | | | | 14 | | | | |
| 15 | | | | 86474V | | | | | 15 | | | | |
| 16 | | | | 86475V | | | | | 16 | | | | |
| 17 | | | | 86476V | | | | | 17 | | | | |
| 18 | | | 8:49p | 86477V | | | | | 18 | | | 2.62 | |
| 19 | | | | | | | | | 19 | | | | |
| 20 | | | | | | | | | 20 | | | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | |

ITH 07/13/98

| | IS1 | RT | IS2 | RT | IS3 | RT | IS4 | RT |
|---|---|---|---|---|---|---|---|---|
| Upper | 8609716 | 16.31 | 7879198 | 16.43 | 6916242 | 22.63 | 4749430 | 27.57 |
| Lower | 2152429 | 15.31 | 1969800 | 15.43 | 1741561 | 21.63 | 1187358 | 26.57 |

balance F33615 check: wts. 1.0g 5.0g

weight set ID: S001 readings 1.0 5.0

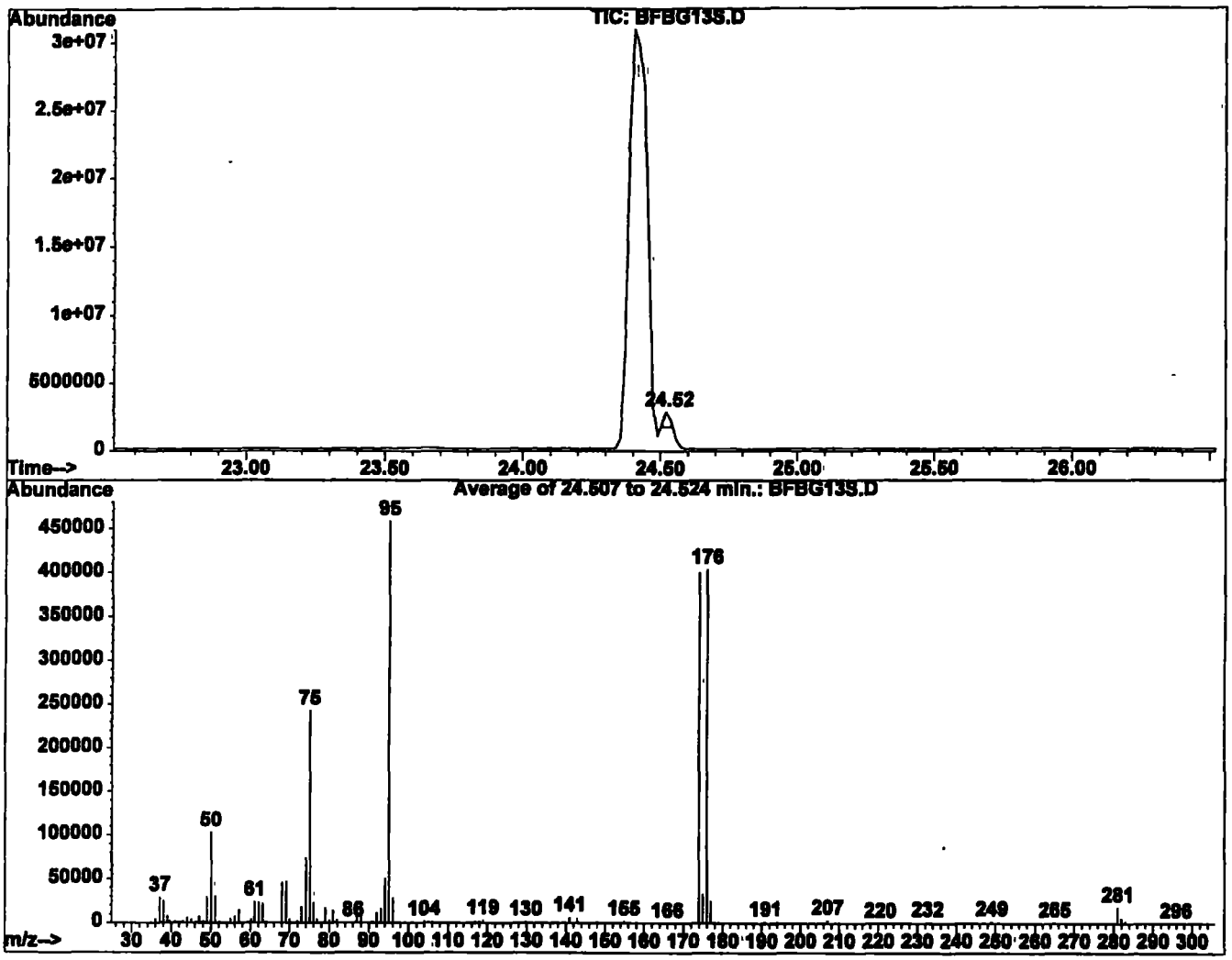
Re-analysis codes: B) EICPs C) Dilution D) Possible carry-over

BFB

Data File : C:\HPCHEM\1\DATA\BFBG13S.D
Acq On : 13 Jul 98 10:13 am
Sample :
Misc :

Vial: 1
Operator:
Inst : 5970-019
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :




Spectrum Information: Average of 24.507 to 24.524 min.

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 22.6 | 103784 | PASS |
| 75 | 95 | 30 | 60 | 53.0 | 243072 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 459040 | PASS |
| 96 | 95 | 5 | 9 | 6.3 | 28748 | PASS |
| 173 | 174 | 0.00 | 2 | 0.2 | 942 | PASS |
| 174 | 95 | 50 | 100 | 87.2 | 400096 | PASS |
| 175 | 174 | 5 | 9 | 8.2 | 32844 | PASS |
| 176 | 174 | 95 | 101 | 101.0 | 404032 | PASS |
| 177 | 176 | 5 | 9 | 6.3 | 25616 | PASS |

Average of 24.507 to 24.524 min.: BFBG13S.D

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.00 | 564 | 42.10 | 1318 | 50.00 | 103784 | 58.40 | 771 |
| 35.95 | 5196 | 43.00 | 2437 | 51.10 | 31188 | 59.20 | 406 |
| 37.05 | 29820 | 43.20 | 768 | 52.15 | 2386 | 59.60 | 1029 |
| 38.00 | 25780 | 44.05 | 6632 | 53.00 | 802 | 60.15 | 4422 |
| 39.00 | 8545 | 45.05 | 5035 | 53.70 | 356 | 61.05 | 23996 |
| 39.50 | 2871 | 45.70 | 877 | 53.90 | 586 | 62.10 | 23472 |
| 40.00 | 1017 | 46.30 | 1372 | 54.40 | 354 | 63.05 | 22084 |
| 40.50 | 592 | 47.00 | 7902 | 54.90 | 5067 | 63.90 | 1276 |
| 40.95 | 2653 | 47.90 | 1376 | 56.00 | 7900 | 64.30 | 1562 |
| 41.40 | 519 | 48.20 | 1948 | 57.10 | 15429 | 65.60 | 360 |
| 41.70 | 433 | 49.00 | 29708 | 58.05 | 1430 | 66.20 | 827 |

Average of 24.507 to 24.524 min.: BFBG13S.D

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 66.95 | 1226 | 76.85 | 4728 | 84.75 | 506 | 94.00 | 50584 |
| 68.00 | 46052 | 77.45 | 701 | 86.00 | 920 | 95.00 | 459040 |
| 69.10 | 47776 | 77.65 | 1518 | 86.95 | 15699 | 96.05 | 28748 |
| 69.95 | 4426 | 78.15 | 1409 | 87.95 | 13168 | 97.05 | 1091 |
| 71.05 | 942 | 78.90 | 17376 | 88.95 | 428 | 97.75 | 649 |
| 71.85 | 2514 | 79.95 | 3750 | 89.25 | 510 | 99.25 | 386 |
| 72.30 | 1117 | 80.90 | 15028 | 90.05 | 361 | 99.45 | 626 |
| 73.00 | 18646 | 81.90 | 3608 | 90.65 | 395 | 100.25 | 563 |
| 74.00 | 73940 | 83.05 | 874 | 90.85 | 2242 | 100.75 | 490 |
| 75.00 | 243072 | 83.95 | 457 | 92.00 | 11571 | 101.25 | 538 |
| 76.00 | 23088 | 84.25 | 565 | 93.00 | 16478 | 102.35 | 566 |

Average of 24.507 to 24.524 min.: BFBG13S.D

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 103.05 | 599 | 110.85 | 1180 | 121.65 | 454 | 129.80 | 2186 |
| 103.95 | 2358 | 113.05 | 544 | 123.00 | 998 | 130.05 | 794 |
| 104.95 | 1494 | 114.05 | 530 | 123.85 | 382 | 130.45 | 592 |
| 105.25 | 723 | 114.75 | 755 | 124.65 | 596 | 130.65 | 671 |
| 106.00 | 1941 | 114.95 | 371 | 124.95 | 484 | 130.95 | 1452 |
| 106.95 | 447 | 115.75 | 1393 | 125.35 | 630 | 131.85 | 399 |
| 107.65 | 1063 | 116.90 | 2952 | 125.85 | 671 | 133.15 | 664 |
| 108.95 | 399 | 117.95 | 2406 | 126.15 | 629 | 134.15 | 756 |
| 109.65 | 705 | 118.90 | 3630 | 126.95 | 355 | 134.95 | 2272 |
| 109.95 | 493 | 119.55 | 707 | 128.05 | 1652 | 136.05 | 423 |
| 110.25 | 639 | 120.85 | 985 | 128.75 | 1270 | 136.75 | 1259 |

Average of 24.507 to 24.524 min.: BFBG13S.D

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 137.15 | 697 | 146.05 | 800 | 156.80 | 469 | 166.20 | 493 |
| 137.45 | 359 | 146.95 | 593 | 157.75 | 1222 | 166.40 | 552 |
| 137.85 | 536 | 147.95 | 2521 | 158.80 | 399 | 167.10 | 360 |
| 139.40 | 1725 | 148.75 | 653 | 159.70 | 497 | 168.90 | 765 |
| 139.85 | 916 | 149.85 | 504 | 160.50 | 428 | 169.60 | 437 |
| 140.95 | 6994 | 150.15 | 646 | 160.90 | 657 | 171.80 | 1081 |
| 141.65 | 605 | 152.80 | 1591 | 162.30 | 504 | 172.10 | 685 |
| 142.85 | 6020 | 153.40 | 420 | 162.70 | 405 | 172.80 | 942 |
| 143.55 | 444 | 154.85 | 2736 | 163.10 | 469 | 173.90 | 400096 |
| 144.95 | 696 | 156.10 | 826 | 165.00 | 518 | 174.85 | 32844 |
| 145.65 | 891 | 156.40 | 494 | 165.90 | 620 | 175.90 | 404032 |

Average of 24.507 to 24.524 min.: BFBG13S.D

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 176.90 | 25616 | 192.10 | 455 | 206.95 | 4049 | 227.40 | 746 |
| 177.90 | 1102 | 192.90 | 1301 | 208.10 | 597 | 228.00 | 522 |
| 178.10 | 549 | 193.20 | 1057 | 208.90 | 554 | 232.55 | 1822 |
| 178.80 | 1080 | 193.90 | 1043 | 211.95 | 1308 | 235.95 | 381 |
| 179.40 | 358 | 194.40 | 586 | 214.70 | 477 | 237.25 | 433 |
| 179.70 | 419 | 194.90 | 434 | 219.70 | 439 | 249.00 | 2433 |
| 180.30 | 740 | 196.10 | 480 | 220.30 | 606 | 250.55 | 459 |
| 188.70 | 377 | 201.35 | 1486 | 220.50 | 632 | 250.95 | 357 |
| 190.20 | 682 | 204.80 | 1378 | 222.50 | 517 | 252.05 | 437 |
| 190.50 | 1286 | 205.50 | 520 | 222.70 | 354 | 253.75 | 809 |
| 191.00 | 2064 | 206.30 | 380 | 223.70 | 465 | 258.85 | 410 |

Average of 24.507 to 24.524 min.: BFBG13S.D

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 264.75 | 759 | 283.55 | 533 | | | | |
| 264.95 | 1472 | 295.85 | 419 | | | | |
| 266.05 | 410 | | | | | | |
| 267.05 | 673 | | | | | | |
| 268.95 | 690 | | | | | | |
| 269.85 | 510 | | | | | | |
| 270.75 | 507 | | | | | | |
| 275.95 | 467 | | | | | | |
| 280.95 | 18778 | | | | | | |
| 281.95 | 6553 | | | | | | |
| 282.95 | 3359 | | | | | | |

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\BFBG13S.D Vial: 1
Acq On : 13 Jul 98 10:13 am Operator:
Sample : Inst : 5970-019
Misc : Multiplr: 1.00
Quant Time: Jul 13 13:57 1998 Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 13:21:27 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

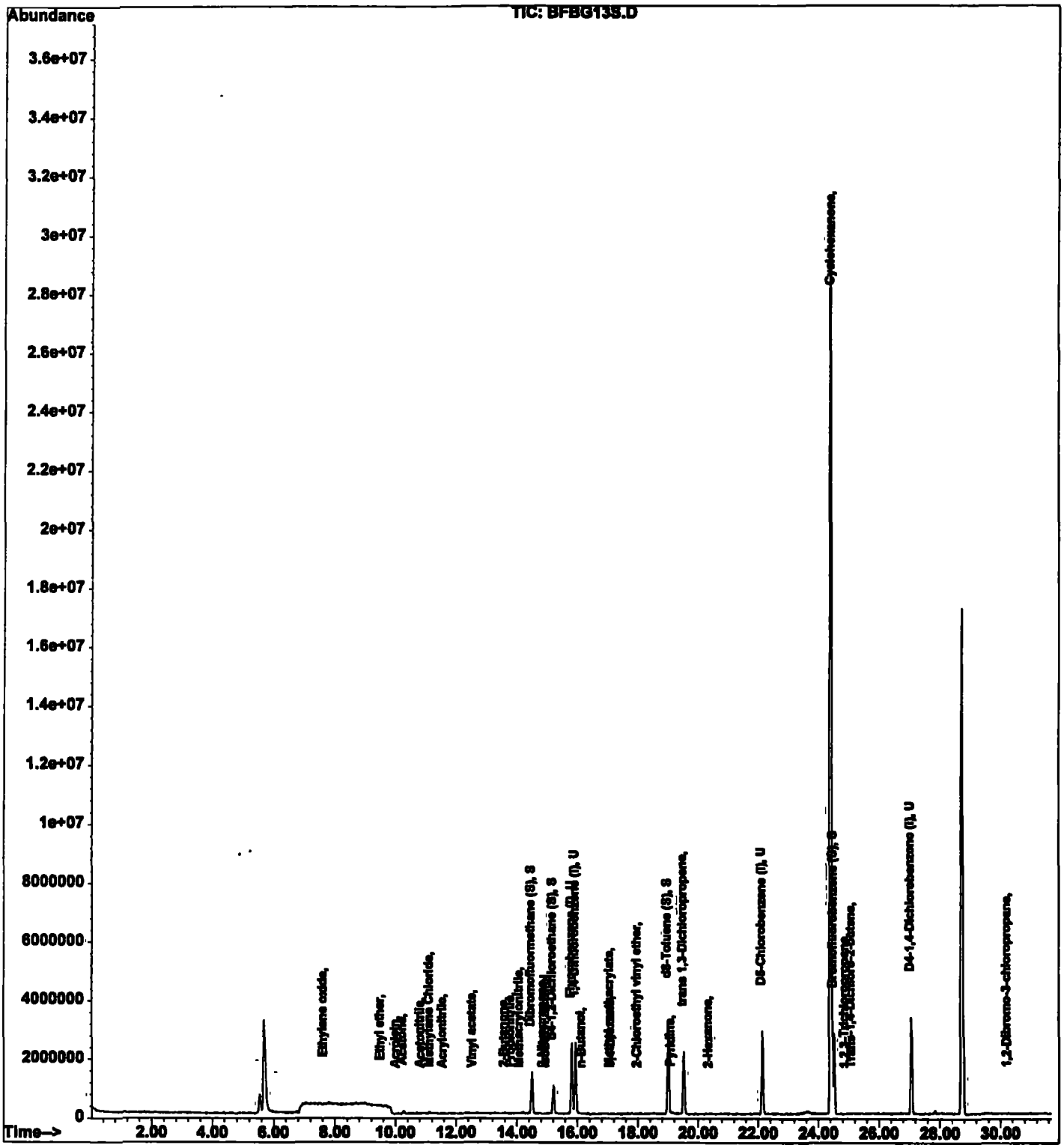
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.83 | 96 | 3659152 | 50.00 | ng/mL | 0.02 |
| 25) 1,4-Difluorobenzene (I) | 15.95 | 114 | 3390068 | 50.00 | ng/mL | 0.02 |
| 49) D5-Chlorobenzene (I) | 22.15 | 117 | 2929598 | 50.00 | ng/mL | 0.02 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.07 | 152 | 2060380 | 50.00 | ng/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 31) Dibromofluormethane (S) | 14.50 | 113 | 1337435 | 99.16 | % | 0.02 |
| 34) d4-1,2-Dichloroethane (S) | 15.21 | 65 | 1452109 | 105.12 | % | 0.02 |
| 50) d8-Toluene (S) | 19.00 | 98 | 3658356 | 99.38 | % | 0.02 |
| 68) Bromofluorobenzene (S) | 24.52 | 95 | 1584610 | 96.32 | % | 0.02 |
| Target Compounds | | | | | | Qvalue |
| 5) Ethylene oxide | 7.64 | 44 | 41508 | 2.37 | ng/mL# | 40 |
| 9) Ethyl ether | 9.53 | 59 | 18330 | 1.39 | ng/mL# | 12 |
| 10) Acrolein | 10.03 | 56 | 12146 | 9.80 | ng/mL | 92 |
| 13) Acetone | 10.27 | 43 | 214098 | 43.13 | ng/ml | 100 |
| 16) Acetonitrile | 10.86 | 41 | 9413 | 8.09 | ng/mL# | 26 |
| 17) Methylene Chloride | 11.15 | 84 | 63086 | 2.77 | ng/ml# | 87 |
| 20) Acrylonitrile | 11.58 | 53 | 12213 | 3.62 | ng/mL# | 17 |
| 22) Vinyl acetate | 12.56 | 43 | 17595 | 1.27 | ng/mL# | 73 |
| 24) 2-Butanone | 13.61 | 43 | 20254 | 3.97 | ng/ml# | 51 |
| 26) Propionitrile | 13.82 | 54 | 13540 | 9.76 | ng/mL# | 45 |
| 28) Methacrylonitrile | 14.11 | 67 | 5971 | 1.33 | ng/mL# | 1 |
| 36) 2-Nitropropane | 14.89 | 43 | 10702 | 1.06 | ng/mL# | 15 |
| 37) Isobutyl alcohol | 14.97 | 74 | 7165 | 128.12 | ng/mL# | 1 |
| 38) n-Butanol | 16.17 | 56 | 17442 | 68.54 | ng/mL# | 70 |
| 40) Methyl methacrylate | 17.09 | 69 | 8360 | 1.05 | ng/mL# | 1 |
| 42) 1,4-Dioxane | 17.13 | 88 | 8790 | 68.25 | ng/mL# | 12 |
| 46) 2-Chloroethyl vinyl ether | 18.00 | 63 | 10637 | 1.51 | ng/mL# | 24 |
| 48) Pyridine | 19.12 | 79 | 63275 | 111.96 | ng/mL# | 73 |
| 52) trans 1,3-Dichloropropene | 19.52 | 75 | 84946 | 3.40 | ng/ml# | 65 |
| 56) 2-Hexanone | 20.38 | 43 | 15107 | 2.11 | ng/ml# | 81 |
| 66) Cyclohexanone | 24.44 | 98 | 6815 | 10.54 | ng/ml# | 1 |
| 70) 1,2,3-Trichloropropane | 24.91 | 110 | 6991 | 1.27 | ng/mL# | 1 |
| 71) Trans-1,4-Dichloro-2-buten | 25.11 | 88 | 6900 | 6.88 | ng/mL# | 31 |
| 75) 1,2-Dibromo-3-chloropropan | 30.25 | 75 | 8077 | 3.98 | ng/ml# | 1 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\BFBG13S.D  Vial: 1
Acq On : 13 Jul 98 10:13 am  Operator:
Sample :  Inst : 5970-019
Misc :  Multiplr: 1.00
Quant Time: Jul 13 13:57 1998  Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 13:21:27 1998
Response via : Multiple Level Calibration



ENCOTEC GC/MS VOLATILE 5 WAY CALIBRATION Page:

Instrument ID: 5970-019

Initial Calibration Date: 07/13/98

| STD | FILE: | STD | FILE: | STD | FILE: |
|---|---|---|---|---|---|
| 10 | 10G13S.D | 150 | 150G13S.D | 100 | 100G13S.D |
| 50 | 50G13S.D | 200 | 200G13S.D | | |

| Compound | 10 | 50 | 100 | 150 | 200 | RF avg. | % RSD | RF Cont | Cont Rec | % Drift | CCC/SPCC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | 0.394 | 0.403 | 0.366 | 0.400 | 0.397 | 0.392 | | | | | ** |
| Vinyl Chloride | 0.393 | 0.361 | 0.327 | 0.367 | 0.369 | 0.364 | 6.5 | | | | * |
| 1,1-Dichloroethene | 0.353 | 0.309 | 0.282 | 0.307 | 0.301 | 0.311 | 8.4 | | | | * |
| 1,1-Dichloroethane | 0.603 | 0.601 | 0.571 | 0.595 | 0.590 | 0.592 | | | | | ** |
| Chloroform | 0.779 | 0.712 | 0.646 | 0.674 | 0.669 | 0.696 | 7.5 | | | | * |
| 1,2-Dichloropropane | 0.300 | 0.273 | 0.254 | 0.264 | 0.261 | 0.270 | 6.6 | | | | * |
| Bromoform | 0.266 | 0.295 | 0.290 | 0.299 | 0.296 | 0.289 | | | | | ** |
| 1,1,2,2-Tetrachloroethane | 0.399 | 0.379 | 0.362 | 0.368 | 0.355 | 0.373 | | | | | ** |
| Toluene | 1.481 | 1.454 | 1.276 | 1.316 | 1.256 | 1.357 | 7.6 | | | | * |
| Chlorobenzene | 0.981 | 0.932 | 0.845 | 0.891 | 0.859 | 0.902 | | | | | ** |
| Ethylbenzene | 0.505 | 0.491 | 0.424 | 0.442 | 0.425 | 0.457 | 8.4 | | | | * |

* = CCC - Calibration Check Compound: %RSD < 30 for initial calibration; % Diff. < 20.0 for continuing calibration. Meets criteria for 8260B

** = SPCC - System Performance Check Compound: Minimum avg. RF > .100 & 0.300 for Chlorobenzene and 1,1,2,2-Tetrachloroethane

% RSD = Relative Standard Deviation

% Drift = (Cont. Cal. Std Conc. - Recovery Conc. / Cont. Cal. Std. Conc. Rec. x 100)

| EICPS: | IS1 | RT1 | IS2 | RT2 | IS3 | RT3 | IS4 | RT4 |
|---|---|---|---|---|---|---|---|---|
| UPPER | 8609716 | 16.31 | 7879198 | 16.43 | 6966242 | 22.63 | 4749430 | 27.57 |
| LOWER | 2152429 | 15.31 | 1969800 | 15.43 | 1741561 | 21.63 | 1187358 | 26.57 |

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# Response Factor Report 5970-019

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 13:21:27 1998
Response via : Initial Calibration

Calibration Files
10 =10G13S.D 50 =50G13S.D 150 =150G13S.D
200 =200G13S.D 100 =100G13S.D

| | | Compound | 10 | 50 | 150 | 200 | 100 | Avg | %RSD | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | U | Fluorobenzene (I) | ----------ISTD---------- | | | | | | | |
| 2) | | Dichlorodifluorometha | 0.534 | 0.465 | 0.508 | 0.500 | 0.494 | 0.500 | 5.01 | |
| 3) | | Chloromethane | 0.394 | 0.403 | 0.400 | 0.397 | 0.366 | 0.392 | 3.78 | |
| 4) | | Vinyl Chloride | 0.393 | 0.361 | 0.367 | 0.369 | 0.327 | 0.364 | 6.54 | |
| 5) | | Ethylene oxide | 0.253 | 0.256 | 0.237 | 0.217 | 0.234 | 0.240 | 6.64 | |
| 6) | | Bromomethane | 0.165 | 0.196 | 0.197 | 0.197 | 0.191 | 0.189 | 7.17 | |
| 7) | | Chloroethane | 0.266 | 0.209 | 0.205 | 0.215 | 0.205 | 0.220 | 11.77 | |
| 8) | | Trichlorofluoromethan | 0.527 | 0.468 | 0.476 | 0.494 | 0.477 | 0.488 | 4.84 | |
| 9) | | Ethyl ether | 0.186 | 0.175 | 0.182 | 0.176 | 0.180 | 0.180 | 2.65 | |
| 10) | | Acrolein | 0.014 | 0.020 | 0.017 | 0.017 | 0.017 | 0.017 | 13.11 | |
| 11) | | 1,1-Dichloroethene | 0.353 | 0.309 | 0.307 | 0.301 | 0.282 | 0.311 | 8.43 | |
| 12) | | 1,1,2-Trichloro-1,2,2 | 0.191 | 0.188 | 0.182 | 0.178 | 0.193 | 0.186 | 3.41 | |
| 13) | | Acetone | 0.097 | 0.065 | 0.060 | 0.056 | 0.061 | 0.068 | 24.15 | 0.997 L |
| 14) | | Iodomethane | 0.405 | 0.558 | 0.603 | 0.567 | 0.592 | 0.545 | 14.77 | |
| 15) | | Carbon Disulfide | 1.143 | 1.077 | 1.149 | 1.132 | 1.138 | 1.128 | 2.58 | |
| 16) | | Acetonitrile | 0.022 | 0.015 | 0.014 | 0.014 | 0.015 | 0.016 | 20.22 | 0.999 L |
| 17) | | Methylene Chloride | 0.363 | 0.327 | 0.292 | 0.285 | 0.286 | 0.311 | 10.91 | |
| 18) | | trans-1,2-Dichloroeth | 0.380 | 0.346 | 0.325 | 0.329 | 0.324 | 0.341 | 6.90 | |
| 19) | | T-methylbutyl ether | 0.541 | 0.539 | 0.561 | 0.550 | 0.574 | 0.553 | 2.66 | |
| 20) | | Acrylonitrile | 0.052 | 0.047 | 0.044 | 0.040 | 0.047 | 0.046 | 9.20 | |
| 21) | | 1,1-Dichloroethane | 0.603 | 0.601 | 0.595 | 0.590 | 0.571 | 0.592 | 2.14 | |
| 22) | | Vinyl acetate | 0.194 | 0.179 | 0.201 | 0.198 | 0.177 | 0.190 | 5.85 | |
| 23) | | cis-1,2-dichloroethen | 0.336 | 0.335 | 0.329 | 0.328 | 0.315 | 0.329 | 2.63 | |
| 24) | | 2-Butanone | 0.095 | 0.070 | 0.064 | 0.057 | 0.064 | 0.070 | 21.02 | 0.993 L |
| 25) | U | 1,4-Difluorobenzene ( | ----------ISTD---------- | | | | | | | |
| 26) | | Propionitrile | 0.024 | 0.021 | 0.019 | 0.019 | 0.020 | 0.020 | 9.46 | |
| 27) | | Bromochloromethane | 0.183 | 0.172 | 0.150 | 0.155 | 0.155 | 0.163 | 8.57 | |
| 28) | | Methacrylonitrile | 0.075 | 0.065 | 0.064 | 0.062 | 0.066 | 0.066 | 7.80 | |
| 29) | | Chloroform | 0.779 | 0.712 | 0.674 | 0.669 | 0.646 | 0.696 | 7.46 | |
| 30) | | 1,2-Dichloroethane | 0.540 | 0.420 | 0.388 | 0.392 | 0.385 | 0.425 | 15.49 | 0.999 L |
| 31) | S | Dibromofluormethane ( | 0.199 | 0.198 | 0.198 | 0.207 | 0.192 | 0.199 | 2.72 | |
| 32) | | 1,1,1-Trichloroethane | 0.644 | 0.614 | 0.609 | 0.606 | 0.567 | 0.608 | 4.54 | |
| 33) | | Carbon Tetrachloride | 0.718 | 0.681 | 0.608 | 0.634 | 0.603 | 0.649 | 7.64 | |
| 34) | S | d4-1,2-Dichloroethane | 0.209 | 0.201 | 0.205 | 0.208 | 0.195 | 0.204 | 2.83 | |
| 35) | | Benzene | 1.193 | 1.164 | 1.111 | 1.103 | 1.053 | 1.125 | 4.90 | |
| 36) | | 2-Nitropropane | 0.134 | 0.144 | 0.157 | 0.153 | 0.156 | 0.149 | 6.61 | |
| 37) | | Isobutyl alcohol | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 20.78 | 0.996 L |
| 38) | | n-Butanol | 0.004 | 0.004 | 0.004 | 0.003 | 0.004 | 0.004 | 9.71 | |
| 39) | | 1,2-Dichloropropane | 0.300 | 0.273 | 0.264 | 0.261 | 0.254 | 0.270 | 6.58 | |
| 40) | | Methyl methacrylate | 0.131 | 0.113 | 0.114 | 0.111 | 0.117 | 0.117 | 7.17 | |
| 41) | | Dibromomethane | 0.187 | 0.176 | 0.177 | 0.176 | 0.171 | 0.177 | 3.36 | |
| 42) | | 1,4-Dioxane | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 11.03 | |

(#) = Out of Range

Response Factor Report 5970-019

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 13:21:27 1998
Response via : Initial Calibration

Calibration Files
10 =10G13S.D 50 =50G13S.D 150 =150G13S.D
200 =200G13S.D 100 =100G13S.D

| | | Compound | 10 | 50 | 150 | 200 | 100 | Avg | %RSD | |
|---|---|---|---|---|---|---|---|---|---|---|
| 43) | | Trichloroethene | 0.538 | 0.472 | 0.439 | 0.438 | 0.422 | 0.462 | 10.03 | |
| 44) | | Bromodichloromethane | 0.516 | 0.468 | 0.458 | 0.463 | 0.433 | 0.468 | 6.48 | |
| 45) | | cis 1,3-Dichloroprope | 0.401 | 0.433 | 0.424 | 0.435 | 0.410 | 0.421 | 3.47 | |
| 46) | | 2-Chloroethyl vinyl e | 0.079 | 0.086 | 0.134 | 0.092 | 0.127 | 0.104 | 24.37 | 0.898 |
| 47) | | 4-Methyl-2-pentanone | 0.177 | 0.169 | 0.147 | 0.145 | 0.149 | 0.157 | 9.52 | |
| 48) | | Pyridine | 0.025 | 0.007 | 0.004 | 0.001 | 0.005 | 0.008 | 112.06 | 0.013 |
| 49) | U | D5-Chlorobenzene (I) | ----------ISTD---------- | | | | | | | |
| 50) | S | d8-Toluene (S) | 0.620 | 0.618 | 0.637 | 0.631 | 0.635 | 0.628 | 1.38 | |
| 51) | | Toluene | 1.481 | 1.454 | 1.316 | 1.256 | 1.276 | 1.357 | 7.65 | |
| 52) | | trans 1,3-Dichloropro | 0.472 | 0.429 | 0.424 | 0.418 | 0.390 | 0.427 | 6.97 | |
| 53) | | Ethyl methacrylate | 0.345 | 0.269 | 0.262 | 0.242 | 0.270 | 0.278 | 14.19 | |
| 54) | | 1,1,2-Trichloroethane | 0.296 | 0.261 | 0.254 | 0.241 | 0.241 | 0.259 | 8.68 | |
| 55) | | Tetrachloroethene | 0.512 | 0.451 | 0.417 | 0.406 | 0.405 | 0.438 | 10.33 | |
| 56) | | 2-Hexanone | 0.156 | 0.123 | 0.113 | 0.102 | 0.116 | 0.122 | 16.66 | 0.993L |
| 57) | | Dibromochloromethane | 0.381 | 0.370 | 0.378 | 0.373 | 0.357 | 0.372 | 2.53 | |
| 58) | | 1,2-Dibromoethane | 0.284 | 0.236 | 0.244 | 0.231 | 0.238 | 0.246 | 8.64 | |
| 59) | | Chlorobenzene | 0.981 | 0.932 | 0.891 | 0.859 | 0.845 | 0.902 | 6.17 | |
| 60) | | 1,1,1,2-Tetrachloroet | 0.416 | 0.357 | 0.357 | 0.352 | 0.370 | 0.370 | 7.04 | |
| 61) | | Ethylbenzene | 0.505 | 0.491 | 0.442 | 0.425 | 0.424 | 0.457 | 8.40 | |
| 62) | | m-Xylene and p-Xylene | 0.631 | 0.636 | 0.611 | 0.583 | 0.576 | 0.607 | 4.51 | |
| 63) | | o-Xylene | 0.633 | 0.592 | 0.581 | 0.578 | 0.551 | 0.587 | 5.11 | |
| 64) | | Styrene | 1.052 | 0.978 | 0.913 | 0.867 | 0.880 | 0.938 | 8.19 | |
| 65) | | Bromoform | 0.266 | 0.295 | 0.299 | 0.296 | 0.290 | 0.289 | 4.69 | |
| 66) | | Cyclohexanone | 0.013 | 0.011 | 0.011 | 0.010 | 0.010 | 0.011 | 12.25 | |
| 67) | U | D4-1,4-Dichlorobenzen | ----------ISTD---------- | | | | | | | |
| 68) | S | Bromofluorobenzene (S | 0.381 | 0.384 | 0.438 | 0.409 | 0.384 | 0.399 | 6.21 | |
| 69) | | 1,1,2,2-Tetrachloroet | 0.399 | 0.379 | 0.368 | 0.355 | 0.362 | 0.373 | 4.63 | |
| 70) | | 1,2,3-Trichloropropan | 0.144 | 0.124 | 0.133 | 0.129 | 0.136 | 0.133 | 5.72 | |
| 71) | | Trans-1,4-Dichloro-2- | 0.020 | 0.023 | 0.027 | 0.027 | 0.025 | 0.024 | 12.96 | |
| 72) | | 1,3-Dichlorobenzene | 1.550 | 1.342 | 1.334 | 1.267 | 1.337 | 1.366 | 7.87 | |
| 73) | | 1,4-Dichlorobenzene | 1.465 | 1.237 | 1.263 | 1.204 | 1.234 | 1.281 | 8.21 | |
| 74) | | 1,2-Dichlorobenzene | 1.311 | 1.157 | 1.177 | 1.108 | 1.186 | 1.188 | 6.32 | |
| 75) | | 1,2-Dibromo-3-chlorop | 0.057 | 0.044 | 0.049 | 0.049 | 0.048 | 0.049 | 9.54 | |

(#) = Out of Range

# Compound List Report 5970-019

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 14:00:58 1998
Response via : Initial Calibration
Total Cpnds : 75

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | U | Fluorobenzene (I) | 96 | 15.81 | 1.000 | A | 1 | A | B |
| 2 | | Dichlorodifluoromethane | 85 | 6.26 | 0.396 | A | 3 | A | B |
| 3 | | Chloromethane | 50 | 6.85 | 0.433 | A | 1 | A | B |
| 4 | | Vinyl Chloride | 62 | 7.15 | 0.452 | A | 1 | A | B |
| 5 | | Ethylene oxide | 44 | 7.51 | 0.475 | A | 2 | A | B |
| 6 | | Bromomethane | 94 | 8.10 | 0.512 | A | 1 | A | B |
| 7 | | Chloroethane | 64 | 8.35 | 0.528 | A | 2 | A | B |
| 8 | | Trichlorofluoromethane | 101 | 8.94 | 0.565 | A | 1 | A | B |
| 9 | | Ethyl ether | 59 | 9.56 | 0.605 | A | 2 | A | B |
| 10 | | Acrolein | 56 | 9.93 | 0.628 | A | 1 | A | B |
| 11 | | 1,1-Dichloroethene | 96 | 10.14 | 0.641 | A | 3 | A | B |
| 12 | | 1,1,2-Trichloro-1,2,2-trifluor | 151 | 10.05 | 0.636 | A | 3 | A | B |
| 13 | | Acetone | 43 | 10.25 | 0.648 | L | 1 | A | B |
| 14 | | Iodomethane | 142 | 10.54 | 0.667 | A | 1 | A | B |
| 15 | | Carbon Disulfide | 76 | 10.71 | 0.677 | A | 2 | A | B |
| 16 | | Acetonitrile | 41 | 10.86 | 0.687 | L | 2 | A | B |
| 17 | | Methylene Chloride | 84 | 11.13 | 0.704 | A | 3 | A | B |
| 18 | | trans-1,2-Dichloroethene | 96 | 11.65 | 0.737 | A | 3 | A | B |
| 19 | | T-methylbutyl ether | 73 | 11.62 | 0.735 | A | 2 | A | B |
| 20 | | Acrylonitrile | 53 | 11.64 | 0.736 | A | 2 | A | B |
| 21 | | 1,1-Dichloroethane | 63 | 12.49 | 0.790 | A | 2 | A | B |
| 22 | | Vinyl acetate | 43 | 12.48 | 0.789 | A | 1 | A | B |
| 23 | | cis-1,2-dichloroethene | 96 | 13.61 | 0.860 | A | 3 | A | B |
| 24 | | 2-Butanone | 43 | 13.59 | 0.859 | L | 2 | A | B |
| 25 | U | 1,4-Difluorobenzene (I) | 114 | 15.93 | 1.000 | A | 2 | A | B |
| 26 | | Propionitrile | 54 | 13.78 | 0.865 | A | 3 | A | B |
| 27 | | Bromochloromethane | 128 | 14.10 | 0.885 | A | 2 | A | B |
| 28 | | Methacrylonitrile | 67 | 14.05 | 0.882 | A | 3 | A | B |
| 29 | | Chloroform | 83 | 14.16 | 0.889 | A | 2 | A | B |
| 30 | | 1,2-Dichloroethane | 62 | 15.34 | 0.963 | L | 3 | A | B |
| 31 | S | Dibromofluormethane (S) | 113 | 14.48 | 0.909 | A | 1 | A | B |
| 32 | | 1,1,1-Trichloroethane | 97 | 14.58 | 0.915 | A | 3 | A | B |
| 33 | | Carbon Tetrachloride | 117 | 14.92 | 0.937 | A | 3 | A | B |
| 34 | S | d4-1,2-Dichloroethane (S) | 65 | 15.19 | 0.953 | A | 2 | A | B |
| 35 | | Benzene | 78 | 15.33 | 0.962 | A | 2 | A | B |
| 36 | | 2-Nitropropane | 43 | 14.87 | 0.933 | A | 3 | A | B |
| 37 | | Isobutyl alcohol | 74 | 14.87 | 0.933 | L | 1 | A | B |
| 38 | | n-Butanol | 56 | 16.15 | 1.014 | A | 3 | A | B |
| 39 | | 1,2-Dichloropropane | 63 | 17.03 | 1.069 | A | 2 | A | B |
| 40 | | Methyl methacrylate | 69 | 17.03 | 1.069 | A | 2 | A | B |
| 41 | | Dibromomethane | 93 | 17.28 | 1.085 | A | 3 | A | B |
| 42 | | 1,4-Dioxane | 88 | 17.23 | 1.081 | A | 1 | A | B |
| 43 | | Trichloroethene | 130 | 16.52 | 1.037 | A | 3 | A | B |
| 44 | | Bromodichloromethane | 83 | 17.50 | 1.098 | A | 2 | A | B |
| 45 | | cis 1,3-Dichloropropene | 75 | 18.39 | 1.154 | A | 2 | A | B |
| 46 | | 2-Chloroethyl vinyl ether | 63 | 17.99 | 1.129 | A | 2 | A | B |
| 47 | | 4-Methyl-2-pentanone | 43 | 18.63 | 1.169 | A | 3 | A | B |
| 48 | | Pyridine | 79 | 19.02 | 1.193 | A | 1 | A | B |
| 49 | U | D5-Chlorobenzene (I) | 117 | 22.13 | 1.000 | A | 1 | A | B |
| 50 | S | d8-Toluene (S) | 98 | 18.98 | 0.858 | A | 1 | A | B |
| 51 | | Toluene | 91 | 19.13 | 0.864 | A | 1 | A | B |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 52 | | trans 1,3-Dichloropropene | 75 | 19.52 | 0.882 | A | 2 | A | B |
| 53 | | Ethyl methacrylate | 69 | 19.54 | 0.883 | A | 3 | A | B |
| 54 | | 1,1,2-Trichloroethane | 97 | 19.96 | 0.902 | A | 2 | A | B |
| 55 | | Tetrachloroethene | 164 | 20.31 | 0.918 | A | 3 | A | B |
| 56 | | 2-Hexanone | 43 | 20.38 | 0.921 | L | 3 | A | B |
| 57 | | Dibromochloromethane | 129 | 20.89 | 0.944 | A | 3 | A | B |
| 58 | | 1,2-Dibromoethane | 107 | 21.22 | 0.959 | A | 1 | A | B |
| 59 | | Chlorobenzene | 112 | 22.20 | 1.003 | A | 1 | A | B |
| 60 | | 1,1,1,2-Tetrachloroethane | 131 | 22.32 | 1.008 | A | 3 | A | B |
| 61 | | Ethylbenzene | 106 | 22.33 | 1.009 | A | 1 | A | B |
| 62 | | m-Xylene and p-Xylene | 106 | 22.57 | 1.020 | A | 1 | A | B |
| 63 | | o-Xylene | 106 | 23.43 | 1.059 | A | 1 | A | B |
| 64 | | Styrene | 104 | 23.45 | 1.059 | A | 2 | A | B |
| 65 | | Bromoform | 173 | 23.94 | 1.081 | A | 1 | A | B |
| 66 | | Cyclohexanone | 98 | 24.47 | 1.106 | A | 3 | A | B |
| 67 | U | D4-1,4-Dichlorobenzene (I) | 152 | 27.07 | 1.000 | A | 2 | A | B |
| 68 | S | Bromofluorobenzene (S) | 95 | 24.51 | 0.905 | A | 3 | A | B |
| 69 | | 1,1,2,2-Tetrachloroethane | 83 | 24.74 | 0.914 | A | 1 | A | B |
| 70 | | 1,2,3-Trichloropropane | 110 | 24.90 | 0.920 | A | 2 | A | B |
| 71 | | Trans-1,4-Dichloro-2-butene | 88 | 24.86 | 0.918 | A | 3 | A | B |
| 72 | | 1,3-Dichlorobenzene | 146 | 26.92 | 0.994 | A | 2 | A | B |
| 73 | | 1,4-Dichlorobenzene | 146 | 27.12 | 1.002 | A | 2 | A | B |
| 74 | | 1,2-Dichlorobenzene | 146 | 28.08 | 1.037 | A | 2 | A | B |
| 75 | | 1,2-Dibromo-3-chloropropane | 75 | 30.29 | 1.119 | A | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

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VOAHSL.M Mon Jul 13 14:01:23 1998

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\200G13S.D
Acq On : 13 Jul 98 10:50 am
Sample :
Misc :
Quant Time: Jul 13 11:26 1998

Vial: 2
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 10:53:36 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.81 | 96 | 3669555 | 50.00 | ng/mL | 0.01 |
| 25) 1,4-Difluorobenzene (I) | 15.93 | 114 | 3304538 | 50.00 | ng/mL | 0.01 |
| 49) D5-Chlorobenzene (I) | 22.13 | 117 | 3040086 | 50.00 | ng/mL | 0.01 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.07 | 152 | 2046222 | 50.00 | ng/mL | 0.01 |
| System Monitoring Compounds | | | | | | |
| 31) Dibromofluormethane (S) | 14.48 | 113 | 1369827 | 107.23 | % | 0.01 |
| 34) d4-1,2-Dichloroethane (S) | 15.21 | 65 | 1375211 | 111.26 | % | 0.01 |
| 50) d8-Toluene (S) | 19.00 | 98 | 3837070 | 101.00 | % | 0.03 |
| 68) Bromofluorobenzene (S) | 24.53 | 95 | 1674930 | 96.19 | % | 0.03 |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 6.26 | 85 | 7335801 | 236.73 | ng/mL | 99 |
| 3) Chloromethane | 6.85 | 50 | 5824834 | 202.05 | ng/ml | 100 |
| 4) Vinyl Chloride | 7.17 | 62 | 5420182 | 180.94 | ng/ml | 95 |
| 5) Ethylene oxide | 7.51 | 44 | 3183533 | 129.92 | ng/mL | 96 |
| 6) Bromomethane | 8.08 | 94 | 2896904 | 180.01 | ng/ml | 94 |
| 7) Chloroethane | 8.33 | 64 | 3161531 | 176.01 | ng/ml | 97 |
| 8) Trichlorofluoromethane | 8.94 | 101 | 7253908 | 193.44 | ng/mL | 98 |
| 9) Ethyl ether | 9.58 | 59 | 2576180 | 188.36 | ng/mL# | 96 |
| 10) Acrolein | 9.95 | 56 | 1235987 | 716.97 | ng/mL | 90 |
| 11) 1,1-Dichloroethene | 10.14 | 96 | 4419578 | 161.77 | ng/ml | 91 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 10.05 | 151 | 2606900 | 187.07 | ng/mL | 97 |
| 13) Acetone | 10.27 | 43 | 1643878 | 267.17 | ng/ml | 92 |
| 14) Iodomethane | 10.54 | 142 | 8328323 | 214.58 | ng/mL | 89 |
| 15) Carbon Disulfide | 10.71 | 76 | 16610931 | 206.25 | ng/ml | 98 |
| 16) Acetonitrile | 10.88 | 41 | 1008488 | 741.67 | ng/mL | 87 |
| 17) Methylene Chloride | 11.13 | 84 | 4189711 | 155.42 | ng/ml | 97 |
| 18) trans-1,2-Dichloroethene | 11.67 | 96 | 4835191 | 166.06 | ng/ml | 96 |
| 19) T-methylbutyl ether | 11.62 | 73 | 8072979 | 209.58 | ng/mL | 99 |
| 20) Acrylonitrile | 11.65 | 53 | 2962096 | 826.20 | ng/mL | 95 |
| 21) 1,1-Dichloroethane | 12.49 | 63 | 8666335 | 187.51 | ng/ml | 96 |
| 22) Vinyl acetate | 12.48 | 43 | 2910934 | 152.01 | ng/mL | 95 |
| 23) cis-1,2-dichloroethene | 13.61 | 96 | 4812982 | 163.55 | ng/ml | 97 |
| 24) 2-Butanone | 13.59 | 43 | 1678203 | 271.82 | ng/ml | 97 |
| 26) Propionitrile | 13.78 | 54 | 1273461 | 873.94 | ng/mL | 94 |
| 27) Bromochloromethane | 14.10 | 128 | 2043587 | 160.99 | ng/ml | 96 |
| 28) Methacrylonitrile | 14.04 | 67 | 4087230 | 934.76 | ng/mL | 93 |
| 29) Chloroform | 14.16 | 83 | 8845347 | 177.79 | ng/ml | 99 |
| 30) 1,2-Dichloroethane | 15.36 | 62 | 5182129 | 165.48 | ng/ml | 99 |
| 32) 1,1,1-Trichloroethane | 14.60 | 97 | 8006772 | 177.28 | ng/ml | 97 |
| 33) Carbon Tetrachloride | 14.92 | 117 | 8384794 | 199.26 | ng/ml | 98 |
| 35) Benzene | 15.33 | 78 | 14575204 | 169.32 | ng/ml | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\200G13S.D Vial: 2
Acq On : 13 Jul 98 10:50 am Operator:
Sample : Inst : 5970-019
Misc : Multiplr: 1.00
Quant Time: Jul 13 11:26 1998 Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 10:53:36 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

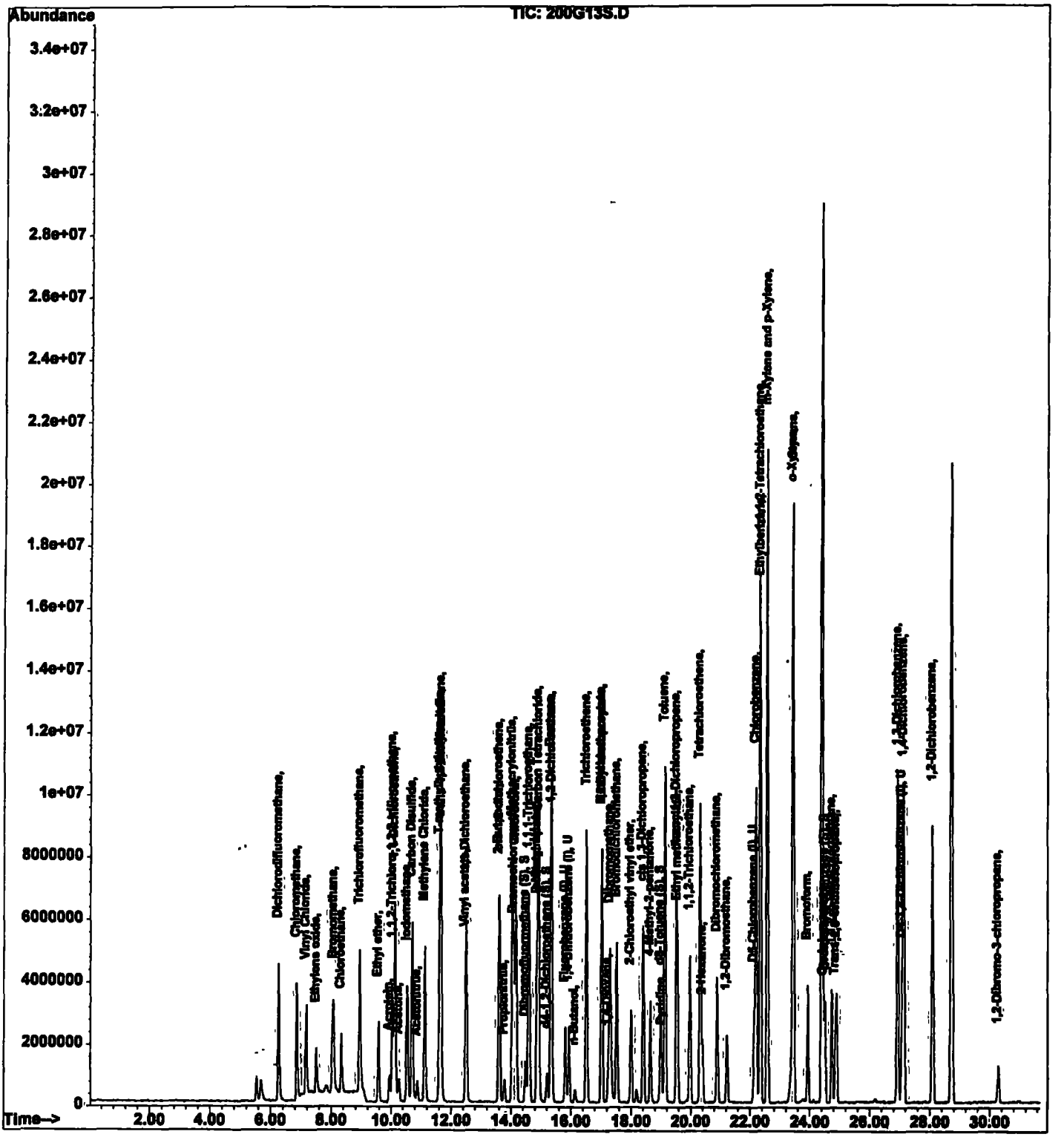
| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 36) | 2-Nitropropane | 14.87 | 43 | 4038986 | 350.63 | ng/mL | 98 |
| 37) | Isobutyl alcohol | 14.87 | 74 | 506726 | 9082.64 | ng/mL | 87 |
| 38) | n-Butanol | 16.13 | 56 | 430209 | 1424.84 | ng/mL# | 89 |
| 39) | 1,2-Dichloropropane | 17.03 | 63 | 3449698 | 163.01 | ng/ml# | 93 |
| 40) | Methyl methacrylate | 17.03 | 69 | 1460957 | 163.83 | ng/mL | 96 |
| 41) | Dibromomethane | 17.30 | 93 | 2328148 | 203.74 | ng/mL# | 98 |
| 42) | 1,4-Dioxane | 17.23 | 88 | 1120385 | 7881.18 | ng/mL | 97 |
| 43) | Trichloroethene | 16.52 | 130 | 5793153 | 183.51 | ng/ml | 98 |
| 44) | Bromodichloromethane | 17.52 | 83 | 6114977 | 182.76 | ng/ml | 95 |
| 45) | cis 1,3-Dichloropropene | 18.39 | 75 | 5743572 | 175.25 | ng/ml | 97 |
| 46) | 2-Chloroethyl vinyl ether | 17.99 | 63 | 1221385 | 953.58 | ng/mL | 86 |
| 47) | 4-Methyl-2-pentanone | 18.64 | 43 | 3825413 | 281.14 | ng/ml | 98 |
| 48) | Pyridine | 19.03 | 79 | 664379m | 659.20 | ng/mL | 90 |
| 51) | Toluene | 19.13 | 91 | 15277694 | 167.69 | ng/ml | 93 |
| 52) | trans 1,3-Dichloropropene | 19.52 | 75 | 5080738 | 184.12 | ng/ml | 97 |
| 53) | Ethyl methacrylate | 19.55 | 69 | 2943087 | 144.95 | ng/mL# | 99 |
| 54) | 1,1,2-Trichloroethane | 19.98 | 97 | 2935314 | 180.10 | ng/ml | 94 |
| 55) | Tetrachloroethene | 20.31 | 164 | 4933321 | 165.05 | ng/ml | 98 |
| 56) | 2-Hexanone | 20.40 | 43 | 2490826 | 230.60 | ng/ml | 98 |
| 57) | Dibromochloromethane | 20.89 | 129 | 4537422 | 189.79 | ng/ml | 99 |
| 58) | 1,2-Dibromoethane | 21.22 | 107 | 2812682 | 190.30 | ng/ml | 95 |
| 59) | Chlorobenzene | 22.20 | 112 | 10443991 | 170.95 | ng/ml | 100 |
| 60) | 1,1,1,2-Tetrachloroethane | 22.33 | 131 | 4277441 | 213.87 | ng/mL | 97 |
| 61) | Ethylbenzene | 22.35 | 106 | 5165345 | 153.48 | ng/ml | 94 |
| 62) | m-Xylene and p-Xylene | 22.57 | 106 | 14171738 | 329.85 | ng/ml | 81 |
| 63) | o-Xylene | 23.43 | 106 | 7026323 | 169.72 | ng/ml | 85 |
| 64) | Styrene | 23.45 | 104 | 10545263 | 165.95 | ng/ml | 97 |
| 65) | Bromoform | 23.94 | 173 | 3597485 | 196.72 | ng/ml | 99 |
| 66) | Cyclohexanone | 24.47 | 98 | 588625 | 1252.16 | ng/ml# | 86 |
| 69) | 1,1,2,2-Tetrachloroethane | 24.74 | 83 | 2908129 | 151.09 | ng/mL | 100 |
| 70) | 1,2,3-Trichloropropane | 24.90 | 110 | 1059493 | 193.08 | ng/mL | 95 |
| 71) | Trans-1,4-Dichloro-2-buten | 24.86 | 88 | 443958 | 554.26 | ng/mL# | 75 |
| 72) | 1,3-Dichlorobenzene | 26.93 | 146 | 10369691 | 176.32 | ng/ml | 96 |
| 73) | 1,4-Dichlorobenzene | 27.14 | 146 | 9854561 | 177.58 | ng/ml | 97 |
| 74) | 1,2-Dichlorobenzene | 28.10 | 146 | 9065031 | 175.24 | ng/ml | 94 |
| 75) | 1,2-Dibromo-3-chloropropan | 30.27 | 75 | 794465 | 394.80 | ng/ml | 98 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\200G13S.D  Vial: 2
Acq On : 13 Jul 98 10:50 am  Operator:
Sample :  Inst : 5970-019
Misc :  Multiplr: 1.00
Quant Time: Jul 13 11:26 1998  Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 10:53:36 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\150G13S.D
Acq On : 13 Jul 98 11:28 am
Sample :
Misc :
Quant Time: Jul 13 12:35 1998

Vial: 3
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 10:53:36 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.80 | 96 | 4109829 | 50.00 | ng/mL | -0.01 |
| 25) 1,4-Difluorobenzene (I) | 15.94 | 114 | 3738276 | 50.00 | ng/mL | 0.00 |
| 49) D5-Chlorobenzene (I) | 22.14 | 117 | 3283756 | 50.00 | ng/mL | 0.00 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.06 | 152 | 2162971 | 50.00 | ng/mL | -0.01 |
| System Monitoring Compounds | | | | | | |
| 31) Dibromofluormethane (S) | 14.49 | 113 | 1482088 | 100.48 | % | 0.00 |
| 34) d4-1,2-Dichloroethane (S) | 15.19 | 65 | 1534141 | 108.14 | % | -0.01 |
| 50) d8-Toluene (S) | 18.99 | 98 | 4186676 | 101.09 | % | -0.01 |
| 68) Bromofluorobenzene (S) | 24.51 | 95 | 1896859 | 102.92 | % | -0.01 |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 6.26 | 85 | 6268633 | 166.63 | ng/mL | 100 |
| 3) Chloromethane | 6.85 | 50 | 4928319 | 149.85 | ng/ml | 99 |
| 4) Vinyl Chloride | 7.16 | 62 | 4523983 | 132.72 | ng/ml | 96 |
| 5) Ethylene oxide | 7.49 | 44 | 2919174 | 108.09 | ng/mL | 94 |
| 6) Bromomethane | 8.08 | 94 | 2427318 | 135.95 | ng/ml | 94 |
| 7) Chloroethane | 8.34 | 64 | 2531075 | 122.18 | ng/ml | 98 |
| 8) Trichlorofluoromethane | 8.93 | 101 | 5864105 | 131.93 | ng/mL | 97 |
| 9) Ethyl ether | 9.57 | 59 | 2249942 | 139.07 | ng/mL# | 96 |
| 10) Acrolein | 9.94 | 56 | 1076170 | 606.03 | ng/mL | 92 |
| 11) 1,1-Dichloroethene | 10.12 | 96 | 3784943 | 124.32 | ng/ml | 94 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 10.06 | 151 | 2241377 | 140.16 | ng/mL | 96 |
| 13) Acetone | 10.26 | 43 | 1491239m | 224.70 | ng/ml | 96 |
| 14) Iodomethane | 10.53 | 142 | 7433487 | 170.38 | ng/mL | 94 |
| 15) Carbon Disulfide | 10.70 | 76 | 14168736 | 152.50 | ng/ml | 99 |
| 16) Acetonitrile | 10.86 | 41 | 874182 | 605.34 | ng/mL# | 88 |
| 17) Methylene Chloride | 11.12 | 84 | 3605962 | 120.96 | ng/ml | 97 |
| 18) trans-1,2-Dichloroethene | 11.66 | 96 | 4005934 | 123.36 | ng/ml | 93 |
| 19) T-methylbutyl ether | 11.61 | 73 | 6917985 | 157.30 | ng/mL | 100 |
| 20) Acrylonitrile | 11.64 | 53 | 2724040 | 689.41 | ng/mL | 96 |
| 21) 1,1-Dichloroethane | 12.50 | 63 | 7340686 | 139.98 | ng/ml | 98 |
| 22) Vinyl acetate | 12.48 | 43 | 2472500 | 124.66 | ng/mL | 98 |
| 23) cis-1,2-dichloroethene | 13.59 | 96 | 4051423 | 124.18 | ng/ml | 98 |
| 24) 2-Butanone | 13.59 | 43 | 1567797 | 239.04 | ng/ml# | 96 |
| 26) Propionitrile | 13.76 | 54 | 1040542 | 657.84 | ng/mL | 94 |
| 27) Bromochloromethane | 14.10 | 128 | 1683348 | 119.07 | ng/ml | 94 |
| 28) Methacrylonitrile | 14.03 | 67 | 3581069 | 739.64 | ng/mL | 94 |
| 29) Chloroform | 14.15 | 83 | 7558458 | 132.57 | ng/ml | 98 |
| 30) 1,2-Dichloroethane | 15.35 | 62 | 4350243 | 122.00 | ng/ml | 99 |
| 32) 1,1,1-Trichloroethane | 14.59 | 97 | 6829837 | 132.19 | ng/ml | 97 |
| 33) Carbon Tetrachloride | 14.91 | 117 | 6814949 | 138.28 | ng/ml | 98 |
| 35) Benzene | 15.33 | 78 | 12463688 | 129.26 | ng/ml | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\150G13S.D Vial: 3
Acq On : 13 Jul 98 11:28 am Operator:
Sample : Inst : 5970-019
Misc : Multiplr: 1.00
Quant Time: Jul 13 12:35 1998 Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 10:53:36 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 36) | 2-Nitropropane | 14.86 | 43 | 3514832 | 287.63 | ng/mL | 97 |
| 37) | Isobutyl alcohol | 14.86 | 74 | 418129 | 6875.07 | ng/mL | 75 |
| 38) | n-Butanol | 16.12 | 56 | 427838 | 1353.30 | ng/mL# | 91 |
| 39) | 1,2-Dichloropropane | 17.01 | 63 | 2957585 | 125.72 | ng/ml | 94 |
| 40) | Methyl methacrylate | 17.01 | 69 | 1272899 | 128.63 | ng/mL | 98 |
| 41) | Dibromomethane | 17.28 | 93 | 1989515 | 151.67 | ng/mL# | 98 |
| 42) | 1,4-Dioxane | 17.22 | 88 | 1101125 | 7253.90 | ng/mL | 93 |
| 43) | Trichloroethene | 16.51 | 130 | 4923768 | 136.49 | ng/ml | 98 |
| 44) | Bromodichloromethane | 17.50 | 83 | 5141437 | 136.16 | ng/ml | 95 |
| 45) | cis 1,3-Dichloropropene | 18.40 | 75 | 4758017 | 131.45 | ng/ml | 97 |
| 46) | 2-Chloroethyl vinyl ether | 17.99 | 63 | 1504861 | 615.49 | ng/mL# | 83 |
| 47) | 4-Methyl-2-pentanone | 18.63 | 43 | 3288701 | 227.72 | ng/ml | 98 |
| 48) | Pyridine | 19.00 | 79 | 2166705 | 2044.96 | ng/mL | 99 |
| 51) | Toluene | 19.12 | 91 | 12968605 | 131.17 | ng/ml | 94 |
| 52) | trans 1,3-Dichloropropene | 19.51 | 75 | 4175167 | 141.90 | ng/ml | 97 |
| 53) | Ethyl methacrylate | 19.54 | 69 | 2581420 | 118.27 | ng/mL | 96 |
| 54) | 1,1,2-Trichloroethane | 19.96 | 97 | 2504118 | 142.54 | ng/ml | 96 |
| 55) | Tetrachloroethene | 20.30 | 164 | 4110353 | 126.88 | ng/ml | 98 |
| 56) | 2-Hexanone | 20.38 | 43 | 2223821 | 201.45 | ng/ml | 96 |
| 57) | Dibromochloromethane | 20.89 | 129 | 3725717 | 145.52 | ng/ml | 97 |
| 58) | 1,2-Dibromoethane | 21.21 | 107 | 2402070 | 151.23 | ng/ml | 95 |
| 59) | Chlorobenzene | 22.19 | 112 | 8772684 | 133.25 | ng/ml | 96 |
| 60) | 1,1,1,2-Tetrachloroethane | 22.32 | 131 | 3521648 | 158.67 | ng/mL | 97 |
| 61) | Ethylbenzene | 22.34 | 106 | 4354685 | 120.78 | ng/ml | 96 |
| 62) | m-Xylene and p-Xylene | 22.56 | 106 | 12038261 | 258.97 | ng/ml | 87 |
| 63) | o-Xylene | 23.42 | 106 | 5728079 | 128.36 | ng/ml | 90 |
| 64) | Styrene | 23.45 | 104 | 8989397 | 130.58 | ng/ml | 98 |
| 65) | Bromoform | 23.94 | 173 | 2948964 | 150.14 | ng/ml | 96 |
| 66) | Cyclohexanone | 24.48 | 98 | 518524 | 1011.25 | ng/ml# | 83 |
| 69) | 1,1,2,2-Tetrachloroethane | 24.73 | 83 | 2390295 | 123.33 | ng/mL | 98 |
| 70) | 1,2,3-Trichloropropane | 24.90 | 110 | 865421 | 148.48 | ng/mL | 93 |
| 71) | Trans-1,4-Dichloro-2-buten | 24.85 | 88 | 351955 | 384.20 | ng/mL# | 27 |
| 72) | 1,3-Dichlorobenzene | 26.92 | 146 | 8655307 | 137.53 | ng/ml | 97 |
| 73) | 1,4-Dichlorobenzene | 27.12 | 146 | 8197819 | 137.87 | ng/ml | 97 |
| 74) | 1,2-Dichlorobenzene | 28.08 | 146 | 7638785 | 138.86 | ng/ml | 97 |
| 75) | 1,2-Dibromo-3-chloropropan | 30.27 | 75 | 632186 | 293.01 | ng/ml | 97 |

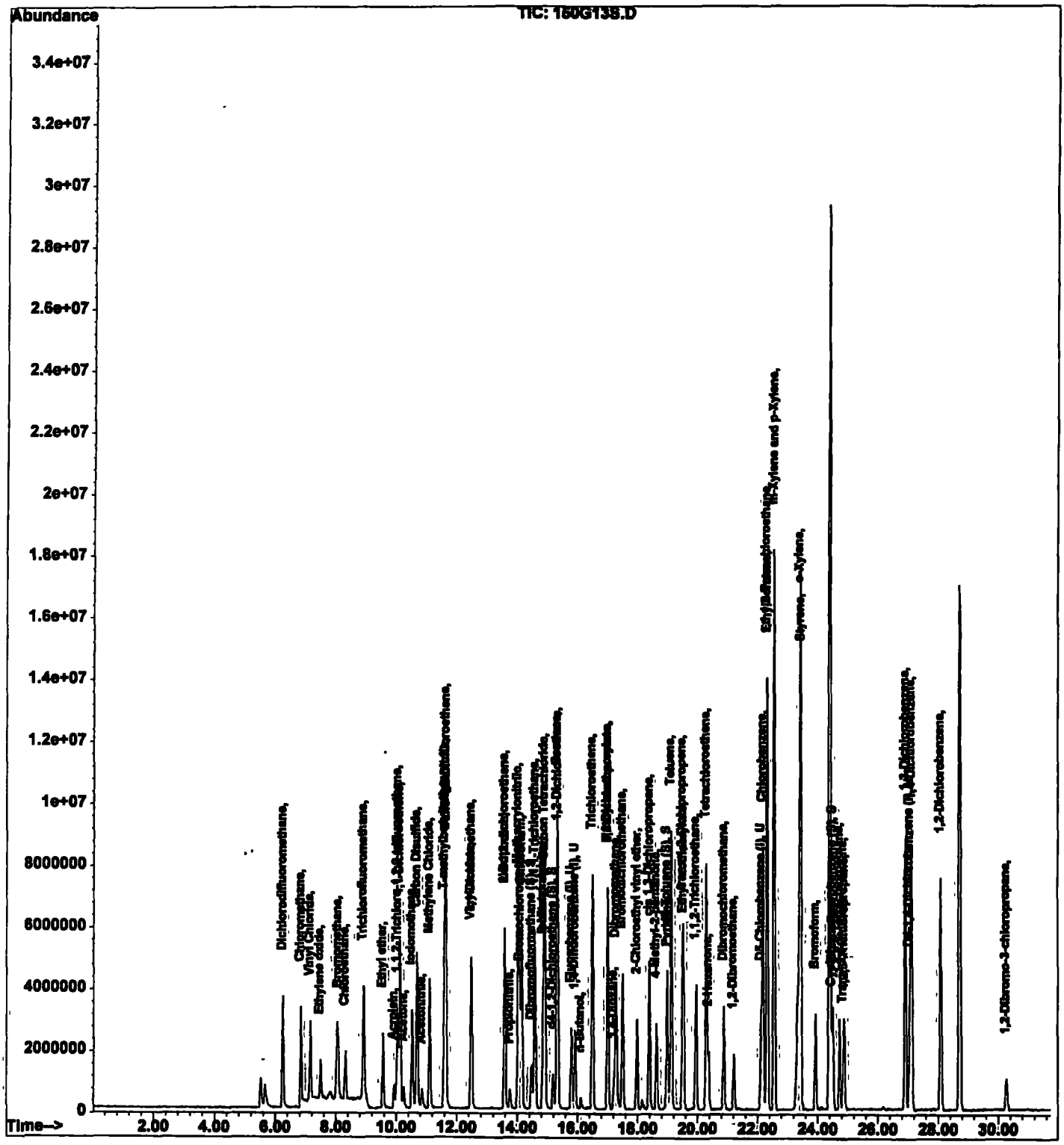
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\150G13S.D
Acq On : 13 Jul 98 11:28 am
Sample :
Misc :
Quant Time: Jul 13 12:35 1998

Vial: 3
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 10:53:36 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100G13S.D
Acq On : 13 Jul 98 12:05 pm
Sample :
Misc :
Quant Time: Jul 13 12:37 1998

Vial: 4
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 10:53:36 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.80 | 96 | 4163227 | 50.00 | ng/mL | -0.01 |
| 25) 1,4-Difluorobenzene (I) | 15.92 | 114 | 3838917 | 50.00 | ng/mL | -0.01 |
| 49) D5-Chlorobenzene (I) | 22.14 | 117 | 3407236 | 50.00 | ng/mL | 0.00 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.06 | 152 | 2293802 | 50.00 | ng/mL | -0.01 |
| System Monitoring Compounds | | | | | | |
| 31) Dibromofluormethane (S) | 14.49 | 113 | 1475420 | 97.41 | % | 0.00 |
| 34) d4-1,2-Dichloroethane (S) | 15.20 | 65 | 1500480 | 102.99 | % | -0.01 |
| 50) d8-Toluene (S) | 18.99 | 98 | 4324403 | 100.63 | % | -0.01 |
| 68) Bromofluorobenzene (S) | 24.51 | 95 | 1760258 | 90.06 | % | -0.01 |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 6.27 | 85 | 4112770 | 107.92 | ng/mL | 99 |
| 3) Chloromethane | 6.86 | 50 | 3047945 | 91.49 | ng/ml | 97 |
| 4) Vinyl Chloride | 7.16 | 62 | 2724512 | 78.90 | ng/ml | 95 |
| 5) Ethylene oxide | 7.50 | 44 | 1952213 | 71.36 | ng/mL | 95 |
| 6) Bromomethane | 8.09 | 94 | 1588649 | 87.84 | ng/ml | 95 |
| 7) Chloroethane | 8.34 | 64 | 1703774 | 81.19 | ng/ml | 94 |
| 8) Trichlorofluoromethane | 8.94 | 101 | 3972492 | 88.23 | ng/mL | 100 |
| 9) Ethyl ether | 9.57 | 59 | 1497293 | 91.36 | ng/mL# | 95 |
| 10) Acrolein | 9.94 | 56 | 707920 | 393.54 | ng/mL | 90 |
| 11) 1,1-Dichloroethene | 10.12 | 96 | 2351787 | 76.26 | ng/ml | 92 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 10.04 | 151 | 1606779 | 99.19 | ng/mL | 96 |
| 13) Acetone | 10.26 | 43 | 1011266 | 150.42 | ng/ml | 95 |
| 14) Iodomethane | 10.53 | 142 | 4926690 | 111.47 | ng/mL | 92 |
| 15) Carbon Disulfide | 10.70 | 76 | 9477712 | 100.70 | ng/ml | 100 |
| 16) Acetonitrile | 10.87 | 41 | 625067 | 427.28 | ng/mL | 92 |
| 17) Methylene Chloride | 11.12 | 84 | 2382889 | 78.91 | ng/ml | 96 |
| 18) trans-1,2-Dichloroethene | 11.66 | 96 | 2701354 | 82.12 | ng/ml | 98 |
| 19) T-methylbutyl ether | 11.61 | 73 | 4782866 | 107.36 | ng/mL | 99 |
| 20) Acrylonitrile | 11.64 | 53 | 1940347 | 484.77 | ng/mL | 95 |
| 21) 1,1-Dichloroethane | 12.50 | 63 | 4757482 | 89.56 | ng/ml | 97 |
| 22) Vinyl acetate | 12.48 | 43 | 1474949 | 73.41 | ng/mL | 99 |
| 23) cis-1,2-dichloroethene | 13.60 | 96 | 2621808 | 79.33 | ng/ml | 97 |
| 24) 2-Butanone | 13.58 | 43 | 1058230 | 159.28 | ng/ml | 98 |
| 26) Propionitrile | 13.76 | 54 | 772212 | 475.40 | ng/mL# | 93 |
| 27) Bromochloromethane | 14.08 | 128 | 1187349 | 81.79 | ng/ml | 98 |
| 28) Methacrylonitrile | 14.03 | 67 | 2535151 | 509.89 | ng/mL | 93 |
| 29) Chloroform | 14.15 | 83 | 4959237 | 84.70 | ng/ml | 98 |
| 30) 1,2-Dichloroethane | 15.35 | 62 | 2956736 | 80.75 | ng/ml | 99 |
| 32) 1,1,1-Trichloroethane | 14.59 | 97 | 4353192 | 82.05 | ng/ml | 98 |
| 33) Carbon Tetrachloride | 14.91 | 117 | 4629994 | 91.48 | ng/ml | 100 |
| 35) Benzene | 15.33 | 78 | 8081760 | 81.62 | ng/ml | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100G13S.D
Acq On : 13 Jul 98 12:05 pm
Sample :
Misc :
Quant Time: Jul 13 12:37 1998

Vial: 4
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 10:53:36 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

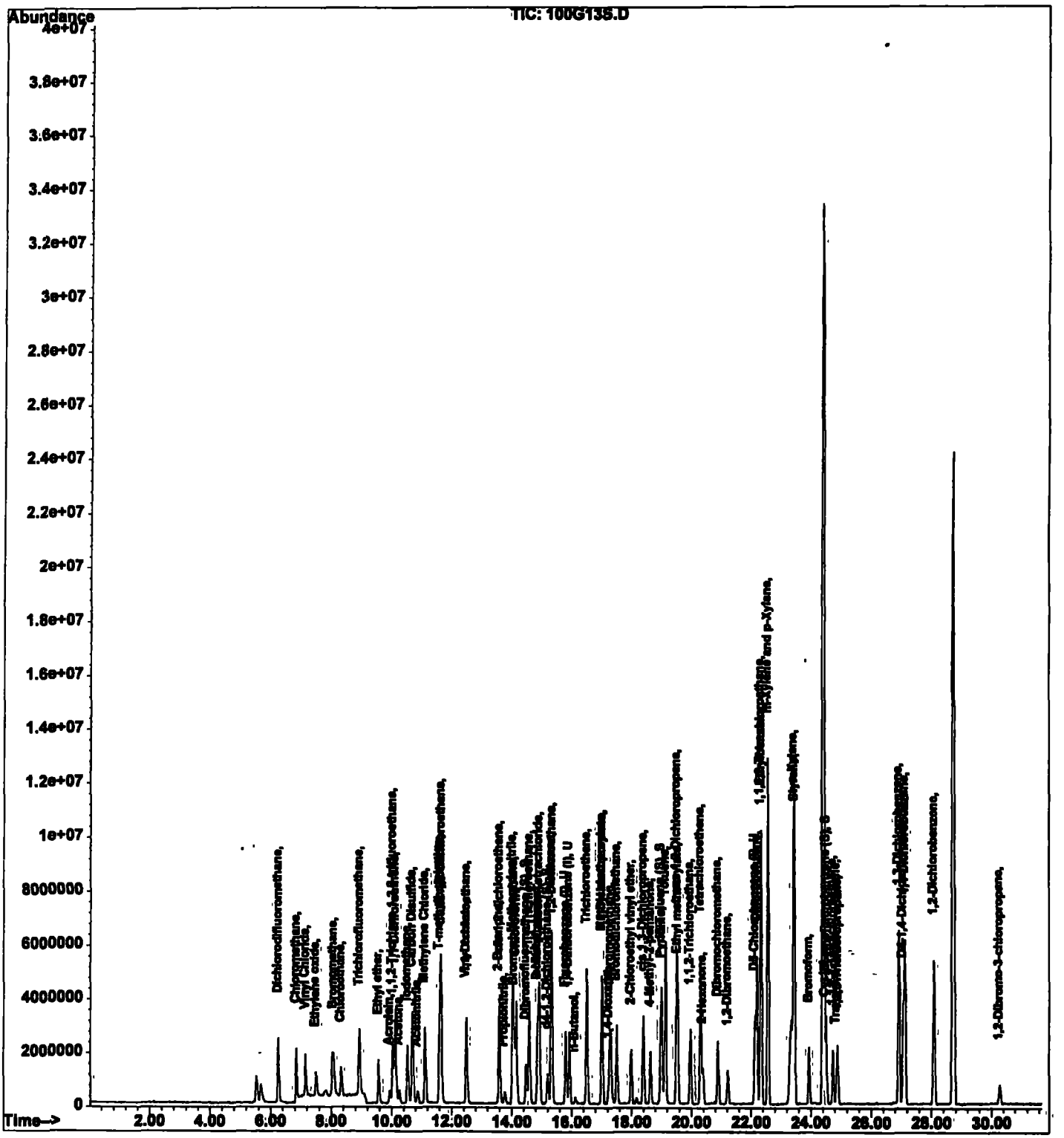
| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 36) | 2-Nitropropane | 14.86 | 43 | 2391919 | 190.61 ng/mL | 96 |
| 37) | Isobutyl alcohol | 14.86 | 74 | 308340 | 4936.95 ng/mL | 93 |
| 38) | n-Butanol | 16.12 | 56 | 279203 | 860.00 ng/mL# | 88 |
| 39) | 1,2-Dichloropropane | 17.02 | 63 | 1947729 | 80.63 ng/ml | 94 |
| 40) | Methyl methacrylate | 17.02 | 69 | 901277 | 88.69 ng/mL | 99 |
| 41) | Dibromomethane | 17.28 | 93 | 1309592 | 97.22 ng/mL# | 98 |
| 42) | 1,4-Dioxane | 17.23 | 88 | 680708 | 4366.75 ng/mL | 97 |
| 43) | Trichloroethene | 16.51 | 130 | 3236779 | 87.37 ng/ml | 97 |
| 44) | Bromodichloromethane | 17.50 | 83 | 3323869 | 85.72 ng/ml | 96 |
| 45) | cis 1,3-Dichloropropene | 18.40 | 75 | 3150086 | 84.74 ng/ml | 98 |
| 46) | 2-Chloroethyl vinyl ether | 17.99 | 63 | 978570 | 389.74 ng/mL# | 84 |
| 47) | 4-Methyl-2-pentanone | 18.63 | 43 | 2284807 | 154.06 ng/ml | 98 |
| 48) | Pyridine | 19.00 | 79 | 2009360 | 1846.74 ng/mL | 94 |
| 51) | Toluene | 19.14 | 91 | 8696916 | 84.78 ng/ml | 99 |
| 52) | trans 1,3-Dichloropropene | 19.51 | 75 | 2654540 | 86.95 ng/ml | 98 |
| 53) | Ethyl methacrylate | 19.54 | 69 | 1839993 | 81.24 ng/mL# | 97 |
| 54) | 1,1,2-Trichloroethane | 19.96 | 97 | 1645176 | 90.25 ng/ml | 92 |
| 55) | Tetrachloroethene | 20.30 | 164 | 2762834 | 82.19 ng/ml | 99 |
| 56) | 2-Hexanone | 20.39 | 43 | 1580143 | 137.96 ng/ml | 96 |
| 57) | Dibromochloromethane | 20.89 | 129 | 2433244 | 91.59 ng/ml | 98 |
| 58) | 1,2-Dibromoethane | 21.23 | 107 | 1619670 | 98.27 ng/ml | 96 |
| 59) | Chlorobenzene | 22.20 | 112 | 5759140 | 84.31 ng/ml | 98 |
| 60) | 1,1,1,2-Tetrachloroethane | 22.32 | 131 | 2520795 | 109.46 ng/mL | 98 |
| 61) | Ethylbenzene | 22.34 | 106 | 2886133 | 77.15 ng/ml | 98 |
| 62) | m-Xylene and p-Xylene | 22.56 | 106 | 7845056 | 162.65 ng/ml | 98 |
| 63) | o-Xylene | 23.42 | 106 | 3751511 | 81.02 ng/ml | 99 |
| 64) | Styrene | 23.45 | 104 | 5998540 | 83.98 ng/ml | 98 |
| 65) | Bromoform | 23.94 | 173 | 1975943 | 96.95 ng/ml | 100 |
| 66) | Cyclohexanone | 24.48 | 98 | 355422 | 668.04 ng/ml# | 94 |
| 69) | 1,1,2,2-Tetrachloroethane | 24.73 | 83 | 1658689 | 80.70 ng/mL | 99 |
| 70) | 1,2,3-Trichloropropane | 24.90 | 110 | 622603 | 100.73 ng/mL | 97 |
| 71) | Trans-1,4-Dichloro-2-buten | 24.85 | 88 | 228953 | 235.67 ng/mL# | 79 |
| 72) | 1,3-Dichlorobenzene | 26.92 | 146 | 6132392 | 91.89 ng/ml | 97 |
| 73) | 1,4-Dichlorobenzene | 27.12 | 146 | 5659520 | 89.75 ng/ml | 97 |
| 74) | 1,2-Dichlorobenzene | 28.09 | 146 | 5440993 | 93.26 ng/ml | 96 |
| 75) | 1,2-Dibromo-3-chloropropan | 30.28 | 75 | 436317 | 190.69 ng/ml | 90 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\100G13S.D  Vial: 4
Acq On : 13 Jul 98 12:05 pm  Operator:
Sample :  Inst : 5970-019
Misc :  Multiplr: 1.00
Quant Time: Jul 13 12:37 1998  Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 10:53:36 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\50G13S.D
Acq On : 13 Jul 98 12:42 pm
Sample :
Misc :
Quant Time: Jul 13 13:14 1998

Vial: 5
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 10:53:36 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.81 | 96 | 4304858 | 50.00 | ng/mL | 0.00 |
| 25) 1,4-Difluorobenzene (I) | 15.93 | 114 | 3939599 | 50.00 | ng/mL | 0.00 |
| 49) D5-Chlorobenzene (I) | 22.13 | 117 | 3483121 | 50.00 | ng/mL | 0.00 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.07 | 152 | 2374715 | 50.00 | ng/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 31) Dibromofluormethane (S) | 14.48 | 113 | 1558173 | 98.43 | % | 0.00 |
| 34) d4-1,2-Dichloroethane (S) | 15.19 | 65 | 1580101 | 101.55 | % | -0.02 |
| 50) d8-Toluene (S) | 18.98 | 98 | 4306369 | 96.75 | % | -0.02 |
| 68) Bromofluorobenzene (S) | 24.51 | 95 | 1821429 | 91.53 | % | -0.02 |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 6.26 | 85 | 2001174 | 45.22 | ng/mL | 96 |
| 3) Chloromethane | 6.85 | 50 | 1734081 | 49.16 | ng/ml | 94 |
| 4) Vinyl Chloride | 7.15 | 62 | 1554186 | 44.02 | ng/ml | 95 |
| 5) Ethylene oxide | 7.51 | 44 | 1103203 | 39.36 | ng/mL | 98 |
| 6) Bromomethane | 8.10 | 94 | 843571 | 47.05 | ng/ml | 96 |
| 7) Chloroethane | 8.35 | 64 | 900913 | 40.68 | ng/ml | 97 |
| 8) Trichlorofluoromethane | 8.94 | 101 | 2015065 | 40.14 | ng/mL | 99 |
| 9) Ethyl ether | 9.56 | 59 | 752082 | 44.34 | ng/mL# | 96 |
| 10) Acrolein | 9.93 | 56 | 426429 | 257.33 | ng/mL | 82 |
| 11) 1,1-Dichloroethene | 10.14 | 96 | 1328415 | 43.07 | ng/ml | 91 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 10.05 | 151 | 809057 | 46.54 | ng/mL | 96 |
| 13) Acetone | 10.25 | 43 | 563277 | 83.84 | ng/ml | 96 |
| 14) Iodomethane | 10.54 | 142 | 2402284 | 51.92 | ng/mL | 89 |
| 15) Carbon Disulfide | 10.71 | 76 | 4637120 | 45.77 | ng/ml | 97 |
| 16) Acetonitrile | 10.86 | 41 | 321926 | 224.42 | ng/mL | 99 |
| 17) Methylene Chloride | 11.13 | 84 | 1406702 | 46.43 | ng/ml | 99 |
| 18) trans-1,2-Dichloroethene | 11.65 | 96 | 1490529 | 44.99 | ng/ml | 96 |
| 19) T-methylbutyl ether | 11.62 | 73 | 2321179 | 48.82 | ng/mL | 95 |
| 20) Acrylonitrile | 11.64 | 53 | 1017861 | 246.58 | ng/mL | 100 |
| 21) 1,1-Dichloroethane | 12.49 | 63 | 2587038 | 46.74 | ng/ml | 97 |
| 22) Vinyl acetate | 12.48 | 43 | 769025 | 43.70 | ng/mL | 99 |
| 23) cis-1,2-dichloroethene | 13.61 | 96 | 1444215 | 44.27 | ng/ml | 95 |
| 24) 2-Butanone | 13.59 | 43 | 599822 | 93.69 | ng/ml | 96 |
| 26) Propionitrile | 13.78 | 54 | 408752 | 258.83 | ng/mL# | 95 |
| 27) Bromochloromethane | 14.10 | 128 | 676536 | 47.71 | ng/ml | 98 |
| 28) Methacrylonitrile | 14.05 | 67 | 1271099 | 256.91 | ng/mL | 92 |
| 29) Chloroform | 14.16 | 83 | 2803757 | 46.91 | ng/ml | 97 |
| 30) 1,2-Dichloroethane | 15.34 | 62 | 1654198 | 45.28 | ng/ml | 99 |
| 32) 1,1,1-Trichloroethane | 14.58 | 97 | 2420622 | 45.54 | ng/ml | 97 |
| 33) Carbon Tetrachloride | 14.92 | 117 | 2682488 | 50.95 | ng/ml | 97 |
| 35) Benzene | 15.33 | 78 | 4587300 | 47.43 | ng/ml | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\50G13S.D
Acq On : 13 Jul 98 12:42 pm
Sample :
Misc :
Quant Time: Jul 13 13:14 1998

Vial: 5
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 10:53:36 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

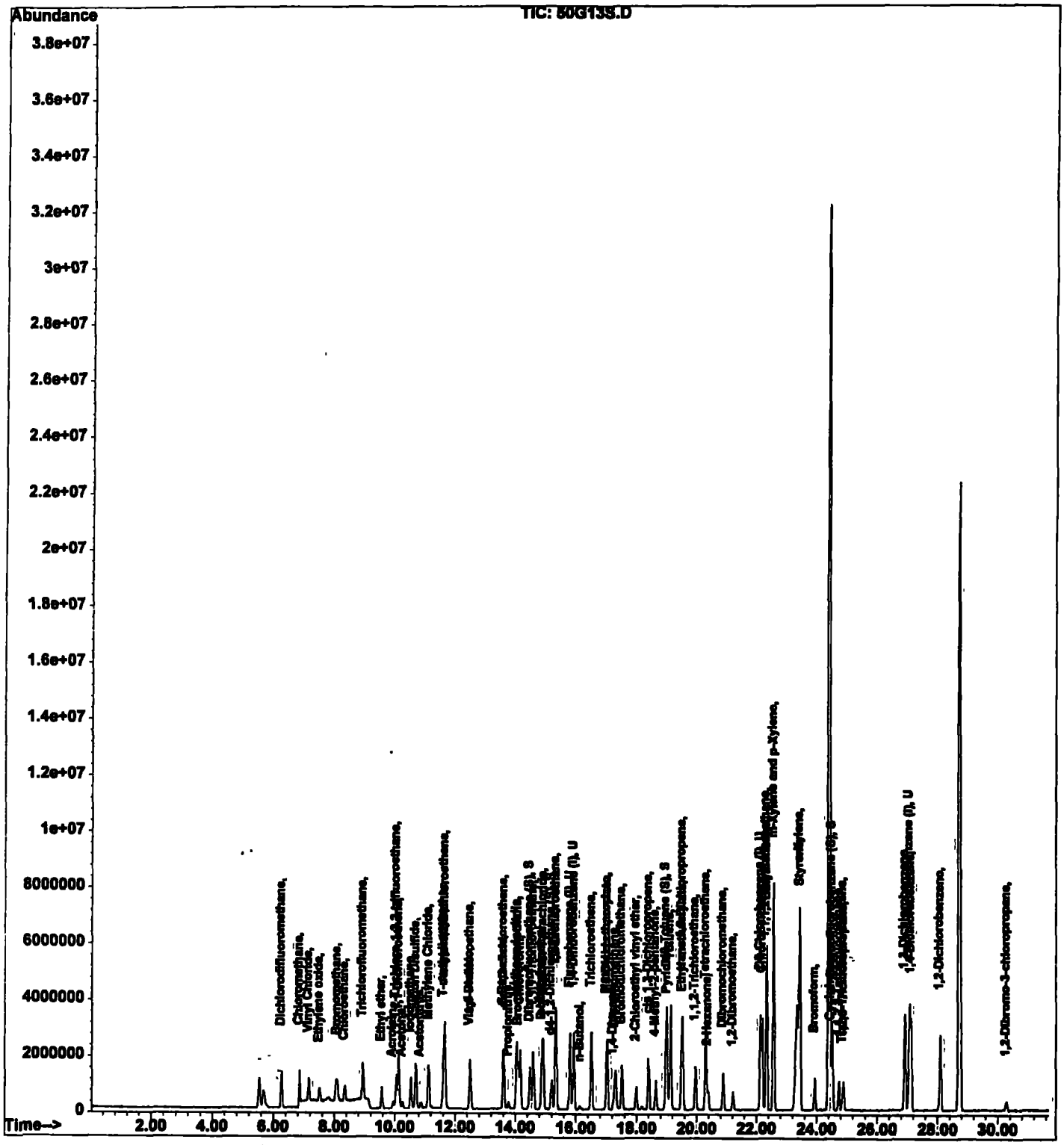
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 36) | 2-Nitropropane | 14.87 | 43 | 1132776 | 95.84 | ng/mL | 97 |
| 37) | Isobutyl alcohol | 14.87 | 74 | 135238 | 2165.04 | ng/mL | 76 |
| 38) | n-Butanol | 16.15 | 56 | 149446 | 475.62 | ng/mL# | 81 |
| 39) | 1,2-Dichloropropane | 17.03 | 63 | 1073971 | 45.90 | ng/ml# | 92 |
| 40) | Methyl methacrylate | 17.03 | 69 | 443401 | 43.01 | ng/mL | 91 |
| 41) | Dibromomethane | 17.28 | 93 | 692853 | 49.25 | ng/mL# | 97 |
| 42) | 1,4-Dioxane | 17.23 | 88 | 361491 | 2417.28 | ng/mL | 96 |
| 43) | Trichloroethene | 16.52 | 130 | 1859637 | 49.52 | ng/ml | 95 |
| 44) | Bromodichloromethane | 17.50 | 83 | 1842755 | 47.86 | ng/ml | 93 |
| 45) | cis 1,3-Dichloropropene | 18.39 | 75 | 1704548 | 47.51 | ng/ml | 99 |
| 46) | 2-Chloroethyl vinyl ether | 17.99 | 63 | 339569 | 55.81 | ng/mL | 92 |
| 47) | 4-Methyl-2-pentanone | 18.63 | 43 | 1334811 | 97.34 | ng/ml | 98 |
| 48) | Pyridine | 19.02 | 79 | 1377639 | 1378.42 | ng/mL# | 80 |
| 51) | Toluene | 19.13 | 91 | 5065381 | 49.53 | ng/ml | 100 |
| 52) | trans 1,3-Dichloropropene | 19.52 | 75 | 1495082 | 50.44 | ng/ml | 96 |
| 53) | Ethyl methacrylate | 19.54 | 69 | 938240 | 40.79 | ng/mL# | 95 |
| 54) | 1,1,2-Trichloroethane | 19.96 | 97 | 907747 | 49.94 | ng/ml# | 88 |
| 55) | Tetrachloroethene | 20.31 | 164 | 1569513 | 47.71 | ng/ml | 97 |
| 56) | 2-Hexanone | 20.38 | 43 | 859617 | 79.90 | ng/ml | 99 |
| 57) | Dibromochloromethane | 20.89 | 129 | 1288203 | 49.47 | ng/ml | 94 |
| 58) | 1,2-Dibromoethane | 21.22 | 107 | 820794 | 48.41 | ng/ml | 98 |
| 59) | Chlorobenzene | 22.20 | 112 | 3245854 | 48.13 | ng/ml | 98 |
| 60) | 1,1,1,2-Tetrachloroethane | 22.32 | 131 | 1244800 | 51.17 | ng/mL | 99 |
| 61) | Ethylbenzene | 22.33 | 106 | 1711603 | 47.27 | ng/ml | 95 |
| 62) | m-Xylene and p-Xylene | 22.57 | 106 | 4429931 | 92.56 | ng/ml | 93 |
| 63) | o-Xylene | 23.43 | 106 | 2061754 | 45.34 | ng/ml | 92 |
| 64) | Styrene | 23.45 | 104 | 3406515 | 47.64 | ng/ml | 98 |
| 65) | Bromoform | 23.94 | 173 | 1026059 | 50.17 | ng/ml | 98 |
| 66) | Cyclohexanone | 24.47 | 98 | 197053 | 309.67 | ng/ml# | 81 |
| 69) | 1,1,2,2-Tetrachloroethane | 24.74 | 83 | 899714 | 46.91 | ng/mL | 99 |
| 70) | 1,2,3-Trichloropropane | 24.90 | 110 | 293297 | 46.20 | ng/mL | 88 |
| 71) | Trans-1,4-Dichloro-2-buten | 24.86 | 88 | 108798 | 94.93 | ng/mL# | 93 |
| 72) | 1,3-Dichlorobenzene | 26.92 | 146 | 3186961 | 45.88 | ng/ml | 97 |
| 73) | 1,4-Dichlorobenzene | 27.12 | 146 | 2937238 | 44.77 | ng/ml | 95 |
| 74) | 1,2-Dichlorobenzene | 28.08 | 146 | 2748451 | 45.31 | ng/ml | 96 |
| 75) | 1,2-Dibromo-3-chloropropan | 30.29 | 75 | 210071 | 84.62 | ng/ml | 92 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\50G13S.D  Vial: 5
Acq On : 13 Jul 98 12:42 pm  Operator:
Sample :  Inst : 5970-019
Misc :  Multiplr: 1.00
Quant Time: Jul 13 13:14 1998  Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 13:21:27 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\10G13S.D Vial: 6
Acq On : 13 Jul 98 1:19 pm Operator:
Sample : Inst : 5970-019
Misc : Multiplr: 1.00
Quant Time: Jul 13 13:55 1998 - Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 13:21:27 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.80 | 96 | 4392832 | 50.00 | ng/mL | -0.01 |
| 25) 1,4-Difluorobenzene (I) | 15.92 | 114 | 3939060 | 50.00 | ng/mL | -0.01 |
| 49) D5-Chlorobenzene (I) | 22.12 | 117 | 3542401 | 50.00 | ng/mL | -0.01 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.06 | 152 | 2351404 | 50.00 | ng/mL | -0.01 |
| System Monitoring Compounds | | | | | | |
| 31) Dibromofluormethane (S) | 14.49 | 113 | 1569124 | 97.20 | % | 0.00 |
| 34) d4-1,2-Dichloroethane (S) | 15.20 | 65 | 1649883 | 103.60 | % | 0.00 |
| 50) d8-Toluene (S) | 18.99 | 98 | 4393488 | 97.32 | % | 0.00 |
| 68) Bromofluorobenzene (S) | 24.51 | 95 | 1792683 | 92.97 | % | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 6.27 | 85 | 469345 | 10.07 | ng/mL | 97 |
| 3) Chloromethane | 6.86 | 50 | 346584 | 9.57 | ng/ml | 98 |
| 4) Vinyl Chloride | 7.16 | 62 | 345658 | 9.61 | ng/ml | 95 |
| 5) Ethylene oxide | 7.51 | 44 | 222388 | 7.74 | ng/mL# | 83 |
| 6) Bromomethane | 8.10 | 94 | 145393 | 8.00 | ng/ml | 84 |
| 7) Chloroethane | 8.34 | 64 | 233482 | 10.30 | ng/ml | 98 |
| 8) Trichlorofluoromethane | 8.95 | 101 | 463122 | 8.75 | ng/mL | 94 |
| 9) Ethyl ether | 9.57 | 59 | 163466 | 9.35 | ng/mL# | 91 |
| 10) Acrolein | 9.94 | 56 | 59716m | 35.20 | ng/mL | 86 |
| 11) 1,1-Dichloroethene | 10.13 | 96 | 310557 | 10.20 | ng/ml | 90 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 10.06 | 151 | 167439 | 9.19 | ng/mL# | 84 |
| 13) Acetone | 10.26 | 43 | 169603 | 24.49 | ng/ml | 96 |
| 14) Iodomethane | 10.53 | 142 | 355493 | 7.36 | ng/mL | 98 |
| 15) Carbon Disulfide | 10.70 | 76 | 1004481 | 9.61 | ng/ml# | 90 |
| 16) Acetonitrile | 10.87 | 41 | 94694 | 65.29 | ng/mL | 87 |
| 17) Methylene Chloride | 11.12 | 84 | 319179 | 10.43 | ng/ml | 97 |
| 18) trans-1,2-Dichloroethene | 11.66 | 96 | 333817 | 10.09 | ng/ml | 98 |
| 19) T-methylbutyl ether | 11.61 | 73 | 475462 | 9.69 | ng/mL# | 89 |
| 20) Acrylonitrile | 11.64 | 53 | 227974 | 54.11 | ng/mL# | 92 |
| 21) 1,1-Dichloroethane | 12.50 | 63 | 529941 | 9.35 | ng/ml | 97 |
| 22) Vinyl acetate | 12.48 | 43 | 170774 | 10.51 | ng/mL | 99 |
| 23) cis-1,2-dichloroethene | 13.60 | 96 | 295600 | 9.09 | ng/ml | 94 |
| 24) 2-Butanone | 13.60 | 43 | 166486 | 26.27 | ng/ml# | 94 |
| 26) Propionitrile | 13.78 | 54 | 92885 | 59.06 | ng/mL# | 76 |
| 27) Bromochloromethane | 14.08 | 128 | 144106 | 10.43 | ng/ml | 88 |
| 28) Methacrylonitrile | 14.03 | 67 | 295950 | 60.14 | ng/mL | 96 |
| 29) Chloroform | 14.15 | 83 | 613422 | 10.34 | ng/ml | 93 |
| 30) 1,2-Dichloroethane | 15.35 | 62 | 425555 | 11.95 | ng/ml# | 93 |
| 32) 1,1,1-Trichloroethane | 14.59 | 97 | 507570 | 9.90 | ng/ml | 98 |
| 33) Carbon Tetrachloride | 14.91 | 117 | 565781 | 10.67 | ng/ml | 94 |
| 35) Benzene | 15.33 | 78 | 940004 | 10.14 | ng/ml | 94 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\10G13S.D Vial: 6
Acq On : 13 Jul 98 1:19 pm Operator:
Sample : Inst : 5970-019
Misc : Multiplr: 1.00
Quant Time: Jul 13 13:55 1998 Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 13:21:27 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

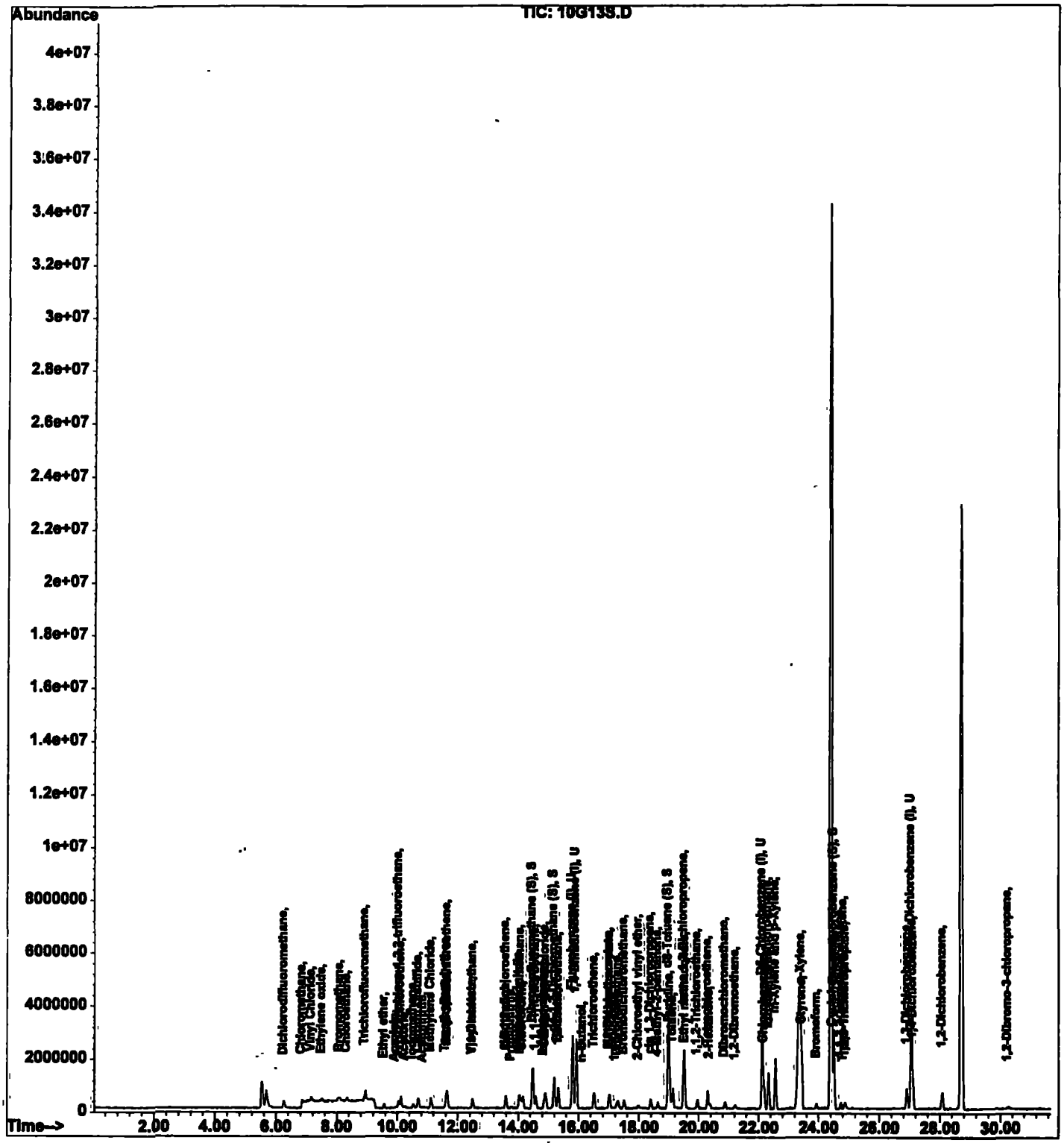
| Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|
| 36) 2-Nitropropane | 14.86 | 43 | 210349 | 18.48 | ng/mL# | 93 |
| 37) Isobutyl alcohol | 14.86 | 74 | 44193 | 750.45 | ng/mL# | 8 |
| 38) n-Butanol | 16.14 | 56 | 33614 | 104.41 | ng/mL# | 92 |
| 39) 1,2-Dichloropropane | 17.02 | 63 | 235952 | 10.55 | ng/ml | 96 |
| 40) Methyl methacrylate | 17.02 | 69 | 103539 | 10.34 | ng/mL | 95 |
| 41) Dibromomethane | 17.29 | 93 | 147283 | 10.40 | ng/mL# | 87 |
| 42) 1,4-Dioxane | 17.22 | 88 | 87867 | 598.18 | ng/mL | 83 |
| 43) Trichloroethene | 16.51 | 130 | 423779 | 11.41 | ng/ml | 94 |
| 44) Bromodichloromethane | 17.50 | 83 | 406680 | 10.98 | ng/ml | 94 |
| 45) cis 1,3-Dichloropropene | 18.40 | 75 | 315766 | 9.15 | ng/ml# | 66 |
| 46) 2-Chloroethyl vinyl ether | 17.99 | 63 | 61914 | 8.62 | ng/mL# | 94 |
| 47) 4-Methyl-2-pentanone | 18.63 | 43 | 279585 | 21.67 | ng/ml# | 91 |
| 48) Pyridine | 19.02 | 79 | 968210 | 1127.25 | ng/mL | 92 |
| 51) Toluene | 19.14 | 91 | 1049071 | 10.42 | ng/ml | 98 |
| 52) trans 1,3-Dichloropropene | 19.51 | 75 | 334484 | 11.44 | ng/ml | 95 |
| 53) Ethyl methacrylate | 19.54 | 69 | 244635 | 10.95 | ng/mL# | 80 |
| 54) 1,1,2-Trichloroethane | 19.95 | 97 | 209767 | 11.70 | ng/ml | 93 |
| 55) Tetrachloroethene | 20.30 | 164 | 362858 | 11.29 | ng/ml | 91 |
| 56) 2-Hexanone | 20.37 | 43 | 220912 | 21.44 | ng/ml | 93 |
| 57) Dibromochloromethane | 20.87 | 129 | 270179 | 10.62 | ng/ml# | 92 |
| 58) 1,2-Dibromoethane | 21.23 | 107 | 200942 | 11.58 | ng/ml | 83 |
| 59) Chlorobenzene | 22.19 | 112 | 695145 | 10.46 | ng/ml | 87 |
| 60) 1,1,1,2-Tetrachloroethane | 22.32 | 131 | 294417 | 11.89 | ng/mL | 98 |
| 61) Ethylbenzene | 22.34 | 106 | 358067 | 10.17 | ng/ml | 90 |
| 62) m-Xylene and p-Xylene | 22.56 | 106 | 894038 | 19.06 | ng/ml | 83 |
| 63) o-Xylene | 23.42 | 106 | 448561 | 10.08 | ng/ml | 98 |
| 64) Styrene | 23.45 | 104 | 745391 | 10.60 | ng/ml | 95 |
| 65) Bromoform | 23.94 | 173 | 188150 | 9.16 | ng/ml | 92 |
| 66) Cyclohexanone | 24.48 | 98 | 46828 | 64.52 | ng/ml# | 1 |
| 69) 1,1,2,2-Tetrachloroethane | 24.73 | 83 | 187791 | 10.54 | ng/mL | 92 |
| 70) 1,2,3-Trichloropropane | 24.88 | 110 | 67750 | 11.07 | ng/mL | 94 |
| 71) Trans-1,4-Dichloro-2-buten | 24.83 | 88 | 18484 | 15.08 | ng/mL# | 74 |
| 72) 1,3-Dichlorobenzene | 26.92 | 146 | 729021m | 10.68 | ng/ml | 93 |
| 73) 1,4-Dichlorobenzene | 27.11 | 146 | 688929 | 10.66 | ng/ml | 94 |
| 74) 1,2-Dichlorobenzene | 28.09 | 146 | 616365 | 10.38 | ng/ml | 98 |
| 75) 1,2-Dibromo-3-chloropropan | 30.26 | 75 | 53560 | 22.14 | ng/ml# | 49 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\10G13S.D  Vial: 6
Acq On : 13 Jul 98 1:19 pm  Operator:
Sample :  Inst : 5970-019
Misc :  Multiplr: 1.00
Quant Time: Jul 13 13:55 1998  - Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 13:21:27 1998
Response via : Multiple Level Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\LCSG13S.D
Acq On : 13 Jul 98 1:57 pm
Sample :
Misc :
Quant Time: Jul 13 14:29 1998

Vial: 7
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 14:00:58 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

LCS# 85639

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.80 | 96 | 4513722 | 50.00 | ng/mL | -0.02 |
| 25) 1,4-Difluorobenzene (I) | 15.91 | 114 | 4112991 | 50.00 | ng/mL | -0.02 |
| 49) D5-Chlorobenzene (I) | 22.11 | 117 | 3611384 | 50.00 | ng/mL | -0.02 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.05 | 152 | 2347749 | 50.00 | ng/mL | -0.02 |
| System Monitoring Compounds | | | | | | |
| 31) Dibromofluormethane (S) | 14.48 | 113 | 1566896 | 95.76 | % | 0.00 |
| 34) d4-1,2-Dichloroethane (S) | 15.19 | 65 | 1602536 | 95.62 | % | 0.00 |
| 50) d8-Toluene (S) | 18.98 | 98 | 4434681 | 97.72 | % | 0.00 |
| 68) Bromofluorobenzene (S) | 24.51 | 95 | 1892973 | 100.98 | % | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 3) Chloromethane | 6.83 | 50 | 1451440 | 41.02 | ng/ml | 96 |
| 4) Vinyl Chloride | 7.14 | 62 | 1372432 | 41.82 | ng/ml | 98 |
| 5) Ethylene oxide | 7.49 | 44 | 51973 | 2.40 | ng/mL# | 41 |
| 6) Bromomethane | 8.10 | 94 | 668006 | 39.09 | ng/ml | 91 |
| 7) Chloroethane | 8.33 | 64 | 827652 | 41.66 | ng/ml | 94 |
| 9) Ethyl ether | 9.56 | 59 | 23045 | 1.42 | ng/mL# | 12 |
| 10) Acrolein | 9.93 | 56 | 13179 | 8.62 | ng/mL# | 17 |
| 11) 1,1-Dichloroethene | 10.10 | 96 | 1391327 | 49.63 | ng/ml | 99 |
| 13) Acetone | 10.25 | 43 | 675489 | 117.14 | ng/ml | 95 |
| 14) Iodomethane | 10.52 | 142 | 275964 | 5.61 | ng/mL | 99 |
| 15) Carbon Disulfide | 10.69 | 76 | 4311890 | 42.35 | ng/ml | 99 |
| 16) Acetonitrile | 10.74 | 41 | 15600 | -24.12 | ng/mL# | 26 |
| 17) Methylene Chloride | 11.11 | 84 | 1332204 | 47.48 | ng/ml | 99 |
| 18) trans-1,2-Dichloroethene | 11.63 | 96 | 1506690 | 48.95 | ng/ml | 94 |
| 20) Acrylonitrile | 11.63 | 53 | 17752 | 4.27 | ng/mL# | 59 |
| 21) 1,1-Dichloroethane | 12.49 | 63 | 2443042 | 45.69 | ng/ml | 98 |
| 22) Vinyl acetate | 12.46 | 43 | 31134 | 1.82 | ng/mL# | 73 |
| 23) cis-1,2-dichloroethene | 13.59 | 96 | 1387092 | 46.75 | ng/ml | 99 |
| 24) 2-Butanone | 13.59 | 43 | 491421 | 74.85 | ng/ml | 98 |
| 26) Propionitrile | 13.76 | 54 | 16468 | 9.79 | ng/mL# | 27 |
| 28) Methacrylonitrile | 14.03 | 67 | 33265 | 6.10 | ng/mL# | 63 |
| 29) Chloroform | 14.15 | 83 | 2650116 | 46.30 | ng/ml | 96 |
| 30) 1,2-Dichloroethane | 15.34 | 62 | 1715971 | 51.08 | ng/ml | 99 |
| 32) 1,1,1-Trichloroethane | 14.58 | 97 | 2596647 | 51.91 | ng/ml | 96 |
| 33) Carbon Tetrachloride | 14.90 | 117 | 2530599 | 47.41 | ng/ml | 98 |
| 35) Benzene | 15.32 | 78 | 4333670 | 46.84 | ng/ml | 97 |
| 36) 2-Nitropropane | 14.87 | 43 | 19652 | 1.61 | ng/mL# | 22 |
| 37) Isobutyl alcohol | 14.87 | 74 | 8060 | 48.19 | ng/mL# | 1 |
| 38) n-Butanol | 16.28 | 56 | 12606 | 40.83 | ng/mL# | 12 |
| 39) 1,2-Dichloropropane | 17.01 | 63 | 1065878 | 47.97 | ng/ml | 97 |
| 40) Methyl methacrylate | 17.01 | 69 | 15427 | 1.60 | ng/mL# | 1 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\LCSG13S.D
Acq On : 13 Jul 98 1:57 pm
Sample :
Misc :
Quant Time: Jul 13 14:29 1998

Vial: 7
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 14:00:58 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

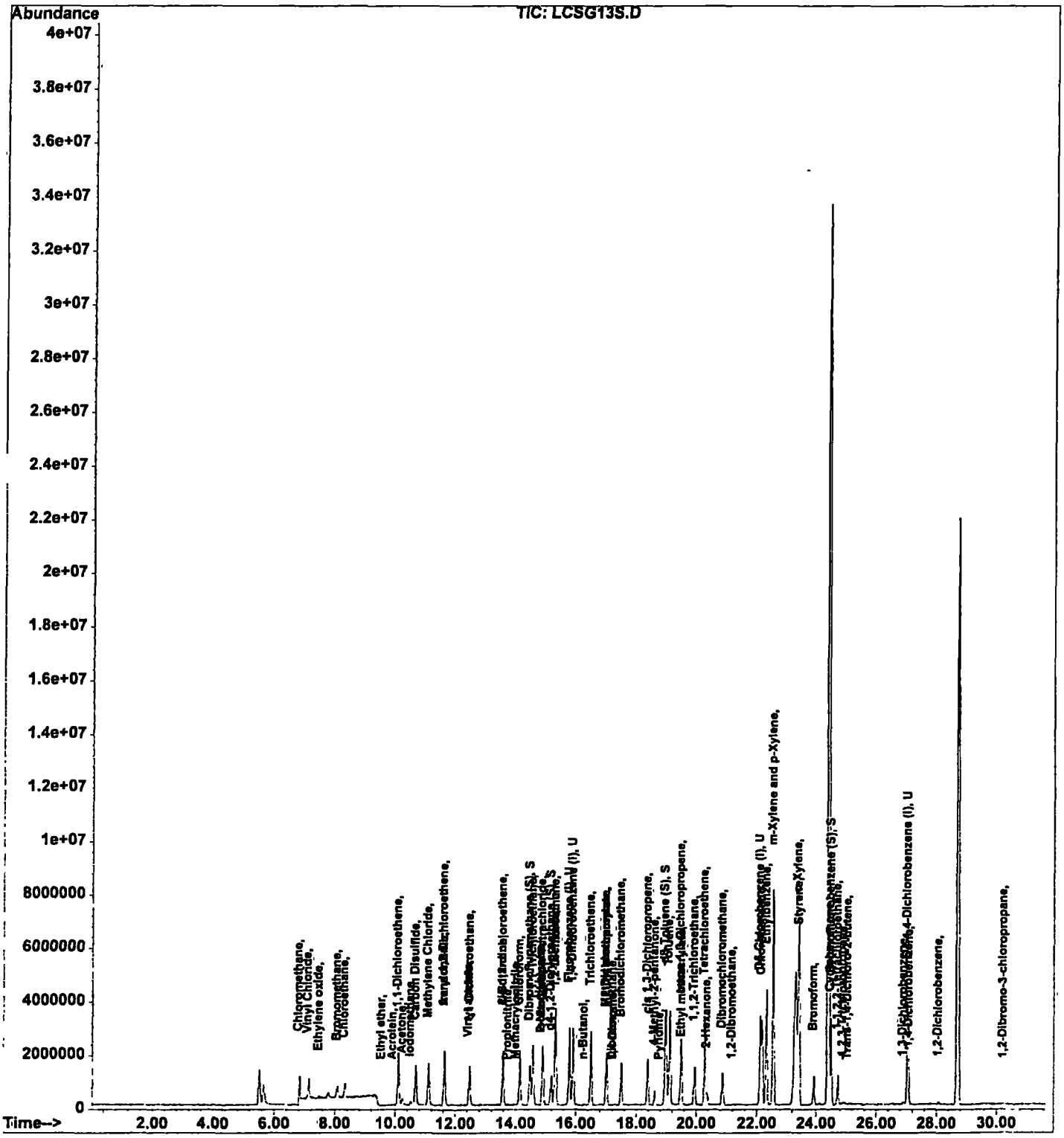
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 41) | Dibromomethane | 17.23 | 93 | 19479 | 1.33 | ng/mL# | 12 |
| 42) | 1,4-Dioxane | 17.25 | 88 | 9158 | 58.61 | ng/mL# | 38 |
| 43) | Trichloroethene | 16.50 | 130 | 1743326 | 45.90 | ng/ml | 98 |
| 44) | Bromodichloromethane | 17.50 | 83 | 1731709 | 45.02 | ng/ml | 99 |
| 45) | cis 1,3-Dichloropropene | 18.39 | 75 | 1671262 | 48.31 | ng/ml | 96 |
| 47) | 4-Methyl-2-pentanone | 18.63 | 43 | 656968 | 50.74 | ng/ml# | 95 |
| 48) | Pyridine | 18.80 | 79 | 9572 | 13.96 | ng/mL | 97 |
| 51) | Toluene | 19.12 | 91 | 4788654 | 48.86 | ng/ml | 99 |
| 52) | trans 1,3-Dichloropropene | 19.50 | 75 | 1477429 | 47.96 | ng/ml | 98 |
| 53) | Ethyl methacrylate | 19.54 | 69 | 51652 | 2.57 | ng/mL# | 81 |
| 54) | 1,1,2-Trichloroethane | 19.96 | 97 | 871892 | 46.65 | ng/ml | 94 |
| 55) | Tetrachloroethene | 20.30 | 164 | 1547998 | 48.91 | ng/ml | 98 |
| 56) | 2-Hexanone | 20.38 | 43 | 557546 | 55.82 | ng/ml# | 96 |
| 57) | Dibromochloromethane | 20.88 | 129 | 1305624 | 48.60 | ng/ml | 97 |
| 58) | 1,2-Dibromoethane | 21.20 | 107 | 23053 | 1.30 | ng/ml# | 54 |
| 59) | Chlorobenzene | 22.18 | 112 | 3084013 | 47.36 | ng/ml | 94 |
| 61) | Ethylbenzene | 22.33 | 106 | 1676364 | 50.74 | ng/ml | 86 |
| 62) | m-Xylene and p-Xylene | 22.55 | 106 | 4512655 | 102.89 | ng/ml | 94 |
| 63) | o-Xylene | 23.41 | 106 | 2122008 | 50.05 | ng/ml | 94 |
| 64) | Styrene | 23.45 | 104 | 3204718 | 47.30 | ng/ml | 97 |
| 65) | Bromoform | 23.93 | 173 | 914651 | 43.81 | ng/ml | 99 |
| 66) | Cyclohexanone | 24.49 | 98 | 7409 | 9.30 | ng/ml# | 1 |
| 69) | 1,1,2,2-Tetrachloroethane | 24.73 | 83 | 827352 | 47.28 | ng/mL | 92 |
| 70) | 1,2,3-Trichloropropane | 24.91 | 110 | 8555 | 1.37 | ng/mL# | 1 |
| 71) | Trans-1,4-Dichloro-2-buten | 25.06 | 88 | 7417 | 6.49 | ng/mL# | 31 |
| 72) | 1,3-Dichlorobenzene | 26.92 | 146 | 95376 | 1.49 | ng/ml# | 84 |
| 73) | 1,4-Dichlorobenzene | 27.10 | 146 | 95136 | 1.58 | ng/ml# | 85 |
| 74) | 1,2-Dichlorobenzene | 28.08 | 146 | 84040 | 1.51 | ng/ml | 89 |
| 75) | 1,2-Dibromo-3-chloropropan | 30.25 | 75 | 7562 | 3.27 | ng/ml# | 26 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\LCSG13S.D  Vial: 7
Acq On : 13 Jul 98 1:57 pm  Operator:
Sample :  Inst : 5970-019
Misc :  Multiplr: 1.00
Quant Time: Jul 13 14:29 1998  Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 14:00:58 1998
Response via : Multiple Level Calibration



# GC/MS VOC ANALYSIS LOG

INSTRUMENT 019 CONDITONS: DB-624 (75M,.53mM,3u)

Std. ID: MV404-405D
Reference Std: 50G14S
Disk Space: ✓
Namelists: ✓

Analyst: RL/LTH
Date: 07/14/98
EMV: 2165
ENCOTEC Tape Number: 6-98-5

VOSG1401S

| No. | Client | Batch | Time | File Name | Matrix | pH Check | Dilution Scheme | Dil. Fact. | Voa No. | Mthd # | Re-runs | $MeCl_2$ Tracking | Cmpnds over Linear Rng |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Encotec | 10000 | 9:19 | 50G14S | NA | NA | NA | NA | 1 | | | | |
| 2 | ↓ | ↓ | 9:57 | LCSG14S | ↓ | ↓ | ↓ | ↓ | 2 | | | | LCS# 851044 |
| 3 | | | 10:34 | VSBG14IS | | | | | 3 | | | <1 | MB#85505 |
| 4 | | | 11:11 | VSBG14S1 | | | | | 4 | | | ↓ | |
| 5 | BLA | 12319 | 11:48 | 86471VMR | Soil | NA | 5.0g→5.0ml | 1/1 | 5 | | | | move to |
| 6 | ↓ | ↓ | 12:25 | 86471VDR | ↓ | ↓ | ↓ | ↓ | 6 | | | | VOSG1301S |
| 7 | EEI | 12497 | 13:03 | 870600V | | | | | 7 | | | | |
| 8 | ↓ | ↓ | 13:41 | 870602V | | | | | 8 | | | ↓ | |
| 9 | | | 14:18 | 870600VM | | | | | 9 | | | 4.46 | |
| 10 | | | 14:56 | 870600VD | | | | | 10 | | | 4.83 | |
| 11 | CON | 12524 | | 87194V | | | | | 11 | | | | |
| 12 | ↓ | ↓ | | 87197V | | | | | 12 | | | | |
| 13 | | | | 87199V | | | | | 13 | | | | |
| 14 | | | | 87200V | | | | | 14 | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | |

| | IS1 | RT | IS2 | RT | IS3 | RT | IS4 | RT |
|---|---|---|---|---|---|---|---|---|
| Upper | 79116436 | 16.31 | 7271048 | 16.43 | 16503162 | 22.63 | 4400934 | 27.57 |
| Lower | 1979109 | 15.31 | 18177162 | 15.43 | 1662591 | 21.63 | 1100034 | 26.57 |

balance F33615 check: wts. 1.0g 5.0g
weight set ID: S001 readings 1.0 5.0

Re-analysis codes: B) EICPs C) Dilution D) Possible carry-over

019LOG, OMVOALOG xls 5/28/98

# VOC INTERNAL STANDARD AREA and RT SUMMARY

Page____

Reference Std SD6145

SDG No EET-WC-9861

Instrument ID 019 DB624 CAP 0 53mm, 70M

Date/Time Analyzed 07/14/98 9:19 am/pm Heated Purge: 40 °C

| | | IS1 (MCL) Area | # | RT | # | IS2 (DFB) Area | # | RT | # | IS3 (CBZ) Area | # | RT | # | IS4 (DCB) Area | # | RT | # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12-Hour Standard | Upper Limit | 7916436 | | 16.31 | | 7271048 | | 16.43 | | 16503362 | | 22.63 | | 4400934 | | 27.57 | |
| 12-Hour Standard | Lower Limit | 1979109 | | 15.31 | | 1817762 | | 15.43 | | 1662591 | | 21.63 | | 1100234 | | 26.57 | |
| | Sample ENCOTEC ID | | | | | | | | | | | | | | | | |
| 1 | LCS 200085644 | 3825998 | | 15.81 | | 3460392 | | 15.93 | | 3062416 | | 22.13 | | 2060101 | | 27.05 | |
| 2 | MB 85505 | 3942047 | | 15.80 | | 3530734 | | 15.91 | | 3066357 | | 22.13 | | 1885271 | | 27.05 | |
| 3 | 870160 | 4195323 | | 15.80 | | 3697612 | | 15.92 | | 3105159 | | 22.12 | | 1606903 | | 27.06 | |
| 4 | 870162 | 4390462 | | 15.80 | | 3943021 | | 15.92 | | 3377325 | | 22.12 | | 1900473 | | 27.05 | |
| 5 | MS 870160 | 4319717 | | 15.80 | | 3731036 | | 15.92 | | 3217359 | | 22.12 | | 1657685 | | 27.05 | |
| 6 | MSD 870160 | 4308219 | | 15.80 | | 3841795 | | 15.92 | | 3243007 | | 22.12 | | 1783480 | | 27.06 | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |

Sample Number

# Column is used to flag values outside QC limits

* Value is outside QC limits

IS1 (MCL) = Methylene chloride-$d_2$

IS2 (DFB) = 1,4-Difluorobenzene

IS3 (CBZ) = Chlorobenzene-$d_5$

IS4 (DCB) = Dichlorobenzene

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = -100% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT



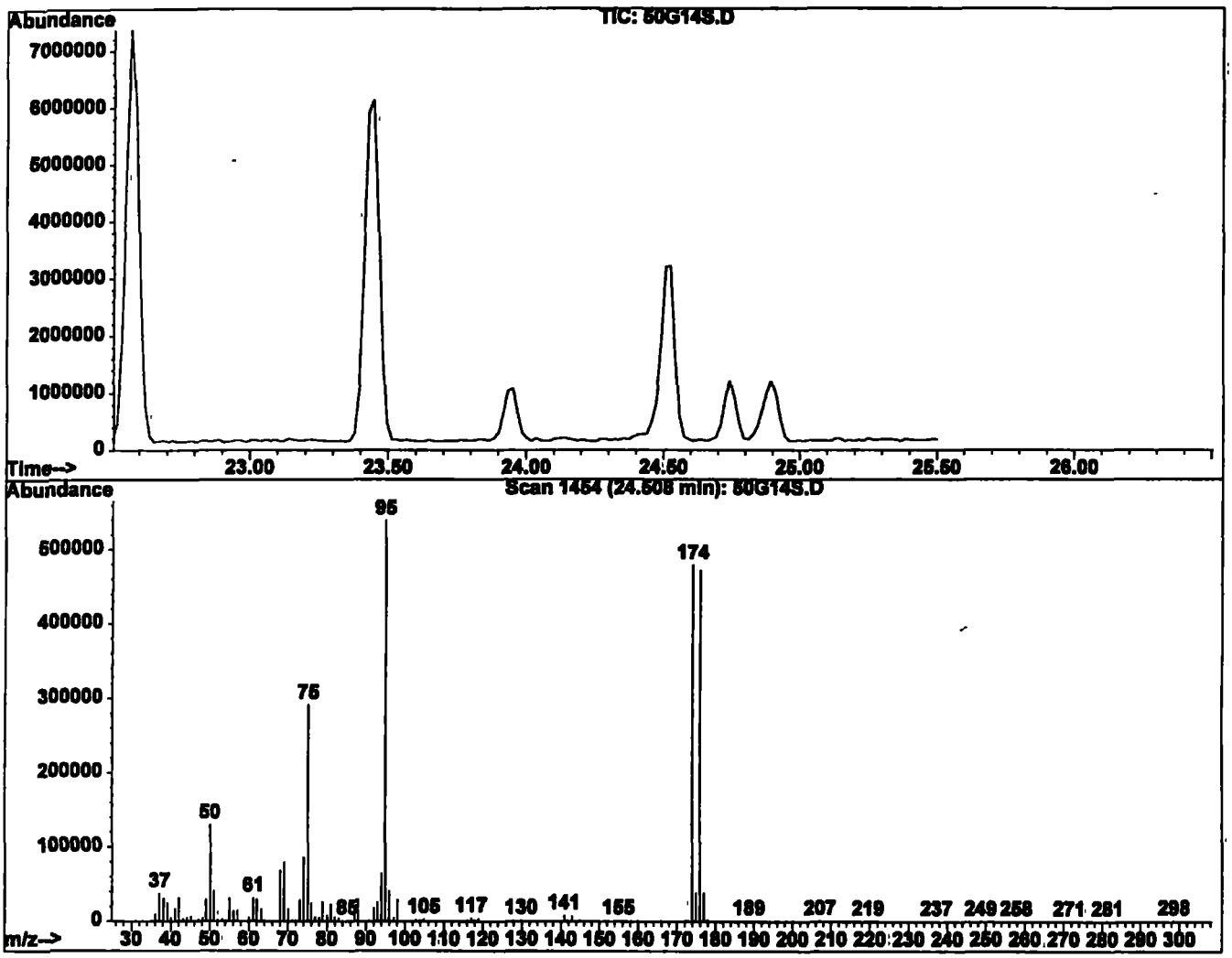
VOAISART XLS 03/12/96

BFB

Data File : C:\HPCHEM\1\DATA\50G14S.D
Acq On : 14 Jul 98 9:19
Sample :
Misc :

Vial: 1
Operator:
Inst : 5970-019
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :




Spectrum Information: Scan 1454

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 24.2 | 130480 | PASS |
| 75 | 95 | 30 | 60 | 54.1 | 291904 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 539648 | PASS |
| 96 | 95 | 5 | 9 | 7.7 | 41552 | PASS |
| 173 | 174 | 0.00 | 2 | 0.6 | 2839 | PASS |
| 174 | 95 | 50 | 100 | 88.8 | 479168 | PASS |
| 175 | 174 | 5 | 9 | 8.1 | 38704 | PASS |
| 176 | 174 | 95 | 101 | 98.5 | 471808 | PASS |
| 177 | 176 | 5 | 9 | 8.1 | 38200 | PASS |

Scan 1454 (24.508 min): 50G14S.D

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.00 | 1567 | 46.00 | 783 | 56.10 | 14668 | 68.00 | 69128 |
| 36.10 | 10072 | 46.40 | 1887 | 57.10 | 15749 | 69.00 | 80424 |
| 37.10 | 38496 | 47.10 | 3910 | 58.10 | 1723 | 70.10 | 18032 |
| 38.10 | 32104 | 48.20 | 5349 | 58.90 | 1476 | 71.10 | 2648 |
| 39.10 | 25656 | 49.00 | 29736 | 59.30 | 1303 | 72.00 | 2228 |
| 40.00 | 5539 | 50.10 | 130480 | 60.00 | 5555 | 73.00 | 29224 |
| 41.10 | 17736 | 51.00 | 41520 | 61.10 | 32384 | 74.00 | 87024 |
| 42.10 | 32280 | 52.10 | 3266 | 62.00 | 30552 | 75.10 | 291904 |
| 43.10 | 3812 | 53.20 | 3946 | 63.10 | 17400 | 75.95 | 25232 |
| 44.10 | 6313 | 54.10 | 2354 | 64.00 | 2590 | 76.95 | 6546 |
| 45.10 | 7883 | 55.00 | 31952 | 65.60 | 1604 | 77.95 | 5722 |

Scan 1454 (24.508 min): 50G14S.D

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 78.85 | 26976 | 88.85 | 1058 | 100.65 | 1932 | 116.05 | 2669 |
| 80.05 | 8607 | 90.05 | 1860 | 102.85 | 2839 | 117.05 | 5315 |
| 80.95 | 23640 | 90.95 | 1691 | 103.85 | 2533 | 117.95 | 3006 |
| 81.95 | 7094 | 92.05 | 18312 | 104.85 | 3652 | 118.95 | 4323 |
| 82.95 | 5530 | 92.95 | 26616 | 105.85 | 2310 | 120.25 | 980 |
| 83.75 | 1030 | 93.95 | 64720 | 107.15 | 762 | 120.75 | 826 |
| 84.05 | 1282 | 94.95 | 539648 | 109.65 | 1663 | 121.15 | 1072 |
| 85.25 | 2095 | 95.95 | 41552 | 112.35 | 1588 | 123.15 | 1288 |
| 86.15 | 1324 | 97.15 | 5282 | 113.55 | 759 | 127.85 | 1881 |
| 87.05 | 15114 | 98.05 | 29384 | 114.75 | 1792 | 129.85 | 2565 |
| 87.95 | 29800 | 99.05 | 1270 | 115.35 | 1702 | 133.65 | 709 |

Scan 1454 (24.508 min): 50G14S.D

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 135.05 | 1195 | 146.75 | 851 | 165.60 | 1058 | 180.90 | 830 |
| 135.95 | 852 | 147.95 | 1853 | 166.60 | 1111 | 183.70 | 709 |
| 137.95 | 727 | 149.15 | 1172 | 167.90 | 754 | 184.50 | 1841 |
| 138.85 | 1490 | 149.75 | 1804 | 169.20 | 1694 | 188.70 | 2131 |
| 139.65 | 1298 | 151.55 | 1379 | 172.30 | 1518 | 191.10 | 1332 |
| 140.85 | 9033 | 152.65 | 1051 | 172.80 | 2839 | 195.80 | 1420 |
| 141.65 | 2664 | 154.90 | 2704 | 173.90 | 479168 | 207.10 | 2141 |
| 142.85 | 7628 | 156.00 | 2400 | 174.90 | 38704 | 208.60 | 714 |
| 143.85 | 1804 | 156.90 | 1751 | 175.90 | 471808 | 212.60 | 1523 |
| 144.85 | 2566 | 159.70 | 908 | 176.90 | 38200 | 217.10 | 906 |
| 145.85 | 1286 | 160.90 | 763 | 177.90 | 2818 | 219.50 | 1332 |

Scan 1454 (24.508 min): 50G14S.D

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 226.60 | 832 | 298.55 | 2324 | | | | |
| 232.65 | 828 | | | | | | |
| 237.15 | 1424 | | | | | | |
| 242.25 | 1026 | | | | | | |
| 248.65 | 850 | | | | | | |
| 257.75 | 957 | | | | | | |
| 271.45 | 940 | | | | | | |
| 274.25 | 824 | | | | | | |
| 281.15 | 897 | | | | | | |
| 281.35 | 1108 | | | | | | |
| 292.45 | 868 | | | | | | |

**ENCOTEC** GC/MS VOLATILE 5 WAY CALIBRATION Page:

Instrument ID: 5970-019

Initial Calibration Date: 07/13/98

Continuing Calibration Date: 07/14/98

Continuing File Name: 50G14S.D

| STD | FILE: | STD | FILE: | STD | FILE: |
|---|---|---|---|---|---|
| 10 | 10G13S.D | 150 | 150G13S.D | 100 | 100G13S.D |
| 50 | 50G13S.D | 200 | 200G13S.D | | |

| Compound | 10 | 50 | 100 | 150 | 200 | RF avg. | % RSD | RF Cont | Cont Rec | % Drift | CCC/SPCC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | 0.394 | 0.403 | 0.366 | 0.400 | 0.397 | 0.392 | | 0.409 | | | ** |
| Vinyl Chloride | 0.393 | 0.361 | 0.327 | 0.367 | 0.369 | 0.364 | 6.5 | | 46.78 | 6.4 | * |
| 1,1-Dichloroethene | 0.353 | 0.309 | 0.282 | 0.307 | 0.301 | 0.311 | 8.4 | | 53.72 | 7.4 | * |
| 1,1-Dichloroethane | 0.603 | 0.601 | 0.571 | 0.595 | 0.590 | 0.592 | | 0.545 | | | ** |
| Chloroform | 0.779 | 0.712 | 0.646 | 0.674 | 0.669 | 0.696 | 7.5 | | 46.37 | 7.3 | * |
| 1,2-Dichloropropane | 0.300 | 0.273 | 0.254 | 0.264 | 0.261 | 0.270 | 6.6 | | 45.59 | 8.8 | * |
| Bromoform | 0.266 | 0.295 | 0.290 | 0.299 | 0.296 | 0.289 | | 0.270 | | | ** |
| 1,1,2,2-Tetrachloroethane | 0.399 | 0.379 | 0.362 | 0.368 | 0.355 | 0.373 | | 0.377 | | | ** |
| Toluene | 1.481 | 1.454 | 1.276 | 1.316 | 1.256 | 1.357 | 7.6 | | 47.07 | 5.9 | * |
| Chlorobenzene | 0.981 | 0.932 | 0.845 | 0.891 | 0.859 | 0.902 | | 0.855 | | | ** |
| Ethylbenzene | 0.505 | 0.491 | 0.424 | 0.442 | 0.425 | 0.457 | 8.4 | | 47.61 | 4.8 | * |

* = CCC - Calibration Check Compound: %RSD < 30 for initial calibration; % Diff. < 20.0 for continuing calibration. Meets criteria for 8260B

** = SPCC - System Performance Check Compound: Minimum avg. RF > .100 & 0.300 for Chlorobenzene and 1,1,2,2-Tetrachloroethane

% RSD = Relative Standard Deviation

% Drift = (Cont. Cal. Std Conc. - Recovery Conc. / Cont. Cal. Std. Conc. Rec. x 100)

| EICPS: | IS1 | RT1 | IS2 | RT2 | IS3 | RT3 | IS4 | RT4 |
|---|---|---|---|---|---|---|---|---|
| UPPER | 7916436 | 16.31 | 7271048 | 16.43 | 6650362 | 22.63 | 4400934 | 27.57 |
| LOWER | 1979109 | 15.31 | 1817762 | 15.43 | 1662591 | 21.63 | 1100234 | 26.57 |

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# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\50G14S.D  Vial: 1
Acq On : 14 Jul 98 9:19  Operator:
Sample :  Inst : 5970-019
Misc :  Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000  Min. Rel. Area : 50%  Max. R.T. Dev 0.50min
Max. RRF Dev : 25%  Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | U | Fluorobenzene (I) | 1.000 | 1.000 | 0.0 | 92 | 0.00 |
| 2 | | Dichlorodifluoromethane | 0.500 | 0.382 | 23.6 | 75 | 0.00 |
| 3 | | Chloromethane | 0.392 | 0.409 | -4.3 | 93 | 0.00 |
| 4 | | Vinyl Chloride | 0.364 | 0.340 | 6.6 | 87 | 0.00 |
| 5 | | Ethylene oxide | 0.240 | 0.270 | -12.5 | 97 | 0.00 |
| 6 | | Bromomethane | 0.189 | 0.165 | 12.7 | 77 | 0.00 |
| 7 | | Chloroethane | 0.220 | 0.203 | 7.7 | 89 | 0.00 |
| 8 | | Trichlorofluoromethane | 0.488 | 0.460 | 5.7 | 90 | 0.00 |
| 9 | | Ethyl ether | 0.180 | 0.175 | 2.8 | 92 | 0.00 |
| 10 | | Acrolein | 0.017 | 0.024 | -41.2# | 111 | 0.00 |
| 11 | | 1,1-Dichloroethene | 0.311 | 0.334 | -7.4 | 99 | -0.02 |
| 12 | | 1,1,2-Trichloro-1,2,2-trifl | 0.186 | 0.166 | 10.8 | 81 | 0.00 |
| 13 | | Acetone | 0.068 | 0.075 | -10.3 | 105 | 0.00 |
| 14 | | Iodomethane | 0.545 | 0.313 | 42.6# | 52 | -0.02 |
| 15 | | Carbon Disulfide | 1.128 | 1.051 | 6.8 | 90 | -0.02 |
| 16 | | Acetonitrile | 0.016 | 0.016 | 0.0 | 98 | 0.02 |
| 17 | | Methylene Chloride | 0.311 | 0.288 | 7.4 | 81 | 0.00 |
| 18 | | trans-1,2-Dichloroethene | 0.341 | 0.312 | 8.5 | 83 | 0.00 |
| 19 | | T-methylbutyl ether | 0.553 | 0.543 | 1.8 | 93 | 0.00 |
| 20 | | Acrylonitrile | 0.046 | 0.046 | 0.0 | 90 | 0.02 |
| 21 | | 1,1-Dichloroethane | 0.592 | 0.545 | 7.9 | 83 | 0.00 |
| 22 | | Vinyl acetate | 0.190 | 0.218 | -14.7 | 112 | 0.00 |
| 23 | | cis-1,2-dichloroethene | 0.329 | 0.303 | 7.9 | 83 | 0.00 |
| 24 | | 2-Butanone | 0.070 | 0.066 | 5.7 | 86 | 0.02 |
| 25 | U | 1,4-Difluorobenzene (I) | 1.000 | 1.000 | 0.0 | 92 | 0.00 |
| 26 | | Propionitrile | 0.020 | 0.020 | 0.0 | 88 | 0.00 |
| 27 | | Bromochloromethane | 0.163 | 0.162 | 0.6 | 87 | 0.00 |
| 28 | | Methacrylonitrile | 0.066 | 0.062 | 6.1 | 89 | 0.00 |
| 29 | | Chloroform | 0.696 | 0.645 | 7.3 | 84 | 0.00 |
| 30 | | 1,2-Dichloroethane | 0.425 | 0.420 | 1.2 | 92 | 0.02 |
| 31 | S | Dibromofluormethane (S) | 0.199 | 0.197 | 1.0 | 92 | 0.02 |
| 32 | | 1,1,1-Trichloroethane | 0.608 | 0.576 | 5.3 | 87 | 0.02 |
| 33 | | Carbon Tetrachloride | 0.649 | 0.649 | 0.0 | 88 | 0.00 |
| 34 | S | d4-1,2-Dichloroethane (S) | 0.204 | 0.209 | -2.5 | 96 | 0.02 |
| 35 | | Benzene | 1.125 | 1.049 | 6.8 | 83 | 0.02 |
| 36 | | 2-Nitropropane | 0.149 | 0.168 | -12.8 | 108 | 0.02 |
| 37 | | Isobutyl alcohol | 0.001 | 0.001 | 0.0 | 130 | 0.02 |
| 38 | | n-Butanol | 0.004 | 0.004 | 0.0 | 102 | 0.00 |
| 39 | | 1,2-Dichloropropane | 0.270 | 0.246 | 8.9 | 83 | 0.00 |
| 40 | | Methyl methacrylate | 0.117 | 0.113 | 3.4 | 92 | 0.00 |
| 41 | | Dibromomethane | 0.177 | 0.177 | 0.0 | 93 | 0.02 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\50G14S.D  Vial: 1
Acq On : 14 Jul 98 9:19  Operator:
Sample :  Inst : 5970-019
Misc :  Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 42 | | 1,4-Dioxane | 0.002 | 0.002 | 0.0 | 102 | 0.02 |
| 43 | | Trichloroethene | 0.462 | 0.410 | 11.3 | 80 | 0.00 |
| 44 | | Bromodichloromethane | 0.468 | 0.443 | 5.3 | 87 | 0.02 |
| 45 | | cis 1,3-Dichloropropene | 0.421 | 0.383 | 9.0 | 82 | 0.02 |
| 46 | | 2-Chloroethyl vinyl ether | 0.104 | 0.008 | 92.3# | 9# | 0.03 |
| 47 | | 4-Methyl-2-pentanone | 0.157 | 0.142 | 9.6 | 77 | 0.02 |
| 48 | | Pyridine | 0.008 | 0.001 | 87.5# | 10# | 0.10 |
| 49 | U | D5-Chlorobenzene (I) | 1.000 | 1.000 | 0.0 | 95 | 0.00 |
| 50 | S | d8-Toluene (S) | 0.628 | 0.622 | 1.0 | 96 | 0.02 |
| 51 | | Toluene | 1.357 | 1.277 | 5.9 | 84 | 0.00 |
| 52 | | trans 1,3-Dichloropropene | 0.427 | 0.375 | 12.2 | 83 | 0.00 |
| 53 | | Ethyl methacrylate | 0.278 | 0.219 | 21.2 | 77 | 0.02 |
| 54 | | 1,1,2-Trichloroethane | 0.259 | 0.237 | 8.5 | 87 | 0.02 |
| 55 | | Tetrachloroethene | 0.438 | 0.373 | 14.8 | 79 | 0.00 |
| 56 | | 2-Hexanone | 0.122 | 0.103 | 15.6 | 80 | 0.02 |
| 57 | | Dibromochloromethane | 0.372 | 0.358 | 3.8 | 92 | 0.00 |
| 58 | | 1,2-Dibromoethane | 0.246 | 0.224 | 8.9 | 91 | 0.00 |
| 59 | | Chlorobenzene | 0.902 | 0.855 | 5.2 | 88 | 0.00 |
| 60 | | 1,1,1,2-Tetrachloroethane | 0.370 | 0.370 | 0.0 | 99 | 0.02 |
| 61 | | Ethylbenzene | 0.457 | 0.436 | 4.6 | 85 | 0.02 |
| 62 | | m-Xylene and p-Xylene | 0.607 | 0.561 | 7.6 | 84 | 0.00 |
| 63 | | o-Xylene | 0.587 | 0.581 | 1.0 | 94 | 0.00 |
| 64 | | Styrene | 0.938 | 0.901 | 3.9 | 88 | 0.02 |
| 65 | | Bromoform | 0.289 | 0.270 | 6.6 | 87 | 0.02 |
| 66 | | Cyclohexanone | 0.011 | 0.009 | 18.2 | 76 | 0.02 |
| 67 | U | D4-1,4-Dichlorobenzene (I) | 1.000 | 1.000 | 0.0 | 93 | 0.00 |
| 68 | S | Bromofluorobenzene (S) | 0.399 | 0.417 | -4.5 | 101 | 0.02 |
| 69 | | 1,1,2,2-Tetrachloroethane | 0.373 | 0.377 | -1.1 | 92 | 0.00 |
| 70 | | 1,2,3-Trichloropropane | 0.133 | 0.142 | -6.8 | 106 | 0.00 |
| 71 | | Trans-1,4-Dichloro-2-butene | 0.024 | 0.020 | 16.7 | 82 | 0.00 |
| 72 | | 1,3-Dichlorobenzene | 1.366 | 1.261 | 7.7 | 87 | 0.00 |
| 73 | | 1,4-Dichlorobenzene | 1.281 | 1.201 | 6.2 | 90 | 0.02 |
| 74 | | 1,2-Dichlorobenzene | 1.188 | 1.164 | 2.0 | 93 | 0.02 |
| 75 | | 1,2-Dibromo-3-chloropropane | 0.049 | 0.049 | 0.0 | 102 | 0.00 |

(#) = Out of Range  SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\50G14S.D Vial: 1
Acq On : 14 Jul 98 9:19 Operator:
Sample : Inst : 5970-019
Misc : Multiplr: 1.00
Quant Time: Jul 14 9:57 1998 Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 14:00:58 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.81 | 96 | 3958218 | 50.00 | ng/mL | 0.00 |
| 25) 1,4-Difluorobenzene (I) | 15.93 | 114 | 3635524 | 50.00 | ng/mL | 0.00 |
| 49) D5-Chlorobenzene (I) | 22.13 | 117 | 3325181 | 50.00 | ng/mL | 0.00 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.07 | 152 | 2200467 | 50.00 | ng/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 31) Dibromofluormethane (S) | 14.50 | 113 | 1435985 | 99.28 | % | 0.02 |
| 34) d4-1,2-Dichloroethane (S) | 15.21 | 65 | 1517800 | 102.46 | % | 0.02 |
| 50) d8-Toluene (S) | 19.00 | 98 | 4139553 | 99.07 | % | 0.02 |
| 68) Bromofluorobenzene (S) | 24.52 | 95 | 1836355 | 104.52 | % | 0.02 |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 6.26 | 85 | 1510818 | 38.15 | ng/mL | 96 |
| 3) Chloromethane | 6.85 | 50 | 1619744 | 52.20 | ng/ml | 98 |
| 4) Vinyl Chloride | 7.15 | 62 | 1346456 | 46.78 | ng/ml | 97 |
| 5) Ethylene oxide | 7.51 | 44 | 1067000 | 56.28 | ng/mL | 95 |
| 6) Bromomethane | 8.10 | 94 | 651211 | 43.46 | ng/ml | 87 |
| 7) Chloroethane | 8.35 | 64 | 805067 | 46.21 | ng/ml | 93 |
| 8) Trichlorofluoromethane | 8.94 | 101 | 1821504 | 47.11 | ng/mL | 98 |
| 9) Ethyl ether | 9.56 | 59 | 693293 | 48.73 | ng/mL# | 94 |
| 10) Acrolein | 9.93 | 56 | 471781 | 351.77 | ng/mL | 99 |
| 11) 1,1-Dichloroethene | 10.12 | 96 | 1320667 | 53.72 | ng/ml | 94 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 10.05 | 151 | 657235 | 44.59 | ng/mL | 96 |
| 13) Acetone | 10.25 | 43 | 592746 | 117.23 | ng/ml | 96 |
| 14) Iodomethane | 10.52 | 142 | 1237423 | 28.68 | ng/mL | 87 |
| 15) Carbon Disulfide | 10.69 | 76 | 4160516 | 46.59 | ng/ml | 99 |
| 16) Acetonitrile | 10.88 | 41 | 315950 | 260.42 | ng/mL# | 92 |
| 17) Methylene Chloride | 11.13 | 84 | 1141684 | 46.40 | ng/ml | 96 |
| 18) trans-1,2-Dichloroethene | 11.65 | 96 | 1234995 | 45.75 | ng/ml | 96 |
| 19) T-methylbutyl ether | 11.62 | 73 | 2149300 | 49.08 | ng/mL | 98 |
| 20) Acrylonitrile | 11.65 | 53 | 919293 | 252.07 | ng/mL | 90 |
| 21) 1,1-Dichloroethane | 12.49 | 63 | 2159052 | 46.05 | ng/ml | 100 |
| 22) Vinyl acetate | 12.48 | 43 | 863596 | 57.48 | ng/mL | 98 |
| 23) cis-1,2-dichloroethene | 13.61 | 96 | 1198134 | 46.05 | ng/ml | 97 |
| 24) 2-Butanone | 13.61 | 43 | 518764 | 94.59 | ng/ml | 95 |
| 26) Propionitrile | 13.78 | 54 | 360164 | 242.17 | ng/mL# | 88 |
| 27) Bromochloromethane | 14.10 | 128 | 588640 | 49.73 | ng/ml | 97 |
| 28) Methacrylonitrile | 14.04 | 67 | 1130424 | 234.56 | ng/mL | 97 |
| 29) Chloroform | 14.16 | 83 | 2346076 | 46.37 | ng/ml | 99 |
| 30) 1,2-Dichloroethane | 15.36 | 62 | 1528474 | 51.50 | ng/ml | 98 |
| 32) 1,1,1-Trichloroethane | 14.60 | 97 | 2095515 | 47.39 | ng/ml | 97 |
| 33) Carbon Tetrachloride | 14.92 | 117 | 2360809 | 50.04 | ng/ml | 96 |
| 35) Benzene | 15.34 | 78 | 3814503 | 46.64 | ng/ml | 98 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\50G14S.D Vial: 1
Acq On : 14 Jul 98 9:19 Operator:
Sample : Inst : 5970-019
Misc : Multiplr: 1.00
Quant Time: Jul 14 9:57 1998 Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Mon Jul 13 14:00:58 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

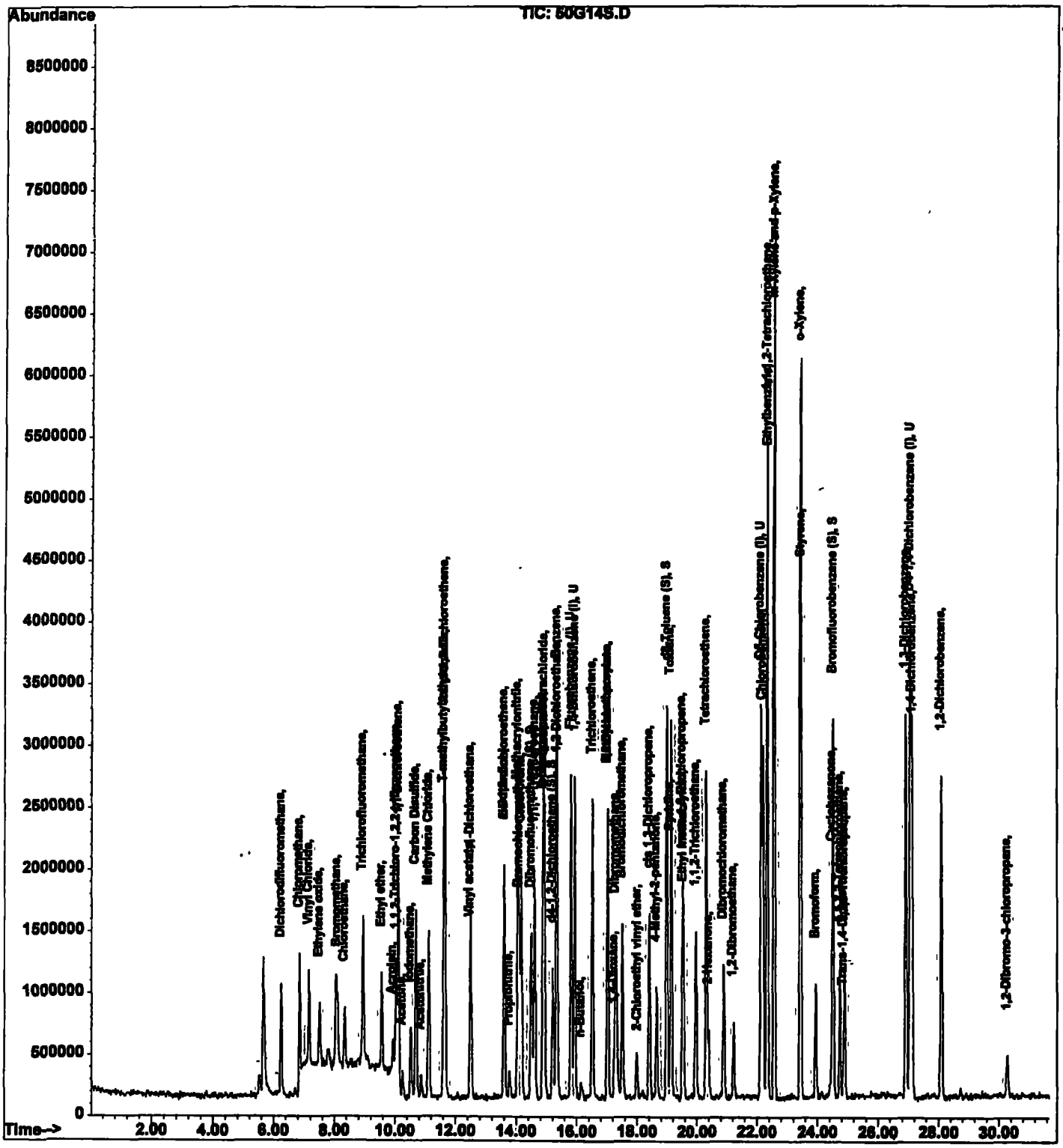
| Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|
| 36) 2-Nitropropane | 14.89 | 43 | 1222598 | 113.23 | ng/mL | 93 |
| 37) Isobutyl alcohol | 14.89 | 74 | 176227 | 3129.80 | ng/mL | 63 |
| 38) n-Butanol | 16.15 | 56 | 151835 | 556.37 | ng/mL# | 37 |
| 39) 1,2-Dichloropropane | 17.03 | 63 | 895405 | 45.59 | ng/ml | 98 |
| 40) Methyl methacrylate | 17.03 | 69 | 409836 | 48.14 | ng/mL | 96 |
| 41) Dibromomethane | 17.30 | 93 | 645274 | 50.03 | ng/mL# | 98 |
| 42) 1,4-Dioxane | 17.25 | 88 | 369920 | 2678.26 | ng/mL | 96 |
| 43) Trichloroethene | 16.52 | 130 | 1489178 | 44.35 | ng/ml | 99 |
| 44) Bromodichloromethane | 17.52 | 83 | 1612070 | 47.42 | ng/ml | 100 |
| 45) cis 1,3-Dichloropropene | 18.41 | 75 | 1391455 | 45.51 | ng/ml | 95 |
| 46) 2-Chloroethyl vinyl ether | 18.02 | 63 | 30681 | 4.07 | ng/mL# | 24 |
| 47) 4-Methyl-2-pentanone | 18.64 | 43 | 1032169 | 90.19 | ng/ml# | 93 |
| 48) Pyridine | 19.12 | 79 | 143523m | 236.81 | ng/mL | 1 |
| 51) Toluene | 19.13 | 91 | 4247178 | 47.07 | ng/ml | 100 |
| 52) trans 1,3-Dichloropropene | 19.52 | 75 | 1245776 | 43.92 | ng/ml | 94 |
| 53) Ethyl methacrylate | 19.55 | 69 | 726854 | 39.35 | ng/mL# | 94 |
| 54) 1,1,2-Trichloroethane | 19.98 | 97 | 786537 | 45.71 | ng/ml | 97 |
| 55) Tetrachloroethene | 20.31 | 164 | 1240590 | 42.57 | ng/ml | 96 |
| 56) 2-Hexanone | 20.40 | 43 | 684917 | 81.35 | ng/ml | 95 |
| 57) Dibromochloromethane | 20.89 | 129 | 1189056 | 48.07 | ng/ml | 97 |
| 58) 1,2-Dibromoethane | 21.22 | 107 | 745520 | 45.49 | ng/ml | 95 |
| 59) Chlorobenzene | 22.20 | 112 | 2842472 | 47.41 | ng/ml | 99 |
| 60) 1,1,1,2-Tetrachloroethane | 22.33 | 131 | 1228660 | 49.88 | ng/mL | 98 |
| 61) Ethylbenzene | 22.35 | 106 | 1448389 | 47.61 | ng/ml | 97 |
| 62) m-Xylene and p-Xylene | 22.57 | 106 | 3731113 | 92.39 | ng/ml | 93 |
| 63) o-Xylene | 23.43 | 106 | 1932087 | 49.50 | ng/ml | 98 |
| 64) Styrene | 23.46 | 104 | 2994496 | 48.00 | ng/ml | 100 |
| 65) Bromoform | 23.95 | 173 | 897347 | 46.68 | ng/ml | 98 |
| 66) Cyclohexanone | 24.49 | 98 | 149736 | 204.04 | ng/ml# | 1 |
| 69) 1,1,2,2-Tetrachloroethane | 24.74 | 83 | 829230 | 50.56 | ng/mL | 100 |
| 70) 1,2,3-Trichloropropane | 24.90 | 110 | 311732 | 53.17 | ng/mL | 77 |
| 71) Trans-1,4-Dichloro-2-buten | 24.86 | 88 | 89082 | 83.13 | ng/mL# | 84 |
| 72) 1,3-Dichlorobenzene | 26.92 | 146 | 2775270 | 46.17 | ng/ml | 95 |
| 73) 1,4-Dichlorobenzene | 27.14 | 146 | 2641813 | 46.88 | ng/ml | 97 |
| 74) 1,2-Dichlorobenzene | 28.10 | 146 | 2560696 | 48.99 | ng/ml | 97 |
| 75) 1,2-Dibromo-3-chloropropan | 30.29 | 75 | 215190 | 99.39 | ng/ml | 82 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\50G14S.D  Vial: 1
Acq On : 14 Jul 98 9:19  Operator:
Sample :  Inst : 5970-019
Misc :  Multiplr: 1.00
Quant Time: Jul 14 9:57 1998  Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\87060V.D Vial: 7
Acq On : 14 Jul 98 13:03 Operator:
Sample : Inst : 5970-019
Misc : Multiplr: 1.00
Quant Time: Jul 14 13:41 1998 - Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

(71)

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.80 | 96 | 4195323 | 50.00 ng/mL | -0.01 |
| 25) 1,4-Difluorobenzene (I) | 15.92 | 114 | 3697612 | 50.00 ng/mL | -0.01 |
| 49) D5-Chlorobenzene (I) | 22.12 | 117 | 3105159 | 50.00 ng/mL | -0.01 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.06 | 152 | 1606903 | 50.00 ng/mL | -0.01 |
| System Monitoring Compounds | | | | | |
| 31) Dibromofluormethane (S) | 14.47 | 113 | 1543282 | 104.91 % | -0.01 |
| 34) d4-1,2-Dichloroethane (S) | 15.18 | 65 | 1647685 | 109.36 % | -0.01 |
| 50) d8-Toluene (S) | 18.97 | 98 | 3909818 | 100.20 % | -0.01 |
| 68) Bromofluorobenzene (S) | 24.50 | 95 | 1519300 | 118.41 % | -0.01 |

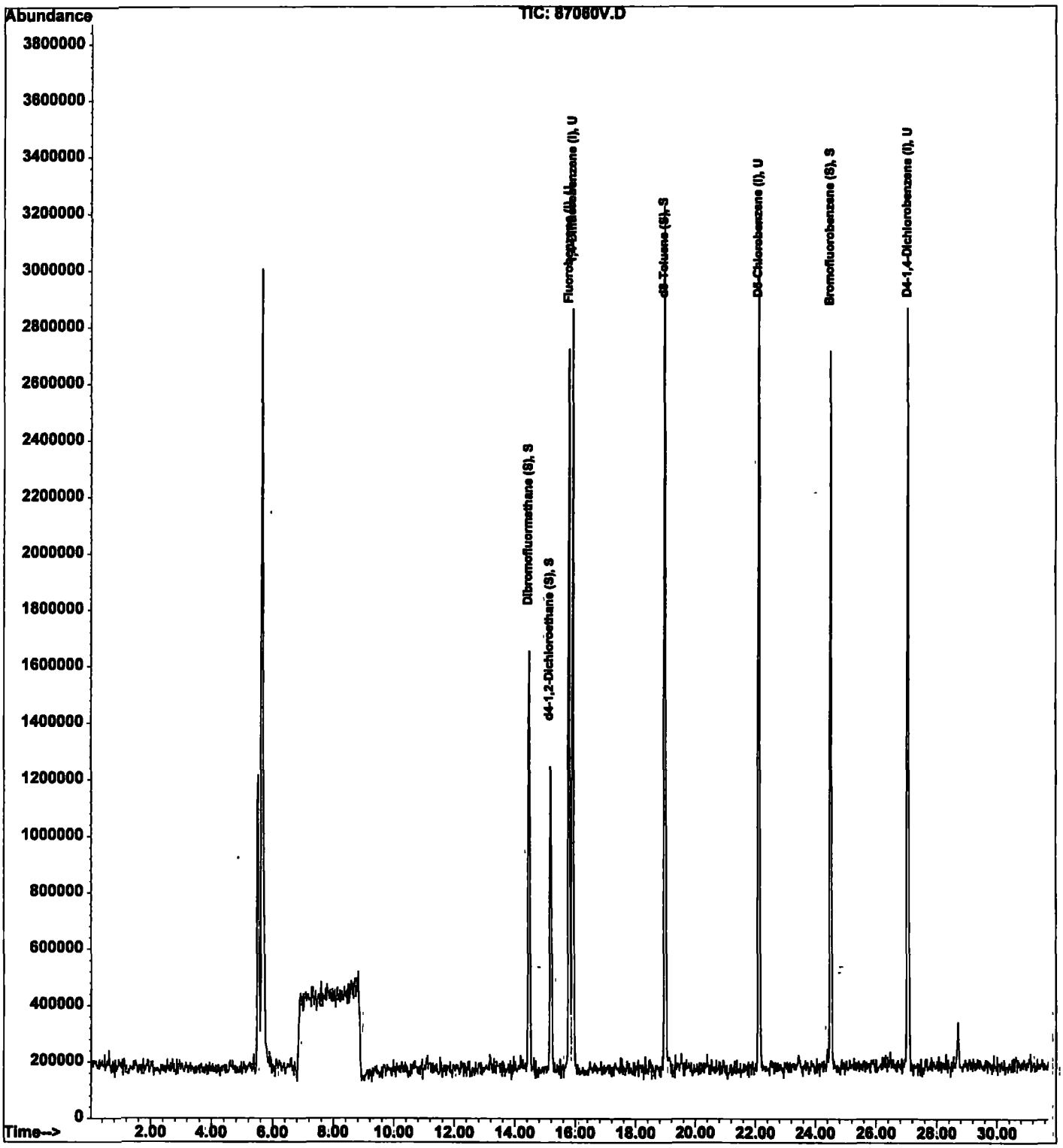
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\87060V.D  Vial: 7
Acq On : 14 Jul 98 13:03  Operator:
Sample :  Inst : 5970-019
Misc :  Multiplr: 1.00
Quant Time: Jul 14 13:41 1998  - Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\87062V.D Vial: 8
Acq On : 14 Jul 98 13:41 Operator:
Sample : Inst : 5970-019
Misc : Multiplr: 1.00
Quant Time: Jul 14 14:20 1998 - Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

XL

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.80 | 96 | 4390462 | 50.00 ng/mL | -0.02 |
| 25) 1,4-Difluorobenzene (I) | 15.92 | 114 | 3943021 | 50.00 ng/mL | -0.02 |
| 49) D5-Chlorobenzene (I) | 22.12 | 117 | 3377325 | 50.00 ng/mL | -0.02 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.05 | 152 | 1900473 | 50.00 ng/mL | -0.02 |
| System Monitoring Compounds | | | | | |
| 31) Dibromofluormethane (S) | 14.47 | 113 | 1631748 | 104.02 % | -0.02 |
| 34) d4-1,2-Dichloroethane (S) | 15.19 | 65 | 1688443 | 105.09 % | 0.00 |
| 50) d8-Toluene (S) | 18.97 | 98 | 4145644 | 97.68 % | -0.02 |
| 68) Bromofluorobenzene (S) | 24.51 | 95 | 1759668 | 115.96 % | 0.00 |

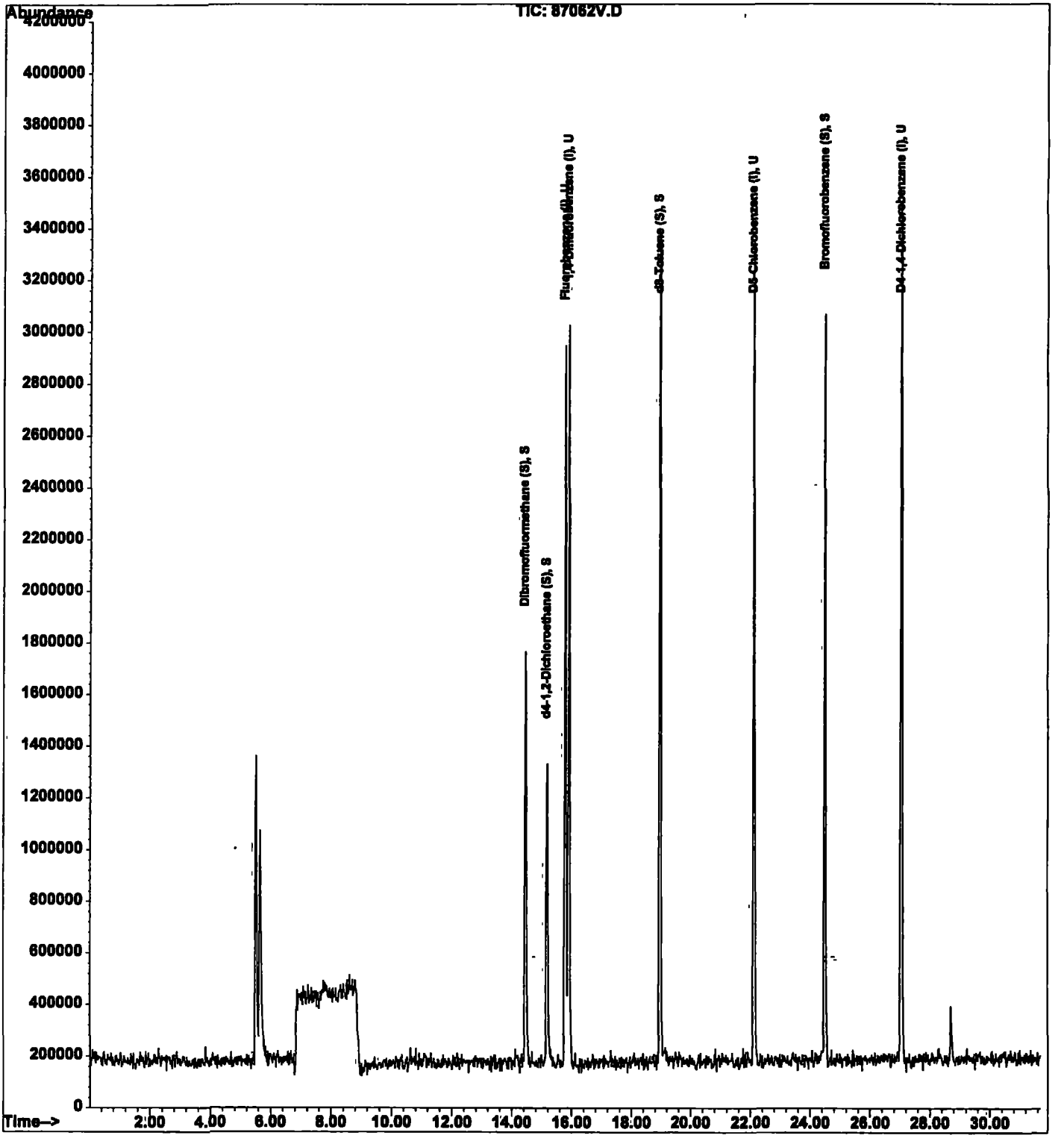
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\87062V.D  Vial: 8
Acq On : 14 Jul 98 13:41  Operator:
Sample :  Inst : 5970-019
Misc :  Multiplr: 1.00
Quant Time: Jul 14 14:20 1998  - Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\VSBG14S1.D Vial: 4
Acq On : 14 Jul 98 11:11 Operator:
Sample : Inst : 5970-019
Misc : Multiplr: 1.00
Quant Time: Jul 14 11:48 1998 - Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

MB# 85505

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.80 | 96 | 3942047 | 50.00 ng/mL | -0.02 |
| 25) 1,4-Difluorobenzene (I) | 15.91 | 114 | 3530734 | 50.00 ng/mL | -0.02 |
| 49) D5-Chlorobenzene (I) | 22.13 | 117 | 3066357 | 50.00 ng/mL | 0.00 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.05 | 152 | 1885271 | 50.00 ng/mL | -0.02 |
| **System Monitoring Compounds** | | | | | |
| 31) Dibromofluormethane (S) | 14.48 | 113 | 1450517 | 103.26 % | 0.00 |
| 34) d4-1,2-Dichloroethane (S) | 15.19 | 65 | 1477373 | 102.69 % | 0.00 |
| 50) d8-Toluene (S) | 18.98 | 98 | 3901985 | 101.27 % | 0.00 |
| 68) Bromofluorobenzene (S) | 24.51 | 95 | 1666448 | 110.70 % | 0.00 |

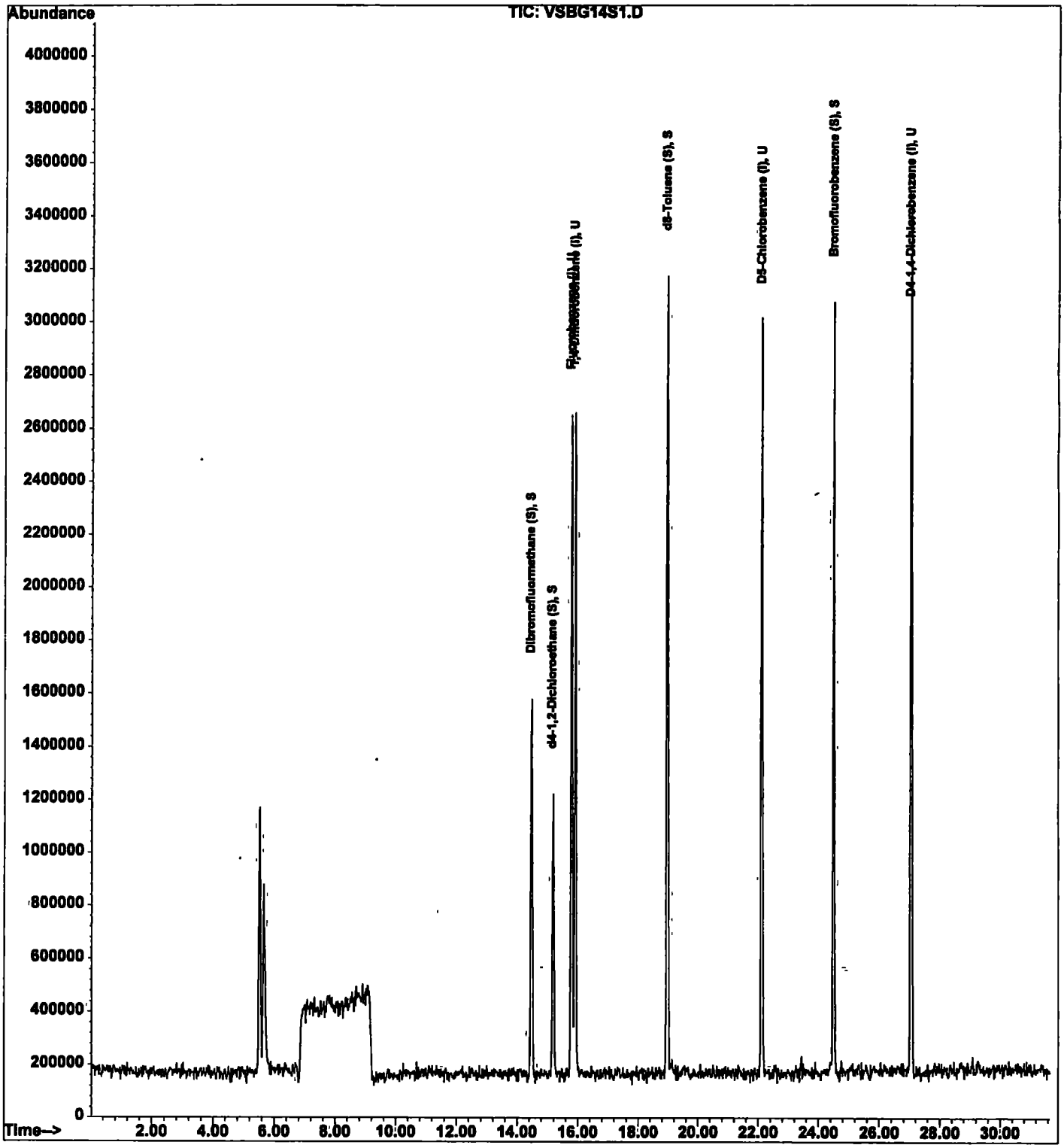
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\VSBG14S1.D  Vial: 4
Acq On : 14 Jul 98 11:11  Operator:
Sample :  Inst : 5970-019
Misc :  Multiplr: 1.00
Quant Time: Jul 14 11:48 1998  - Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Multiple Level Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\LCSG14S.D
Acq On : 14 Jul 98 9:57
Sample :
Misc :
Quant Time: Jul 14 10:29 1998

Vial: 2
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

LCS# 85044

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.81 | 96 | 3825998 | 50.00 | ng/mL | 0.00 |
| 25) 1,4-Difluorobenzene (I) | 15.93 | 114 | 3460392 | 50.00 | ng/mL | 0.00 |
| 49) D5-Chlorobenzene (I) | 22.13 | 117 | 3062416 | 50.00 | ng/mL | 0.00 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.05 | 152 | 2060101 | 50.00 | ng/mL | -0.02 |
| System Monitoring Compounds | | | | | | |
| 31) Dibromofluormethane (S) | 14.48 | 113 | 1394252 | 101.28 | % | 0.00 |
| 34) d4-1,2-Dichloroethane (S) | 15.19 | 65 | 1412950 | 100.21 | % | 0.00 |
| 50) d8-Toluene (S) | 18.98 | 98 | 3855719 | 100.20 | % | 0.00 |
| 68) Bromofluorobenzene (S) | 24.51 | 95 | 1715296 | 104.28 | % | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 3) Chloromethane | 6.85 | 50 | 1322033 | 44.08 | ng/ml | 99 |
| 4) Vinyl Chloride | 7.15 | 62 | 1281203 | 46.05 | ng/ml | 98 |
| 5) Ethylene oxide | 7.49 | 44 | 31632 | 1.73 | ng/mL# | 86 |
| 6) Bromomethane | 8.10 | 94 | 561365 | 38.76 | ng/ml | 88 |
| 7) Chloroethane | 8.33 | 64 | 836307 | 49.66 | ng/ml | 93 |
| 10) Acrolein | 10.07 | 56 | 18579 | 14.33 | ng/mL | 98 |
| 11) 1,1-Dichloroethene | 10.14 | 96 | 1275820 | 53.69 | ng/ml | 94 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 10.07 | 151 | 15904 | 1.12 | ng/mL# | 9 |
| 13) Acetone | 10.27 | 43 | 246354 | 39.17 | ng/ml | 98 |
| 14) Iodomethane | 10.54 | 142 | 179601 | 4.31 | ng/mL | 96 |
| 15) Carbon Disulfide | 10.69 | 76 | 3745100 | 43.39 | ng/ml | 98 |
| 16) Acetonitrile | 10.94 | 41 | 5606 | -31.54 | ng/mL# | 1 |
| 17) Methylene Chloride | 11.11 | 84 | 1180277 | 49.62 | ng/ml | 99 |
| 18) trans-1,2-Dichloroethene | 11.65 | 96 | 1230398 | 47.16 | ng/ml | 96 |
| 20) Acrylonitrile | 11.64 | 53 | 19823 | 5.62 | ng/mL# | 17 |
| 21) 1,1-Dichloroethane | 12.49 | 63 | 2096409 | 46.26 | ng/ml | 98 |
| 22) Vinyl acetate | 12.49 | 43 | 21054 | 1.45 | ng/mL# | 73 |
| 23) cis-1,2-dichloroethene | 13.59 | 96 | 1243700 | 49.45 | ng/ml | 96 |
| 24) 2-Butanone | 13.59 | 43 | 246473 | 35.31 | ng/ml | 98 |
| 26) Propionitrile | 13.76 | 54 | 19358 | 13.67 | ng/mL# | 67 |
| 28) Methacrylonitrile | 14.04 | 67 | 23070 | 5.03 | ng/mL# | 75 |
| 29) Chloroform | 14.16 | 83 | 2391872 | 49.66 | ng/ml | 96 |
| 30) 1,2-Dichloroethane | 15.34 | 62 | 1548792 | 55.06 | ng/ml# | 98 |
| 32) 1,1,1-Trichloroethane | 14.58 | 97 | 2328795 | 55.34 | ng/ml | 97 |
| 33) Carbon Tetrachloride | 14.90 | 117 | 2345712 | 52.24 | ng/ml | 97 |
| 35) Benzene | 15.33 | 78 | 3784674 | 48.62 | ng/ml | 98 |
| 36) 2-Nitropropane | 14.85 | 43 | 35415 | 3.45 | ng/mL# | 27 |
| 37) Isobutyl alcohol | 14.84 | 74 | 7223 | 56.65 | ng/mL# | 12 |
| 38) n-Butanol | 16.10 | 56 | 8062 | 31.04 | ng/mL# | 1 |
| 39) 1,2-Dichloropropane | 17.03 | 63 | 879528 | 47.05 | ng/ml | 97 |
| 40) Methyl methacrylate | 17.06 | 69 | 29780 | 3.68 | ng/mL# | 1 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\LCSG14S.D Vial: 2
Acq On : 14 Jul 98 9:57 Operator:
Sample : Inst : 5970-019
Misc : Multiplr: 1.00
Quant Time: Jul 14 10:29 1998 Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 41) | Dibromomethane | 17.33 | 93 | 14311 | 1.17 ng/mL# | 73 |
| 42) | 1,4-Dioxane | 16.81 | 88 | 11256 | 85.62 ng/mL | 92 |
| 43) | Trichloroethene | 16.52 | 130 | 1421973 | 44.50 ng/ml | 97 |
| 44) | Bromodichloromethane | 17.52 | 83 | 1638747 | 50.64 ng/ml | 96 |
| 45) | cis 1,3-Dichloropropene | 18.39 | 75 | 1412789 | 48.55 ng/ml | 98 |
| 47) | 4-Methyl-2-pentanone | 18.64 | 43 | 480418 | 44.10 ng/ml# | 88 |
| 48) | Pyridine | 19.00 | 79 | 11404 | 19.77 ng/mL# | 1 |
| 51) | Toluene | 19.13 | 91 | 4197224 | 50.51 ng/ml | 97 |
| 52) | trans 1,3-Dichloropropene | 19.52 | 75 | 1212363 | 46.41 ng/ml | 97 |
| 53) | Ethyl methacrylate | 19.54 | 69 | 84805 | 4.99 ng/mL# | 88 |
| 54) | 1,1,2-Trichloroethane | 19.96 | 97 | 761740 | 48.07 ng/ml | 98 |
| 55) | Tetrachloroethene | 20.31 | 164 | 1273574 | 47.45 ng/ml | 97 |
| 56) | 2-Hexanone | 20.38 | 43 | 327353 | 32.33 ng/ml# | 94 |
| 57) | Dibromochloromethane | 20.89 | 129 | 1168593 | 51.30 ng/ml | 99 |
| 59) | Chlorobenzene | 22.20 | 112 | 2784204 | 50.42 ng/ml | 100 |
| 61) | Ethylbenzene | 22.33 | 106 | 1572256 | 56.12 ng/ml | 96 |
| 62) | m-Xylene and p-Xylene | 22.57 | 106 | 3880711 | 104.34 ng/ml | 99 |
| 63) | o-Xylene | 23.43 | 106 | 1923537 | 53.50 ng/ml | 97 |
| 64) | Styrene | 23.45 | 104 | 2849729 | 49.60 ng/ml | 98 |
| 65) | Bromoform | 23.94 | 173 | 800483 | 45.21 ng/ml | 98 |
| 66) | Cyclohexanone | 24.47 | 98 | 26831 | 39.70 ng/ml# | 1 |
| 69) | 1,1,2,2-Tetrachloroethane | 24.73 | 83 | 831333 | 54.14 ng/mL | 96 |
| 71) | Trans-1,4-Dichloro-2-buten | 24.83 | 88 | 7190 | 7.17 ng/mL# | 1 |
| 75) | 1,2-Dibromo-3-chloropropan | 30.30 | 75 | 12144 | 5.99 ng/ml# | 20 |

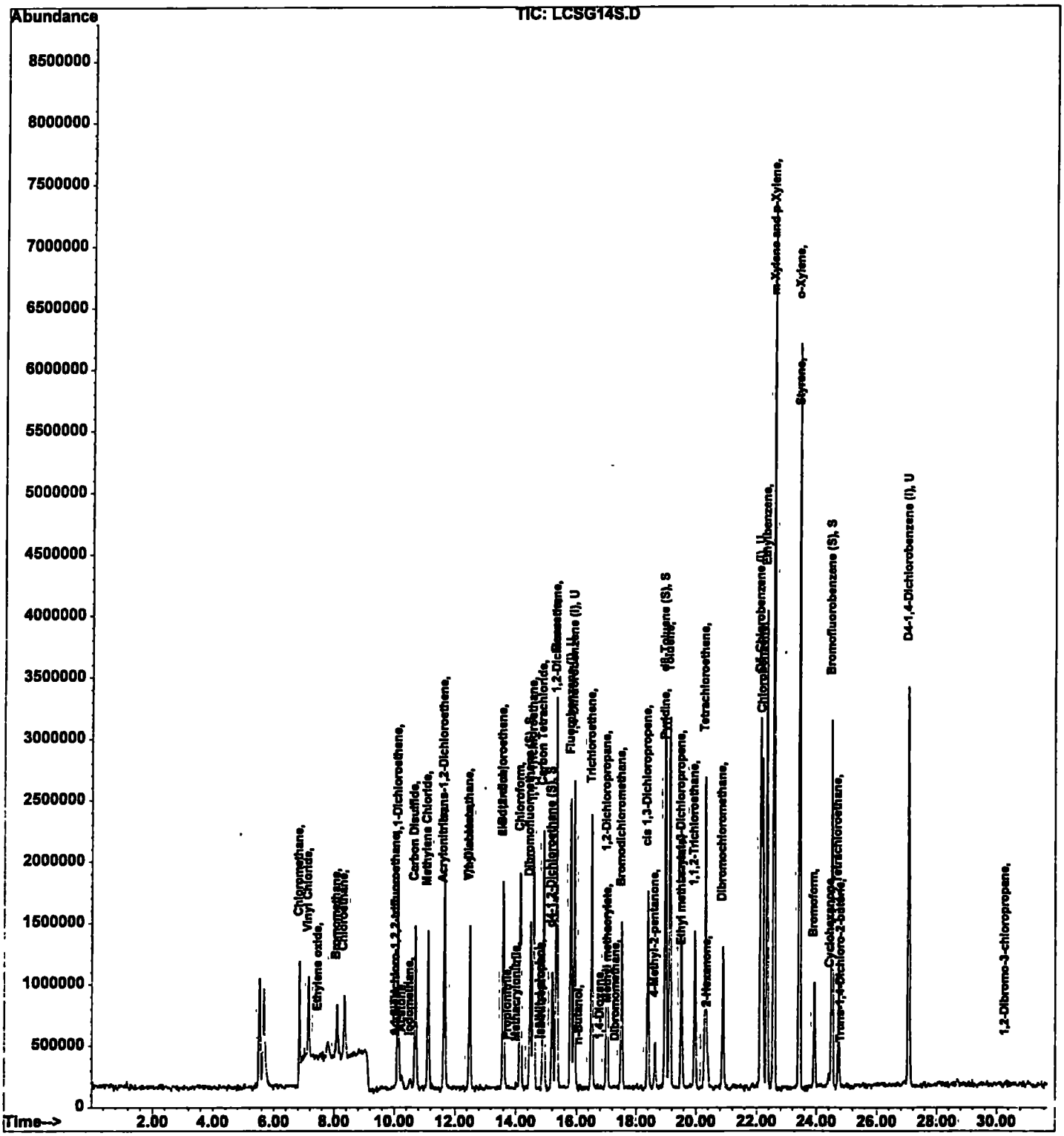
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\LCSG14S.D
Acq On : 14 Jul 98 9:57
Sample :
Misc :
Quant Time: Jul 14 10:29 1998

Vial: 2
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\87060VM.D
Acq On : 14 Jul 98 14:18
Sample :
Misc :
Quant Time: Jul 14 14:56 1998

Vial: 9
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

x1

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.80 | 96 | 4319717 | 50.00 ng/mL | -0.02 |
| 25) 1,4-Difluorobenzene (I) | 15.92 | 114 | 3731036 | 50.00 ng/mL | -0.02 |
| 49) D5-Chlorobenzene (I) | 22.12 | 117 | 3217339 | 50.00 ng/mL | -0.02 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.05 | 152 | 1657685 | 50.00 ng/mL | -0.02 |
| System Monitoring Compounds | | | | | |
| 31) Dibromofluormethane (S) | 14.47 | 113 | 1579062 | 106.38 % | -0.02 |
| 34) d4-1,2-Dichloroethane (S) | 15.18 | 65 | 1624370 | 106.85 % | -0.02 |
| 50) d8-Toluene (S) | 18.97 | 98 | 4008446 | 99.15 % | -0.02 |
| 68) Bromofluorobenzene (S) | 24.49 | 95 | 1599635 | 120.85 % | -0.02 |
| Target Compounds | | | | | Qvalue |
| 11) 1,1-Dichloroethene | 10.12 | 96 | 604061 | 22.52 ng/ml | 97 |
| 17) Methylene Chloride | 11.11 | 84 | 119809 | 4.46 ng/ml | 94 |
| 35) Benzene | 15.31 | 78 | 2218655 | 26.43 ng/ml | 99 |
| 43) Trichloroethene | 16.51 | 130 | 575480 | 16.70 ng/ml | 91 |
| 51) Toluene | 19.12 | 91 | 1848783 | 21.18 ng/ml | 100 |
| 59) Chlorobenzene | 22.18 | 112 | 934604 | 16.11 ng/ml | 98 |

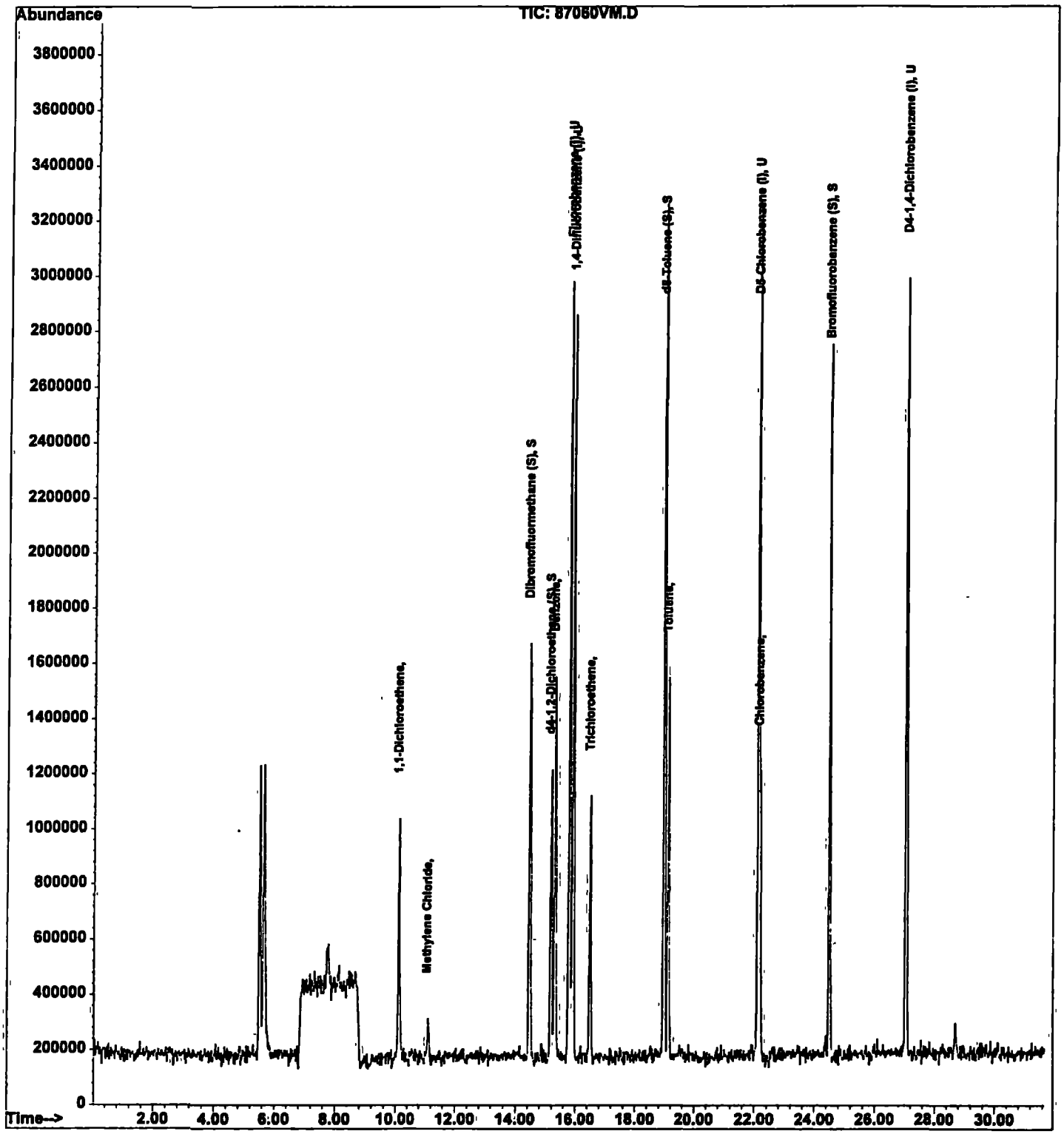
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\87060VM.D
Acq On : 14 Jul 98 14:18
Sample :
Misc :
Quant Time: Jul 14 14:56 1998

Vial: 9
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\87060VD.D
Vial: 10
Acq On : 14 Jul 98 14:56
Operator:
Sample :
Inst : 5970-019
Misc :
Multiplr: 1.00
Quant Time: Jul 14 15:31 1998
Quant Results File: VOAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Initial Calibration
DataAcq Meth : VOAHSL

XL

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) Fluorobenzene (I) | 15.80 | 96 | 4308269 | 50.00 ng/mL | -0.01 |
| 25) 1,4-Difluorobenzene (I) | 15.92 | 114 | 3841795 | 50.00 ng/mL | -0.01 |
| 49) D5-Chlorobenzene (I) | 22.12 | 117 | 3243007 | 50.00 ng/mL | -0.01 |
| 67) D4-1,4-Dichlorobenzene (I) | 27.06 | 152 | 1783480 | 50.00 ng/mL | -0.01 |
| System Monitoring Compounds | | | | | |
| 31) Dibromofluormethane (S) | 14.47 | 113 | 1576699 | 103.16 % | -0.01 |
| 34) d4-1,2-Dichloroethane (S) | 15.18 | 65 | 1644282 | 105.04 % | -0.01 |
| 50) d8-Toluene (S) | 18.97 | 98 | 4114220 | 100.96 % | -0.01 |
| 68) Bromofluorobenzene (S) | 24.49 | 95 | 1631065 | 114.54 % | -0.01 |
| Target Compounds | | | | | Qvalue |
| 11) 1,1-Dichloroethene | 10.12 | 96 | 642261 | 24.00 ng/ml | 96 |
| 17) Methylene Chloride | 11.10 | 84 | 129269 | 4.83 ng/ml | 97 |
| 35) Benzene | 15.31 | 78 | 2430438 | 28.12 ng/ml | 98 |
| 43) Trichloroethene | 16.51 | 130 | 660386 | 18.61 ng/ml | 94 |
| 51) Toluene | 19.12 | 91 | 2040147 | 23.18 ng/ml | 99 |
| 59) Chlorobenzene | 22.19 | 112 | 1051901 | 17.99 ng/ml | 98 |

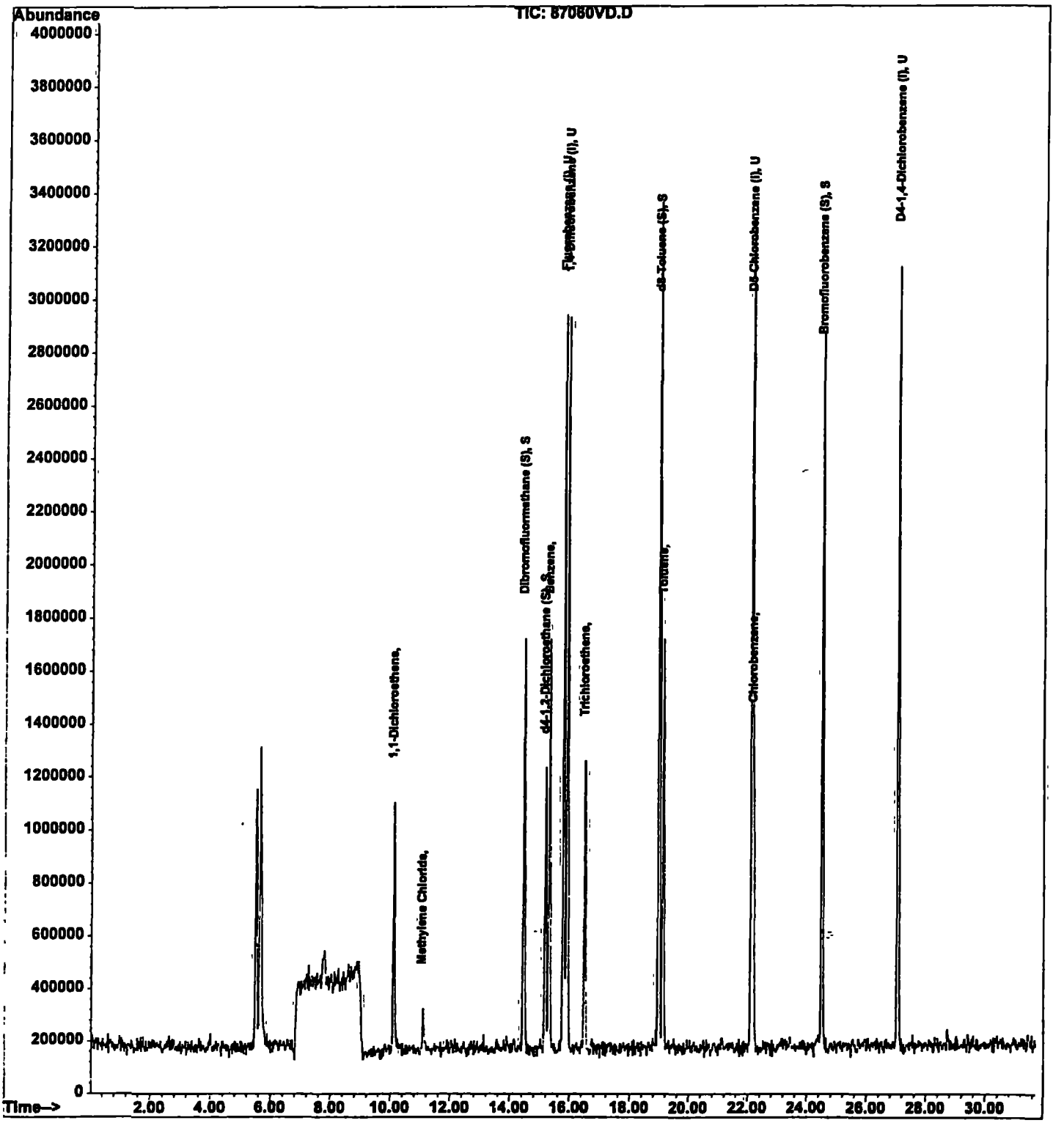
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\87060VD.D
Acq On : 14 Jul 98 14:56
Sample :
Misc :
Quant Time: Jul 14 15:31 1998

Vial: 10
Operator:
Inst : 5970-019
Multiplr: 1.00
Quant Results File: VOAHSL.RES

Method : C:\HPCHEM\1\METHODS\VOAHSL.M
Title :
Last Update : Tue Jul 14 09:59:22 1998
Response via : Multiple Level Calibration



**SEMIVOLATILES**

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Instrument Calibration Summary Printout
Raw Sample in order by data and time analyzed
Method Blank
LCS
MS/MSD

**DATA PACKET**
Semivolatiles

# ANALYTICAL REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-011**

| | | | |
|---|---|---|---|
| **Date Sampled:** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | 07/13/98 | **ENCOTEC QC Set ID:** | BNAG1304S |
| **Analysis Date:** | 07/14/98 | **ENCOTEC Submission ID:** | 100012497 |
| **Second Analysis Date:** | N/A | **ENCOTEC Sample ID:** | 200087059 |
| **Method Reference:** | 8270 | **Percent Total Solids:** | N/A |
| **Matrix:** | SOLID | **Calculation Basis:** | Wet Weight |

| | SEMIVOLATILE ORGANICS MDEQ Part 201, PAHs List | CAS # | Quant Limit (ug/Kg) | Dil | Conc (ug/Kg) | Flag |
|---|---|---|---|---|---|---|
| 1 | Acenaphthene | 83-32-9 | 1700 | 10 | U | |
| 2 | Acenaphthylene | 208-96-8 | 1700 | 10 | U | |
| 3 | Anthracene | 120-12-7 | 1700 | 10 | U | |
| 4 | Benzo(a)anthracene | 56-55-3 | 1700 | 10 | 7900 | |
| 5 | Benzo(a)pyrene | 50-32-8 | 1700 | 10 | 4700 | |
| 6 | Benzo(b)fluoranthene | 205-99-2 | 1700 | 10 | 14000 | |
| 7 | Benzo(g,h,i)perylene | 191-24-2 | 1700 | 10 | 5200 | |
| 8 | Benzo(k)fluoranthene | 207-08-9 | 1700 | 10 | 4200 | |
| 9 | Chrysene | 218-01-9 | 1700 | 10 | 14000 | |
| 10 | Dibenz(a,h)anthracene | 53-70-3 | 1700 | 10 | 1900 | |
| 11 | Fluoranthene | 206-44-0 | 1700 | 10 | 11000 | |
| 12 | Fluorene | 86-73-7 | 1700 | 10 | U | |
| 13 | Indeno(1,2,3-c,d)pyrene | 193-39-5 | 1700 | 10 | 5000 | |
| 14 | Naphthalene | 91-20-3 | 1700 | 10 | 4500 | |
| 15 | Phenanthrene | 85-01-8 | 1700 | 10 | 3900 | |
| 16 | Pyrene | 129-00-0 | 1700 | 10 | U | |

**Laidlaw Environmental, Inc. / ENCOTEC**
3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034

**Report Date:** 07/17/98

# ANALYTICAL REPORT

**CLIENT: ECOLOGY & ENVIRONMENT, INC.**
**Project/Site: S05-9807-801**
**Sample ID: MCHSS-012**

| | | | |
|---|---|---|---|
| **Date Sampled:** | 07/09/98 | **ENCOTEC Project ID:** | 71060 |
| **Date Received:** | 07/10/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Date Extracted:** | 07/13/98 | **ENCOTEC QC Set ID:** | BNAG1304S |
| **Analysis Date:** | 07/15/98 | **ENCOTEC Submission ID:** | 10001297 |
| **Second Analysis Date:** | N/A | **ENCOTEC Sample ID:** | 200087061 |
| **Method Reference:** | 8270 | **Percent Total Solids:** | N/A |
| **Matrix:** | SOLID | **Calculation Basis:** | Wet Weight |

| | SEMIVOLATILE ORGANICS MDEQ Part 201, PAHs List | CAS # | Quant Limit (ug/Kg) | Dil | Conc (ug/Kg) | Flag |
|---|---|---|---|---|---|---|
| 1 | Acenaphthene | 83-32-9 | 670 | 4.0 | U | |
| 2 | Acenaphthylene | 208-96-8 | 670 | 4.0 | 890 | |
| 3 | Anthracene | 120-12-7 | 670 | 4.0 | U | |
| 4 | Benzo(a)anthracene | 56-55-3 | 670 | 4.0 | 6000 | |
| 5 | Benzo(a)pyrene | 50-32-8 | 670 | 4.0 | 4900 | |
| 6 | Benzo(b)fluoranthene | 205-99-2 | 670 | 4.0 | 9500 | |
| 7 | Benzo(g,h,i)perylene | 191-24-2 | 670 | 4.0 | 4400 | |
| 8 | Benzo(k)fluoranthene | 207-08-9 | 670 | 4.0 | 2900 | |
| 9 | Chrysene | 218-01-9 | 670 | 4.0 | 8200 | |
| 10 | Dibenz(a,h)anthracene | 53-70-3 | 670 | 4.0 | 1700 | |
| 11 | Fluoranthene | 206-44-0 | 670 | 4.0 | 6700 | |
| 12 | Fluorene | 86-73-7 | 670 | 4.0 | U | |
| 13 | Indeno(1,2,3-c,d)pyrene | 193-39-5 | 670 | 4.0 | 4000 | |
| 14 | Naphthalene | 91-20-3 | 670 | 4.0 | 1000 | |
| 15 | Phenanthrene | 85-01-8 | 670 | 4.0 | 1600 | |
| 16 | Pyrene | 129-00-0 | 670 | 4.0 | 6300 | |

**Laidlaw Environmental, Inc. / ENCOTEC**
3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (313) 761-1389 - Telefax: (313) 761-1034

**Report Date:** 07/17/98

# QUALITY ASSESSMENT REPORT - METHOD BLANK Analysis

| | | | |
|---|---|---|---|
| **Extraction Date:** | 07/13/98 | **ENCOTEC Project ID:** | 71060 |
| **Analysis Date:** | 07/14/98 | **ENCOTEC SDG ID:** | EEI-WC-98G1 |
| **Second Analysis Date:** | N/A | **ENCOTEC QC Set ID:** | BNAG1304S |
| **Method Reference:** | 8270 | **ENCOTEC Submission ID:** | 100012497 |
| **Matrix:** | SOLID | **ENCOTEC Method Blank ID:** | 200085472 |

| | SEMIVOLATILE ORGANICS MDEQ Part 201, PAHs List | CAS # | Quant Limit (ug/Kg) | Dil | Conc (ug/Kg) | Flag |
|---|---|---|---|---|---|---|
| 1 | Acenaphthene | 83-32-9 | 330 | 1.0 | U | |
| 2 | Acenaphthylene | 208-96-8 | 330 | 1.0 | U | |
| 3 | Anthracene | 120-12-7 | 330 | 1.0 | U | |
| 4 | Benzo(a)anthracene | 56-55-3 | 330 | 1.0 | U | |
| 5 | Benzo(a)pyrene | 50-32-8 | 330 | 1.0 | U | |
| 6 | Benzo(b)fluoranthene | 205-99-2 | 330 | 1.0 | U | |
| 7 | Benzo(g,h,i)perylene | 191-24-2 | 330 | 1.0 | U | |
| 8 | Benzo(k)fluoranthene | 207-08-9 | 330 | 1.0 | U | |
| 9 | Chrysene | 218-01-9 | 330 | 1.0 | U | |
| 10 | Dibenz(a,h)anthracene | 53-70-3 | 330 | 1.0 | U | |
| 11 | Fluoranthene | 206-44-0 | 330 | 1.0 | U | |
| 12 | Fluorene | 86-73-7 | 330 | 1.0 | U | |
| 13 | Indeno(1,2,3-c,d)pyrene | 193-39-5 | 330 | 1.0 | U | |
| 14 | Naphthalene | 91-20-3 | 330 | 1.0 | U | |
| 15 | Phenanthrene | 85-01-8 | 330 | 1.0 | U | |
| 16 | Pyrene | 129-00-0 | 330 | 1.0 | U | |

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**Report Date:** 07/17/98

Laidlaw Environmental, Inc. / ENCOTEC
3985 Research Park Drive * Ann Arbor, MI 48108
734 / 761-1389

**SOIL MATRIX SURROGATE RECOVERY**
**SEMIVOLATILE ORGANICS**

Project Name: ECOLOGY & ENVIRONMENTAL INC.
Project Number: 71060
Method: 8270 X 8270B ___
Report Date: July 17, 1998
QC Set I.D.: BNAG1304S

| ENCOTEC Sample I. D. | BASE-NEUTRAL EXTRACTABLE ANALYTES % Recovery Nitrobenzene -d5 (23-120) | % Recovery 2-Fluorobi-phenyl (30-115) | % Recovery Terphenyl -d14 (18-137) | ACID EXTRACTABLE ANALYTES % Recovery Phenol-d5 (24-113) | % Recovery 2-Fluoro-phenol (25-121) | % Recovery 2,4,6-Tribromo-phenol (19-122) |
|---|---|---|---|---|---|---|
| 200087059 | DL | DL | DL | DL | DL | DL |
| 200087061 | 84 | 92 | 78 | 82 | 74 | 88 |
| 200085472 MB | 75 | 83 | 77 | 84 | 63 | 78 |
| 200085609 LCS | 84 | 85 | 87 | 81 | 65 | 82 |
| 200087061 MS | 90 | 102 | 96 | 95 | 92 | 99 |
| 200087061 MSD | 92 | 103 | 80 | 89 | 77 | 90 |

* Value outside of quality control windows.
DL = Sample extract diluted, therefore surrogate recoveries not applicable.
M = Matrix interferences caused distortion to recovery value.

**RECOVERY:** 0 out of 30 outside QC Windows

Note:

Form 090SSL2G.GEN Rev. 09/27/97

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**LABORATORY CONTROL SAMPLE (LCS)**
**SEMIVOLATILE ORGANICS - SOIL MATRIX**

Project Name: ENCOTEC
Project Number: 10000
QC Set ID: BNAG1304S

**ENCOTEC ID:** 200085809

| Compound | Conc. pike (mg/kg) | Conc. LCS (mg/kg) | Percent Recovery (%) | | Quality Control Windows Recovery (%) |
|---|---|---|---|---|---|
| 2-Chlorophenol | 3.30 | 2.66 | 81 | | 57-112 |
| bis(2-Chloroethyl)ether | 3.30 | 2.66 | 81 | | 61-123 |
| Phenol | 3.30 | 2.34 | 71 | | 58-120 |
| 1,3-Dichlorobenzene | 3.30 | 2.38 | 72 | | 68-114 |
| 1,4-Dichlorobenzene | 3.30 | 2.50 | 76 | | 67-119 |
| 1,2-Dichlorobenzene | 3.30 | 2.58 | 78 | | 71-116 |
| bis(2-Chloroisopropyl)ether | 3.30 | 2.66 | 81 | | 52-151 |
| Hexachloroethane | 3.30 | 2.71 | 82 | | 69-126 |
| n-Nitroso-di-n-propylamine | 3.30 | 2.88 | 87 | | 79-114 |
| Nitrobenzene | 3.30 | 2.60 | 79 | | 46-137 |
| Isophorone | 3.30 | 2.78 | 84 | | 61-126 |
| 2-Nitrophenol | 3.30 | 2.53 | 77 | | 62-113 |
| 2,4-Dimethylphenol | 3.30 | 2.68 | 81 | | 54-121 |
| bis(2-Chloroethoxy)methane | 3.30 | 2.53 | 77 | | 74-127 |
| 2,4-Dichlorophenol | 3.30 | 2.73 | 83 | | 61-116 |
| 1,2,4-Trichlorobenzene | 3.30 | 2.54 | 77 | | 74-120 |
| Naphthalene | 3.30 | 2.72 | 82 | | 75-119 |
| Hexachlorobutadiene | 3.30 | 2.86 | 87 | | 58-162 |
| 4-Chloro-3-methylphenol | 3.30 | 2.54 | 77 | * | 80-117 |
| 2,4,6-Trichlorophenol | 3.30 | 2.68 | 81 | | 62-116 |
| 2-Chloronaphthalene | 3.30 | 2.65 | 80 | | 70-124 |
| Acenaphthylene | 3.30 | 2.65 | 80 | | 69-118 |
| 2,6-Dinitrotoluene | 3.30 | 2.56 | 78 | | 30-167 |
| Acenaphthene | 3.30 | 2.66 | 81 | | 68-131 |
| 2,4-Dinitrophenol | 3.30 | 0.390 | 12 | | D-113 |
| 2,4-Dinitrotoluene | 3.30 | 2.69 | 82 | | 78-121 |
| 4-Nitrophenol | 3.30 | 2.31 | 70 | | 56-109 |
| Fluorene | 3.30 | 2.65 | 80 | | 74-132 |
| 4-Chlorophenyl phenyl ether | 3.30 | 2.95 | 89 | | 74-128 |
| Diethylphthalate | 3.30 | 2.95 | 89 | | 72-128 |
| 4,6-Dinitro-2-methylphenol | 3.30 | 1.39 | 42 | | 2-175 |
| n-Nitrosodiphenylamine | 3.30 | 2.69 | 82 | | 30-171 |
| 4-Bromophenyl phenyl ether | 3.30 | 2.41 | 73 | | 68-131 |
| Hexachlorobenzene | 3.30 | 3.08 | 93 | | 68-128 |
| Pentachlorophenol | 3.30 | 1.68 | 51 | | 18-100 |
| Phenanthrene | 3.30 | 2.58 | 78 | | 74-126 |
| Anthracene | 3.30 | 2.57 | 78 | | 75-132 |
| Di-n-butyl phthalate | 3.30 | 2.54 | 77 | | 77-126 |
| Fluoranthene | 3.30 | 2.63 | 80 | | 69-141 |
| Pyrene | 3.30 | 2.73 | 83 | | 65-145 |
| Butyl benzyl phthalate | 3.30 | 2.80 | 85 | | 71-143 |
| Benzo(a)anthracene | 3.30 | 2.61 | 79 | | 69-139 |
| Chrysene | 3.30 | 3.38 | 102 | | 48-182 |
| 3-3'-Dichlorobenzidine | 3.30 | 2.96 | 90 | | D-292 |
| bis(2-Ethylhexyl)phthalate | 3.30 | 2.79 | 85 | | 38-188 |
| Di-n-octyl phthalate | 3.30 | 2.87 | 87 | | 21-173 |
| Benzo(b)fluoranthene | 3.30 | 2.39 | 72 | | 50-135 |
| Benzo(k)fluoranthene | 3.30 | 2.40 | 73 | | 62-141 |
| Benzo(a)pyrene | 3.30 | 2.50 | 76 | | 70-134 |
| Indeno(1,2,3-cd)pyrene | 3.30 | 2.56 | 78 | | 35-169 |
| Dibenz(a,h)anthracene | 3.30 | 3.12 | 95 | | 41-171 |
| Benzo(ghi)perylene | 3.30 | 3.27 | 99 | | 2-192 |

Recovery: 1 out of 52 outside QC windows

Note:
SAVED AS D:\DATA\QC\BLG1304S.XLS

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**MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD)**
**SEMIVOLATILE ORGANICS - SOIL MATRIX**

roject Name: ENCOTEC
Project Number: 10000
QC Set ID: BNAG1304S

**SAMPLE SPIKED - ENCOTEC ID: 200087061**

| Compound | Conc. Spiked (mg/Kg) | Sample Result (mg/Kg) | Conc. MS (mg/Kg) | Percent Recovery (%) | Conc. MSD (mg/Kg) | Percent Recovery (%) | RPD (%) | Quality Control Limits RPD (%) | Quality Control Limits Recovery (%) |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 3.30 | U | 2.98 | 90 | 3.00 | 91 | 0.49 | 23 | 43-113 |
| Acenaphthene | 3.30 | U | 3.06 | 93 | 2.87 | 87 | 6.46 | 19 | 45-124 |
| 2,4-Dinitrotoluene | 3.30 | U | 2.73 | 83 | 2.70 | 82 | 0.83 | 47 | 44-109 |
| Pyrene | 3.30 | 6.3 | 18.0 | 355 * | 15.5 | 280 * | 14.86 | 36 | 24-142 |
| N-Nitroso-di-*n*-propylamine | 3.30 | U | 3.46 | 105 | 3.33 | 101 | 3.62 | 38 | 44-115 |
| 1,4-Dichlorobenzene | 3.30 | U | 3.26 | 99 | 2.82 | 85 | 14.43 | 27 | 40-108 |
| Pentachlorophenol | 5.00 | U | 4.45 | 89 | 4.34 | 87 | 2.43 | 47 | 33-129 |
| Phenol | 5.00 | U | 4.80 | 96 | 4.76 | 95 | 0.83 | 35 | 60-97 |
| 2-Chlorophenol | 5.00 | U | 4.99 | 100 | 4.68 | 94 | 6.34 | 50 | 49-111 |
| 4-Chloro-3-methylphenol | 5.00 | U | 4.11 | 82 | 4.11 | 82 | 0.00 | 33 | 49-120 |
| 4-Nitrophenol | 5.00 | U | 3.69 | 74 | 4.06 | 81 | 9.61 | 50 | 41-133 |

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RPD: 0 out of 11 outside of QC Limits.
Recovery: 2 out of 22 outside of QC Limits.

Note:
SAVED AS: D:\DATA\QC\BmG1304S.XLS

# PESTICIDES AND/OR BNA EXTRACTION FOR SOILS

ENCOTEC

Method
3550 ✓
3545
3540

DATE 07 / 13 / 98

CLIENT: EEI
BATCH #: 12497

SURROGATE/SPIKE CHECKED BY

PEST SURROGATE:
CONC. 4 ppm/2 ppm, AMT 1.0 ml
ID.

PEST SPIKE: 07/13/98
CONC: mixed, AMT. 1.0 ml
ID:

QC SET ID

PESTICIDE LCS ID

BNA SURROGATE: BNA Surrogate
CONC 150 ppm/100 ppm, AMT 1.0 ML
ID: MB153D

BNA SPIKE: BNA Matrix Spi
CONC mixed, AMT 1.0 ml
ID: MB154D

QC SET ID DNAG13045

BNA LCS ID LBMAG13045

| CLIENT | CLIENT I.D. | ENCOTEC # | WT.(g) | PEST Final Vol | PEST Split Ratio | BNA Final Vol | BNA Split Ratio | REMARKS |
|---|---|---|---|---|---|---|---|---|
| EEI | MCHSS-011 | 87659 | 30.03 | — | — | 2.0 | I | |
| | MCHSS-012 | 87061 | 30.04 | — | — | 2.0 | I | |
| | MCHSS-012 | 87061 MS | 29.96 | — | — | 2.0 | I | #86027 |
| | MCHSS-012 | 87061 MSD | 30.02 | — | — | 2.0 | I | #86102 |
| | LCS | 85609 | — | — | — | 2.0 | I | C-397 625 LCS Spike Lot # 042898-06 |
| | MB071398-1A | 85472 | — | — | — | 2.0 | I | |
| | | | | | | | | KG 7/13/98 |

| SAMPLE | LOCATION | DATE/TIME | ANALYST |
|---|---|---|---|
| TAKEN FROM | LI | 7/13/98 4:00p | KG |
| RETURNED TO | LI | 10:00p | KG |
| EXTRACTS STORED | 12 | | KG |
| PEST EXTRACTS TO | | | |
| BNA EXTRACTS TO | G.C/MS | 07/14/98 - 14:30 | DJO |

| | ANALYST | DATE/TIME |
|---|---|---|
| EXT | KG | 7/13/98 4:00p |
| CONC | DJO | 07/14/98 - 10:30 |
| C/U | | |

PEST C/U
COLUMN PACKING DIOL - DJO 07/14/98
LOT #
DATE / / AMT 1.0 ML
ELUENT 90% HEXANE/10% ACETONE
FRACTION SAVED 0 - 10 MLS

DJO 07/14/98

CHECKED BY: David J Oldfield DATE 07 / 14 / 98

PROCEDURE HIGHLIGHTS
PEST SPLIT FOR ONE PARAMETER EXTRACTION 1.0mL OF 10 mL SPLIT FINAL VOLUME 2.0 mL
PEST SPLIT FOR MULTI-PARAMETER EXTRACTION 1.0 mL OF 10 mL EXTRACT; FINAL VOLUME 2.0 mL
BNA SPLIT FOR MULTI-PARAMETER EXTRACTION 9.0 mL OF 10 mL EXTRACT. FINAL VOLUME 1.8 mL
BNA SPLIT FOR ONE PARAMETER EXTRACTION NO SPLITS FINAL VOLUME 2.0 mL

CALIBRATION WEIGHT SET 5002
BALANCE ID 10303953
WT USED (g)
BAL RD (g)
CAL REQ (+/- 0.05 g) Y N

©

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PESTBNAS XLS 05/19/97

**RAW DATA**
Semivolatiles

# Laidlaw Environmental Services / Encotec

## GC/MS Semivolatile Analysis

**Standard ID's:** MB073D-078D
**Reference Std :** 50BXG08.D
**Instrument ID:** 5971-024
**GC Column :** DB-5MS CAP 30 M. 0.25 mm. 0.25u

**Run ID :** 7-8-98
**Date :** 7/8/98
**Tape Number :** 1-98-X
**Operator :** RBJ
**Multiplier :** 2176

| | Client | Batch | Time | File Name | Type | Matrix | Dilution | Factor | Rerun | Sample ID |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ENCOTEC | 10000 | 10:12 | DFTXG08 | TUNE | N/A | N/A | N/A | | Breakdown = 9.3% |
| 2 | ENCOTEC | 10000 | 10:58 | 160BXG08 | STD | N/A | N/A | N/A | | |
| 3 | ENCOTEC | 10000 | 11:36 | 120BXG08 | STD | N/A | N/A | N/A | | |
| 4 | ENCOTEC | 10000 | 12:14 | 80BXG08 | STD | N/A | N/A | N/A | | |
| 5 | ENCOTEC | 10000 | 12:52 | 50BXG08 | STD | N/A | N/A | N/A | | |
| 6 | ENCOTEC | 10000 | 13:30 | 10BXG08 | STD | N/A | N/A | N/A | | |
| 7 | ENCOTEC | 10000 | 14:09 | 85459MB | BLANK | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | LSBG062A |
| 8 | ENCOTEC | 10000 | 14:47 | 85602LCS | LCS | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | LCSG062A |
| 9 | BLA | 12369 | 15:25 | 86474B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 10 | BLA | 12369 | 16:03 | 86474BM | MS | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 11 | BLA | 12369 | 16:42 | 86474BD | MSD | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 12 | BLA | 12369 | 17:20 | 86470B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 13 | BLA | 12369 | 17:58 | 86471B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 14 | BLA | 12369 | 18:37 | 86472B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 15 | BLA | 12369 | 19:15 | 86473DL | SAMPLE | SOIL | 100 ul Sample + 400 ul + 5 uL IS | 1/5 | | |
| 16 | BLA | 12369 | 19:53 | 86475B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 17 | BLA | 12369 | 20:32 | 86476DL | SAMPLE | SOIL | 100 ul Sample + 400 ul + 5 uL IS | 1/5 | | |
| 18 | BLA | 12369 | 21:10 | 86477DL | SAMPLE | SOIL | 100 ul Sample + 400 ul + 5 uL IS | 1/5 | | |

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| | IS1 | RT | IS2 | RT | IS3 | RT | IS4 | RT | IS5 | RT | IS6 | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Upper Limit | 871704 | 6.34 | 3046330 | 8.59 | 1485980 | 11.97 | 2223396 | 14.96 | 1719362 | 20 94 | 1083580 | 23.99 |
| Lower Limit | 217926 | 5.34 | 761583 | 7.59 | 371495 | 10.97 | 555849 | 13 96 | 429841 | 19 94 | 270895 | 22.99 |

*Re- Analysis Codes: A) Surrogates B) EICP's C) Dilution D) Carry-Over*

*Generated 7/10/98 11:16:26*

**ENCOTEC** GC/MS SEMIVOLATILE 5 WAY CALIBRATION

Instrument ID: 5971-024

Initial Calibration Date: 7/8/98

| STD | FILE: | STD | FILE: | STD | FILE: |
|---|---|---|---|---|---|
| 160 | 160BXG08.D | 80 | 80BXG08.D | 10 | 10BXG08.D |
| 120 | 120BXG08.D | 50 | 50BXG08.D | | |

| Compound | 10 | 50 | 80 | 120 | 160 | RF avg. | % RSD | RF Cont | Cont Rec | % Drift | CCC/SPCC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Phenol | 1.974 | 1.794 | 1.744 | 1.469 | 1.495 | 1.695 | 13 | | | | * |
| 1,4-Dichlorobenzene | 1.736 | 1.704 | 1.541 | 1.482 | 1.441 | 1.581 | 8.4 | | | | * |
| n-Nitroso-di-n-propylamine | 1.075 | 0.959 | 0.967 | 0.791 | 0.761 | 0.911 | | | | | ** |
| 2-Nitrophenol | 0.240 | 0.234 | 0.256 | 0.236 | 0.267 | 0.246 | 5.8 | | | | * |
| 2,4-Dichlorophenol | 0.305 | 0.298 | 0.299 | 0.272 | 0.266 | 0.288 | 6.2 | | | | * |
| Hexachlorobutadiene | 0.186 | 0.193 | 0.178 | 0.172 | 0.155 | 0.177 | 8.2 | | | | * |
| 4-Chloro-3-methylphenol | 0.306 | 0.297 | 0.314 | 0.298 | 0.295 | 0.302 | 2.6 | | | | * |
| Hexachlorocyclopentadiene | 0.128 | 0.195 | 0.273 | 0.312 | 0.345 | 0.250 | | | | | ** |
| 2,4,6-Trichlorophenol | 0.359 | 0.413 | 0.384 | 0.368 | 0.371 | 0.379 | 5.5 | | | | * |
| Acenaphthene | 1.209 | 1.196 | 1.099 | 0.994 | 1.052 | 1.110 | 8.3 | | | | * |
| 2,4-Dinitrophenol | -------- | 0.122 | 0.170 | 0.160 | 0.199 | 0.163 | | | | | ** |
| 4-Nitrophenol | -------- | 0.141 | 0.165 | 0.152 | 0.183 | 0.160 | | | | | ** |
| n-Nitrosodiphenylamine | 0.610 | 0.581 | 0.583 | 0.564 | 0.451 | 0.558 | 11 | | | | * |
| Pentachlorophenol | -------- | 0.151 | 0.178 | 0.164 | 0.173 | 0.167 | 7.1 | | | | * |
| Fluoranthene | 1.246 | 1.142 | 1.195 | 1.147 | 1.012 | 1.148 | 7.6 | | | | * |
| Di-n-octyl phthalate | 1.974 | 2.063 | 2.147 | 2.124 | 1.813 | 2.024 | 6.7 | | | | * |
| Benzo(a) pyrene | 1.420 | 1.469 | 1.462 | 1.348 | 1.306 | 1.401 | 5.1 | | | | * |

* = CCC - Calibration Check Compound: %RSD < 30 for initial calibration; % Diff. < 20.0 for continuing calibration.

** = SPCC - System Performance Check Compound: Minimum avg. RF > .050 for initial calibration, RF > 0 050 for continuing calibration

% RSD = Relative Standard Deviation

% Drift = (Cont. Cal. Std Conc. - Recovery Conc.) / Cont Cal. Std. Conc. Rec. x 100

EICPS:

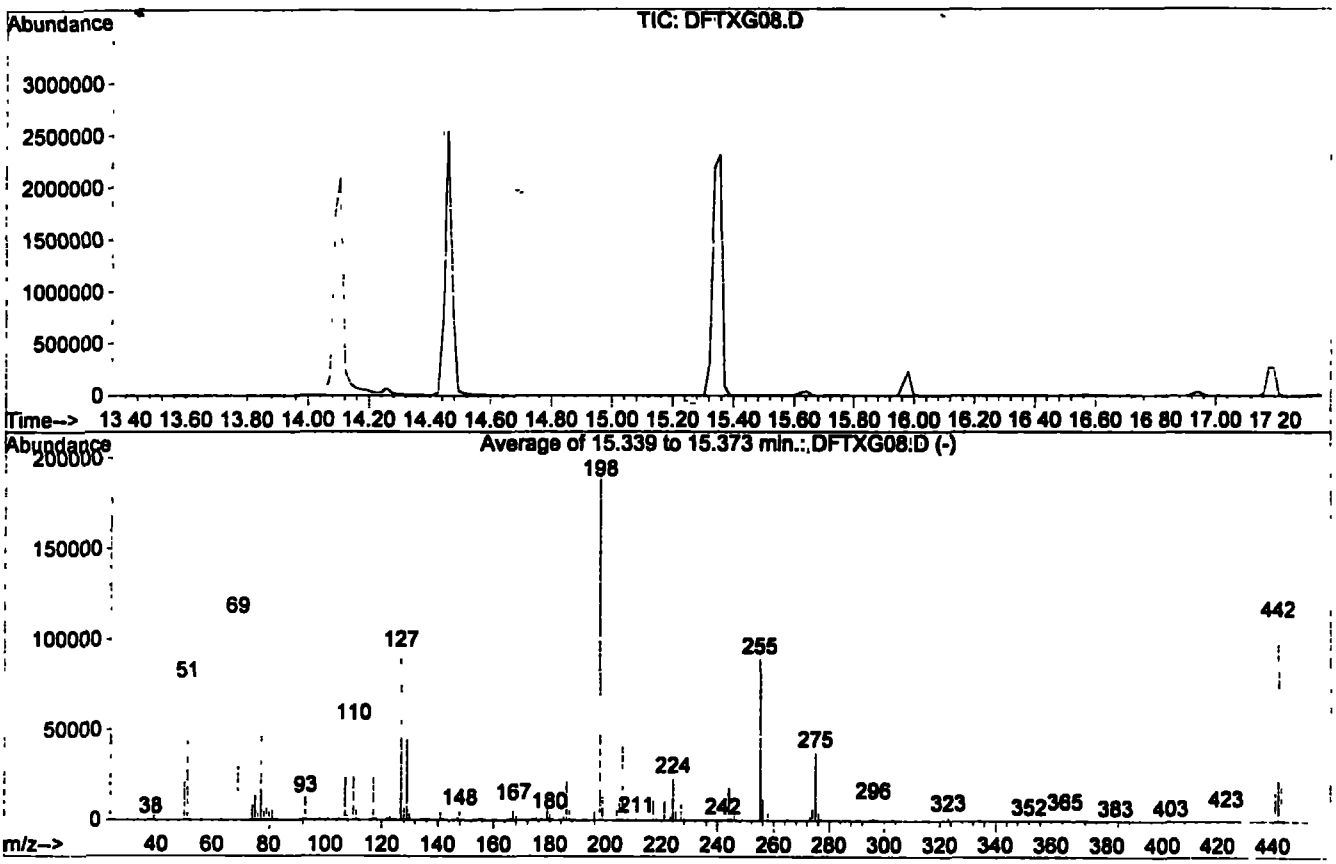
| IS1 | RT1 | IS2 | RT2 | IS3 | RT3 | IS4 | RT4 | IS5 | RT5 | IS6 | RT6 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 871704 | 6.34 | 3046330 | 8.59 | 1485980 | 11.97 | 2223396 | 14.96 | 1719362 | 20.94 | 1083580 | 23.99 |
| 217926 | 5.34 | 761583 | 7.59 | 371495 | 10.97 | 555849 | 13.96 | 429841 | 19.94 | 270895 | 22.99 |

DFTPP

Data File : D:\DATA\DFTXG08.D
Acq On : 8 Jul 98 10:12
Sample :
Misc : 7-8-98

Vial: 1
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\DFTPP.M
Title :




AutoFind: Scans 767, 768, 769; Background Corrected with Scan 763

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 39.8 | 76147 | PASS |
| 68 | 69 | 0.00 | 2 | 0.6 | 638 | PASS |
| 69 | 198 | 0.00 | 100 | 58.6 | 112084 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 508 | PASS |
| 127 | 198 | 40 | 60 | 48.8 | 93238 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 191125 | PASS |
| 199 | 198 | 5 | 9 | 6.7 | 12888 | PASS |
| 275 | 198 | 10 | 30 | 19.9 | 37998 | PASS |
| 365 | 198 | 1 | 100 | 2.0 | 3882 | PASS |
| 441 | 443 | 0.01 | 100 | 78.4 | 16019 | PASS |
| 442 | 198 | 40 | 100 | 57.7 | 110357 | PASS |
| 443 | 442 | 17 | 23 | 18.5 | 20425 | PASS |

DFTXG08.D DFTPP.M Wed Jul 08 11:20:50 1998

Average of 15.339 to 15.373 min.: DFTXG08.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.00 | 252 | 56.95 | 5154 | 74.95 | 13938 | 87.00 | 699 |
| 38.00 | 1079 | 61.00 | 890 | 76.05 | 4131 | 88.00 | 174 |
| 39.00 | 6202 | 62.00 | 1049 | 77.05 | 89879 | 91.00 | 1494 |
| 41.00 | 391 | 63.00 | 2674 | 78.05 | 5557 | 92.00 | 1559 |
| 44.00 | 167 | 64.00 | 227 | 78.95 | 6993 | 92.95 | 12784 |
| 49.05 | 231 | 65.00 | 1319 | 79.95 | 5137 | 93.90 | 695 |
| 50.05 | 21152 | 68.00 | 638 | 80.95 | 6688 | 96.00 | 254 |
| 51.05 | 76147 | 68.90 | 112084 | 81.95 | 1433 | 97.95 | 8394 |
| 52.05 | 3354 | 69.95 | 508 | 82.95 | 1252 | 98.95 | 5706 |
| 54.95 | 512 | 73.05 | 714 | 84.95 | 1053 | 100.05 | 484 |
| 55.95 | 2362 | 74.00 | 8640 | 86.00 | 1906 | 100.95 | 3197 |

Average of 15.339 to 15.373 min.: DFTXG08.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 102.95 | 970 | 117.00 | 24051 | 132.05 | 181 | 147.00 | 2170 |
| 103.95 | 2012 | 117.95 | 1466 | 133.95 | 1064 | 147.90 | 5847 |
| 104.95 | 1770 | 121.90 | 1647 | 134.95 | 2574 | 148.95 | 995 |
| 106.05 | 301 | 122.90 | 2498 | 135.95 | 1211 | 150.00 | 183 |
| 106.95 | 23928 | 123.90 | 1195 | 136.95 | 1259 | 151.00 | 560 |
| 107.95 | 3270 | 124.90 | 1000 | 137.95 | 191 | 151.80 | 214 |
| 109.95 | 52863 | 126.95 | 93238 | 140.00 | 223 | 152.00 | 221 |
| 110.95 | 7112 | 127.95 | 6965 | 140.90 | 5246 | 152.90 | 1308 |
| 111.95 | 638 | 128.95 | 44490 | 142.00 | 1452 | 153.95 | 1001 |
| 112.90 | 185 | 129.95 | 3496 | 142.95 | 937 | 154.95 | 2239 |
| 116.00 | 902 | 130.95 | 571 | 145.95 | 810 | 155.95 | 3322 |

Average of 15.339 to 15.373 min.: DFTXG08.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 156.95 | 680 | 170.00 | 177 | 180.95 | 1633 | 196.60 | 306 |
| 157.95 | 732 | 171.00 | 188 | 184.00 | 499 | 197.90 | 191125 |
| 158.95 | 571 | 171.90 | 697 | 184.95 | 2589 | 198.90 | 12888 |
| 159.95 | 1323 | 172.95 | 835 | 185.95 | 21797 | 199.95 | 732 |
| 160.95 | 1807 | 174.00 | 1575 | 186.95 | 5665 | 201.50 | 839 |
| 161.90 | 437 | 175.00 | 2796 | 188.00 | 886 | 203.00 | 1047 |
| 164.95 | 1362 | 176.00 | 772 | 188.95 | 1347 | 204.00 | 5462 |
| 165.95 | 1198 | 176.95 | 1422 | 190.95 | 564 | 205.00 | 9463 |
| 167.00 | 8677 | 178.00 | 423 | 191.90 | 1670 | 206.00 | 41396 |
| 168.00 | 3618 | 178.90 | 6354 | 192.95 | 1574 | 207.00 | 4794 |
| 169.00 | 601 | 179.90 | 3793 | 195.95 | 5037 | 207.95 | 1359 |

Average of 15.339 to 15.373 min.: DFTXG08.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 208.95 | 216 | 226.05 | 576 | 240.95 | 461 | 257.90 | 4749 |
| 210.05 | 246 | 226.95 | 9391 | 241.95 | 1052 | 258.95 | 623 |
| 210.95 | 1606 | 227.95 | 1303 | 242.95 | 1067 | 264.95 | 1746 |
| 214.95 | 218 | 228.90 | 1735 | 243.95 | 18093 | 265.95 | 235 |
| 215.95 | 846 | 231.00 | 707 | 244.95 | 2161 | 272.95 | 2256 |
| 216.95 | 10904 | 233.90 | 589 | 245.95 | 3023 | 273.95 | 6340 |
| 217.95 | 1185 | 234.95 | 607 | 246.90 | 578 | 274.95 | 37998 |
| 220.95 | 11019 | 235.95 | 437 | 248.90 | 550 | 276.00 | 4474 |
| 223.00 | 2357 | 236.95 | 491 | 255.00 | 89410 | 277.00 | 2565 |
| 224.00 | 23546 | 238.95 | 226 | 255.95 | 12277 | 278.00 | 292 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 225.00 | 5196 | 239.95 | 174 | 256.95 | 881 | 283.00 | 167 |

Average of 15.339 to 15.373 min.: DFTXG08.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 285.00 | 350 | 326.90 | 523 | 365.90 | 352 | 442.00 | 110357 |
| 292.95 | 545 | 327.95 | 181 | 372.00 | 1279 | 443.00 | 20425 |
| 295.95 | 9875 | 333.00 | 173 | 372.95 | 237 | 444.00 | 1710 |
| 296.95 | 1147 | 334.00 | 1585 | 382.95 | 218 | | |
| 303.00 | 1007 | 335.00 | 255 | 401.95 | 354 | | |
| 304.00 | 176 | 341.00 | 185 | 402.95 | 467 | | |
| 314.00 | 272 | 345.95 | 418 | 420.90 | 473 | | |
| 314.90 | 1030 | 352.00 | 834 | 421.90 | 405 | | |
| 316.00 | 312 | 352.95 | 578 | 423.00 | 5483 | | |
| 323.00 | 3129 | 353.95 | 781 | 424.00 | 840 | | |
| 324.05 | 339 | 364.90 | 3882 | 441.00 | 16019 | | |

Quantitation Report (Not Reviewed)

Data File : D:\DATA\DFTXG08.D
Acq On : 8 Jul 98 10:12
Sample :
Misc : 7-8-98
Quant Time: Jul 8 11:16 1998

Vial: 1
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: DFTPP.RES

Quant Method : C:\HPCHEM\1\METHODS\DFTPP.M
Title :
Last Update : Mon Feb 23 20:23:22 1998
Response via : Continuing Cal File: D:\DATA\50BG07IX.D
DataAcq Meth : BNAHSL

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.85 | 152 | 706351 | 40.00 ng | -0.14 |
| 2) d8-Naphthalene (I) | 8.08 | 136 | 2437284 | 40.00 ng | -0.14 |
| 3) d10-Acenaphthene (I) | 11.45 | 164 | 1127475 | 40.00 ng | -0.14 |
| 5) d10-Phenanthrene (I) | 14.46 | 188 | 1645719 | 40.00 ng | -0.15 |
| 10) d12-Chrysene (I) | 20.44 | 240 | 1626219 | 40.00 ng | -0.13 |
| 11) d12-Perylene (I) | 23.51 | 264 | 1191014 | 40.00 ng | -0.13 |

System Monitoring Compounds

| Target Compounds | | | | | Qvalue |
|---|---|---|---|---|---|
| 4) Pentachlorophenol | 14.11 | 266 | 596596 | 67.27 ng | 98 |
| 6) Benzidine | 17.59 | 184 | 1816241 | 54.32 ng | 94 |
| 7) 4,4'-DDE | 18.02 | 246 | 3702 | 26.34 ng | 100 |
| 8) 4,4'-DDD | 18.80 | 235 | 107070 | 199.79 ng | 100 |
| 9) 4,4'-DDT | 19.49 | 235 | 1077689 | 65.46 ng | 100 |

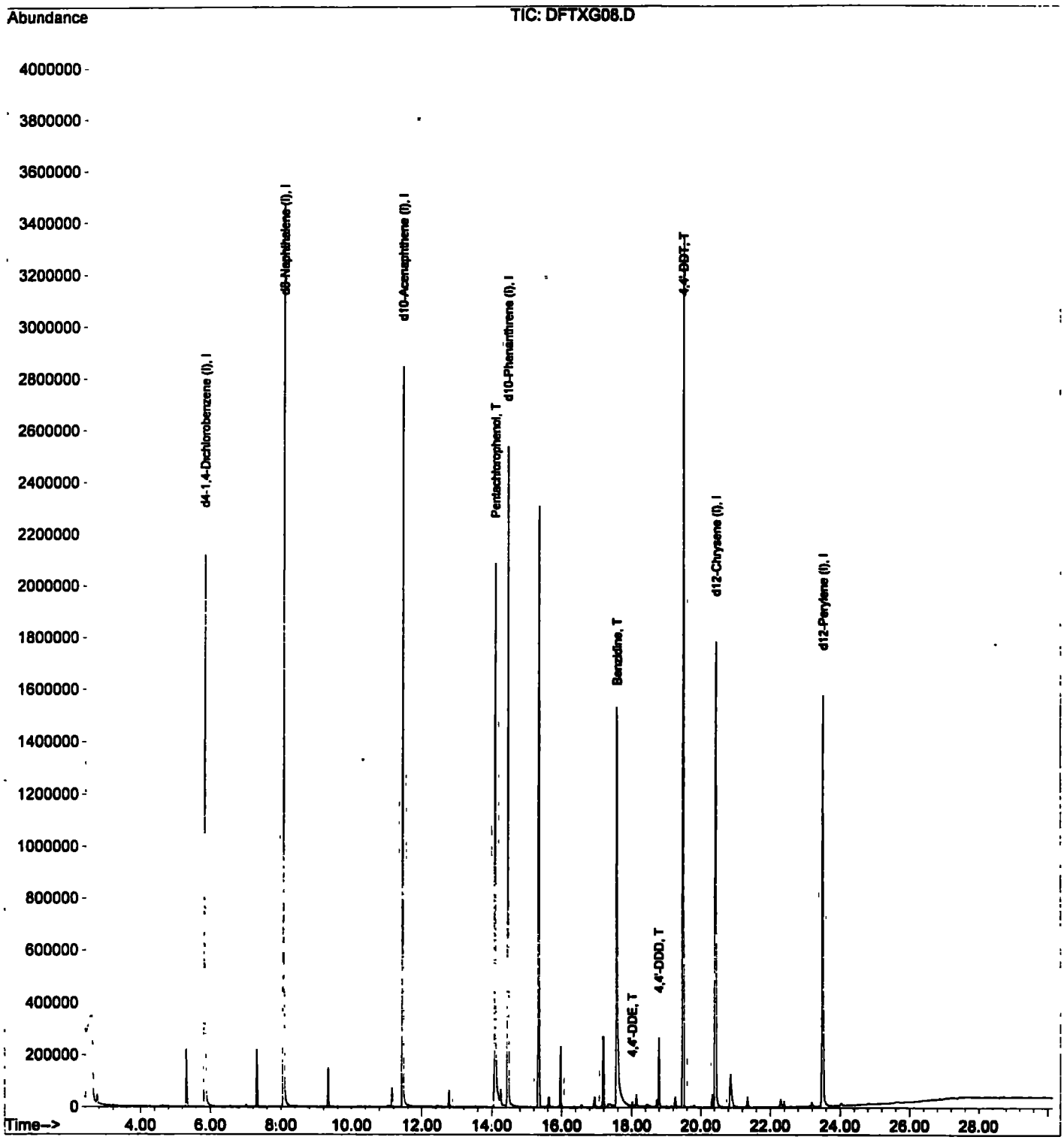
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\DATA\DFTXG08.D
Acq On : 8 Jul 98 10:12
Sample :
Misc : 7-8-98
Quant Time: Jul 8 11:16 1998

Vial: 1
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: DFTPP.RES

Method : C:\HPCHEM\1\METHODS\DFTPP.M
Title :
Last Update : Mon Feb 23 20:23:22 1998
Response via : Single Level Calibration



Compound List Report 5971-024

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
Total Cpnds : 85

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | d4-1,4-Dichlorobenzene (I) | 152 | 5.86 | 1.000 | A | 1 | A | L |
| 2 | T | Pyridine | 79 | 2.55 | 0.435 | A | 2 | A | B |
| 3 | S | 2-Fluorophenol (S) | 112 | 3.97 | 0.677 | A | 1 | A | B |
| 4 | T | Aniline | 93 | 5.37 | 0.916 | L | 2 | A | B |
| 5 | S | d4-2-Chlorophenol (S) | 132 | 5.51 | 0.939 | A | 2 | A | B |
| 6 | T | 2-Chlorophenol | 128 | 5.54 | 0.945 | A | 2 | A | B |
| 7 | T | bis(2-Chloroethyl) ether | 93 | 5.51 | 0.939 | A | 2 | A | B |
| 8 | S | d5-Phenol (S) | 99 | 5.36 | 0.914 | A | 2 | A | B |
| 9 | T | Phenol | 94 | 5.39 | 0.919 | A | 2 | A | B |
| 10 | T | 1,3-Dichlorobenzene | 146 | 5.76 | 0.983 | A | 2 | A | B |
| 11 | T | 1,4-Dichlorobenzene | 146 | 5.90 | 1.006 | A | 2 | A | B |
| 12 | S | d4-1,2-Dichlorobenzene (S) | 152 | 6.12 | 1.043 | A | 2 | A | B |
| 13 | T | 1,2-Dichlorobenzene | 146 | 6.13 | 1.046 | A | 2 | A | B |
| 14 | T | Benzyl alcohol | 108 | 6.17 | 1.052 | A | 3 | A | B |
| 15 | T | bis(2-Chloroisopropyl) ether | 45 | 6.37 | 1.086 | A | 2 | A | B |
| 16 | T | 2-Methylphenol | 108 | 6.35 | 1.084 | A | 1 | A | B |
| 17 | T | Hexachloroethane | 117 | 6.69 | 1.141 | A | 2 | A | B |
| 18 | T | n-Nitroso-di-n-propylamine | 70 | 6.62 | 1.130 | A | 3 | A | B |
| 19 | T | 3-Methylphenol | 108 | 6.66 | 1.135 | A | 1 | A | B |
| 20 | T | 4-Methylphenol | 108 | 6.66 | 1.135 | A | 1 | A | B |
| 21 | I | d8-Naphthalene (I) | 136 | 8.09 | 1.000 | A | 1 | A | L |
| 22 | S | d5-Nitrobenzene (S) | 82 | 6.83 | 0.843 | A | 2 | A | B |
| 23 | T | Nitrobenzene | 77 | 6.88 | 0.850 | A | 2 | A | B |
| 24 | T | Isophorone | 82 | 7.33 | 0.906 | A | 2 | A | B |
| 25 | T | 2-Nitrophenol | 139 | 7.43 | 0.919 | A | 2 | A | B |
| 26 | T | 2,4-Dimethylphenol | 107 | 7.59 | 0.937 | L | 2 | A | B |
| 27 | T | bis(2-chloroethoxy) methane | 93 | 7.76 | 0.958 | A | 2 | A | B |
| 28 | T | 2,4-Dichlorophenol | 162 | 7.89 | 0.975 | A | 2 | A | B |
| 29 | T | 1,2,4-Trichlorobenzene | 180 | 8.01 | 0.990 | A | 2 | A | B |
| 30 | T | Naphthalene | 128 | 8.14 | 1.006 | A | 2 | A | B |
| 31 | T | Benzoic acid | 122 | 8.04 | 0.994 | A | 2 | A | B |
| 32 | T | 4-Chloroaniline | 127 | 8.30 | 1.025 | A | 1 | A | B |
| 33 | T | Hexachlorobutadiene | 225 | 8.40 | 1.038 | A | 2 | A | B |
| 34 | T | 2-Methylnaphthalene | 142 | 9.48 | 1.171 | A | 1 | A | B |
| 35 | T | 4-Chloro-3-methylphenol | 107 | 9.29 | 1.148 | A | 2 | A | B |
| 36 | I | d10-Acenapthene (I) | 164 | 11.47 | 1.000 | A | 2 | A | L |
| 37 | T | Hexachlorocyclopentadiene | 237 | 9.78 | 0.853 | A | 2 | A | B |
| 38 | T | 2,4,6-Trichlorophenol | 196 | 10.05 | 0.876 | A | 2 | A | B |
| 39 | T | 2,4,5-Trichlorophenol | 196 | 10.12 | 0.882 | A | 2 | A | B |
| 40 | S | 2-Fluorobiphenyl (S) | 172 | 10.22 | 0.891 | A | 1 | A | B |
| 41 | T | 2-Chloronapthalene | 162 | 10.41 | 0.907 | A | 2 | A | B |
| 42 | T | 2-Nitroaniline | 65 | 10.68 | 0.931 | A | 2 | A | B |
| 43 | T | Acenaphthylene | 152 | 11.20 | 0.976 | A | 2 | A | B |
| 44 | T | Dimethylphthalate | 163 | 11.10 | 0.968 | A | 2 | A | B |
| 45 | T | 2,6-Dinitrotoluene | 165 | 11.20 | 0.976 | A | 2 | A | B |
| 46 | T | Acenaphthene | 153 | 11.56 | 1.007 | A | 2 | A | B |
| 47 | T | 3-Nitroaniline | 138 | 11.51 | 1.003 | A | 2 | A | B |
| 48 | T | 2,4-Dinitrophenol | 184 | 11.71 | 1.021 | A | 2 | A | B |
| 49 | T | Dibenzofuran | 168 | 11.89 | 1.037 | A | 1 | A | B |
| 50 | T | 2,4-Dinitrotoluene | 165 | 11.98 | 1.044 | A | 2 | A | B |
| 51 | T | 4-Nitrophenol | 109 | 11.94 | 1.041 | A | 2 | A | B |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 52 | | T | Fluorene | 166 | 12.57 | 1.096 | A | 2 | A | B |
| 53 | | T | 4-Chlorophenyl phenyl ether | 204 | 12.64 | 1.102 | A | 2 | A | B |
| 54 | | T | Diethylphthalate | 149 | 12.52 | 1.091 | A | 2 | A | B |
| 55 | | T | 4-Nitroaniline | 138 | 12.76 | 1.112 | A | 2 | A | B |
| 56 | I | | d10-Phenanthrene (I) | 188 | 14.48 | 1.000 | A | 2 | A | L |
| 57 | | T | 4,6-Dinitro-2-methylphenol | 198 | 12.79 | 0.883 | A | 2 | A | B |
| 58 | | T | n-Nitrosodiphenylamine | 169 | 12.91 | 0.891 | A | 2 | A | B |
| 59 | | S | 2,4,6-Tribromophenol (S) | 330 | 13.08 | 0.903 | A | 2 | A | B |
| 60 | | T | Octachlorocyclopentene | 307 | 13.06 | 0.902 | A | 2 | A | B |
| 61 | | T | 4-Bromophenyl phenyl ether | 248 | 13.62 | 0.940 | A | 2 | A | B |
| 62 | | T | Hexachlorobenzene | 284 | 13.67 | 0.944 | A | 2 | A | B |
| 63 | | T | Pentachlorophenol | 266 | 14.12 | 0.975 | A | 2 | A | B |
| 64 | | T | Phenanthrene | 178 | 14.55 | 1.005 | A | 2 | A | B |
| 65 | | T | Anthracene | 178 | 14.66 | 1.013 | A | 2 | A | B |
| 66 | | T | Carbazole | 167 | 15.05 | 1.040 | A | 3 | A | B |
| 67 | | T | Di-n-butyl phthalate | 149 | 16.02 | 1.106 | A | 2 | A | B |
| 68 | | T | Fluoranthene | 202 | 17.16 | 1.186 | A | 2 | A | B |
| 69 | I | | d12-Chrysene (I) | 240 | 20.47 | 1.000 | A | 2 | A | L |
| 70 | | T | Benzidine | 184 | 17.56 | 0.858 | A | 2 | A | B |
| 71 | | T | Pyrene | 202 | 17.65 | 0.862 | A | 2 | A | B |
| 72 | | S | d14-Terphenyl (S) | 244 | 18.16 | 0.887 | A | 2 | A | B |
| 73 | | T | Butyl benzyl phthalate | 149 | 19.43 | 0.949 | A | 2 | A | B |
| 74 | | T | Benzo(a) anthracene | 228 | 20.46 | 0.999 | A | 2 | A | B |
| 75 | | T | Chrysene | 228 | 20.54 | 1.003 | A | 2 | A | B |
| 76 | | T | 3,3'-Dichlorobenzidine | 252 | 20.51 | 1.002 | A | 2 | A | B |
| 77 | | T | bis(2-Ethylhexyl) phthalate | 149 | 20.86 | 1.019 | A | 2 | A | B |
| 78 | | T | Di-n-octyl phthalate | 149 | 22.33 | 1.091 | A | 1 | A | B |
| 79 | I | | d12-Perylene (I) | 264 | 23.53 | 1.000 | A | 2 | A | B |
| 80 | | T | Benzo(b) fluoranthene | 252 | 22.82 | 0.970 | A | 2 | A | B |
| 81 | | T | Benzo(k) fluoranthene | 252 | 22.87 | 0.972 | A | 2 | A | B |
| 82 | | T | Benzo(a) pyrene | 252 | 23.45 | 0.996 | A | 2 | A | B |
| 83 | | T | Indeno (1,2,3-cd) pyrene | 276 | 25.53 | 1.085 | A | 2 | A | B |
| 84 | | T | Dibenz (ah) anthracene | 278 | 25.59 | 1.088 | A | 2 | A | B |
| 85 | | T | Benzo (ghi) perylene | 276 | 25.98 | 1.104 | A | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

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BNAHSL.M Wed Jul 08 14:53:47 1998

# Response Factor Report 5971-024

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:35:26 1998
Response via : Initial Calibration

Calibration Files
160 =160BXG08.D 120 =120BXG08.D 80 =80BXG08.D
50 =50BXG08.D 10 =10BXG08.D

| | | Compound | 160 | 120 | 80 | 50 | 10 | Avg | %RSD | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | I | d4-1,4-Dichlorobenzen | ISTD | | | | | | | |
| 2) | T | Pyridine | 1.117 | 1.598 | 1.178 | 1.324 | 1.165 | 1.277 | 15.31 | .906 |
| 3) | S | 2-Fluorophenol (S) | 1.296 | 1.228 | 1.368 | 1.451 | 1.372 | 1.343 | 6.30 | |
| 4) | T | Aniline | 1.250 | 1.306 | 1.419 | 1.420 | 1.938 | 1.467 | 18.66 | L |
| 5) | S | d4-2-Chlorophenol (S) | 1.184 | 1.249 | 1.354 | 1.413 | 1.494 | 1.339 | 9.29 | |
| 6) | T | 2-Chlorophenol | 1.183 | 1.231 | 1.401 | 1.370 | 1.574 | 1.352 | 11.41 | |
| 7) | T | bis(2-Chloroethyl) et | 1.146 | 1.351 | 1.305 | 1.586 | 1.820 | 1.441 | 18.29 | .976 |
| 8) | S | d5-Phenol (S) | 1.360 | 1.470 | 1.642 | 1.702 | 1.857 | 1.606 | 12.15 | |
| 9) | T | Phenol | 1.495 | 1.469 | 1.744 | 1.794 | 1.974 | 1.695 | 12.55 | |
| 10) | T | 1,3-Dichlorobenzene | 1.364 | 1.625 | 1.629 | 1.689 | 1.795 | 1.620 | 9.81 | |
| 11) | T | 1,4-Dichlorobenzene | 1.441 | 1.482 | 1.541 | 1.704 | 1.736 | 1.581 | 8.39 | |
| 12) | S | d4-1,2-Dichlorobenzen | 0.880 | 0.941 | 0.988 | 1.041 | 1.085 | 0.987 | 8.18 | |
| 13) | T | 1,2-Dichlorobenzene | 1.087 | 1.426 | 1.462 | 1.485 | 1.724 | 1.437 | 15.87 | .937 |
| 14) | T | Benzyl alcohol | 0.660 | 0.597 | 0.703 | 0.693 | 0.723 | 0.675 | 7.32 | |
| 15) | T | bis(2-Chloroisopropyl | 1.352 | 1.601 | 1.696 | 1.741 | 1.906 | 1.659 | 12.31 | |
| 16) | T | 2-Methylphenol | 0.947 | 0.958 | 1.134 | 1.061 | 1.163 | 1.052 | 9.37 | |
| 17) | T | Hexachloroethane | 0.522 | 0.628 | 0.641 | 0.670 | 0.718 | 0.636 | 11.41 | |
| 18) | T | n-Nitroso-di-n-propyl | 0.761 | 0.791 | 0.967 | 0.959 | 1.075 | 0.911 | 14.42 | |
| 19) | T | 3-Methylphenol | 2.045 | 1.862 | 2.335 | 2.141 | 2.115 | 2.100 | 8.14 | |
| 20) | T | 4-Methylphenol | 2.045 | 1.862 | 2.335 | 2.141 | 2.115 | 2.100 | 8.14 | |
| 21) | I | d8-Naphthalene (I) | ISTD | | | | | | | |
| 22) | S | d5-Nitrobenzene (S) | 0.411 | 0.414 | 0.417 | 0.442 | 0.431 | 0.423 | 3.07 | |
| 23) | T | Nitrobenzene | 0.409 | 0.419 | 0.423 | 0.434 | 0.429 | 0.423 | 2.29 | |
| 24) | T | Isophorone | 0.763 | 0.738 | 0.759 | 0.805 | 0.845 | 0.782 | 5.49 | |
| 25) | T | 2-Nitrophenol | 0.267 | 0.236 | 0.256 | 0.234 | 0.240 | 0.246 | 5.76 | |
| 26) | T | 2,4-Dimethylphenol | 0.318 | 0.302 | 0.321 | 0.271 | 0.184 | 0.279 | 20.37 | L |
| 27) | T | bis(2-chloroethoxy) m | 0.411 | 0.452 | 0.429 | 0.501 | 0.471 | 0.453 | 7.76 | |
| 28) | T | 2,4-Dichlorophenol | 0.266 | 0.272 | 0.299 | 0.298 | 0.305 | 0.288 | 6.18 | |
| 29) | T | 1,2,4-Trichlorobenzen | 0.274 | 0.298 | 0.301 | 0.313 | 0.346 | 0.306 | 8.57 | |
| 30) | T | Naphthalene | 0.844 | 1.014 | 0.930 | 1.015 | 1.081 | 0.977 | 9.36 | |
| 31) | T | Benzoic acid | 0.204 | 0.155 | 0.153 | 0.097 | | 0.152 | 28.74 | .973 |
| 32) | T | 4-Chloroaniline | 0.361 | 0.367 | 0.388 | 0.409 | 0.414 | 0.388 | 6.20 | |
| 33) | T | Hexachlorobutadiene | 0.155 | 0.172 | 0.178 | 0.193 | 0.186 | 0.177 | 8.23 | |
| 34) | T | 2-Methylnaphthalene | 0.667 | 0.617 | 0.692 | 0.693 | 0.684 | 0.671 | 4.71 | |
| 35) | T | 4-Chloro-3-methylphen | 0.295 | 0.298 | 0.314 | 0.297 | 0.306 | 0.302 | 2.57 | |
| 36) | I | d10-Acenapthene (I) | ISTD | | | | | | | |
| 37) | T | Hexachlorocyclopentad | 0.345 | 0.312 | 0.273 | 0.195 | 0.128 | 0.250 | 35.33 | .985 |
| 38) | T | 2,4,6-Trichlorophenol | 0.371 | 0.368 | 0.384 | 0.413 | 0.359 | 0.379 | 5.49 | |
| 39) | T | 2,4,5-Trichlorophenol | 0.424 | 0.390 | 0.408 | 0.408 | | 0.408 | 3.37 | |
| 40) | S | 2-Fluorobiphenyl (S) | 1.119 | 1.219 | 1.246 | 1.222 | 1.330 | 1.227 | 6.16 | |

(#) = Out of Range

Response Factor Report 5971-024

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:35:26 1998
Response via : Initial Calibration

Calibration Files
160 =160BXG08.D 120 =120BXG08.D 80 =80BXG08.D
50 =50BXG08.D 10 =10BXG08.D

| | | Compound | 160 | 120 | 80 | 50 | 10 | Avg | %RSD | |
|---|---|---|---|---|---|---|---|---|---|---|
| 41) | T | 2-Chloronapthalene | 1.094 | 1.073 | 1.105 | 1.300 | 1.232 | 1.161 | 8.60 | |
| 42) | T | 2-Nitroaniline | 0.432 | 0.388 | 0.396 | 0.434 | | 0.412 | 5.81 | |
| 43) | T | Acenaphthylene | 1.666 | 1.739 | 1.798 | 2.122 | 2.059 | 1.877 | 10.76 | |
| 44) | T | Dimethylphthalate | 1.358 | 1.285 | 1.382 | 1.406 | 1.520 | 1.390 | 6.15 | |
| 45) | T | 2,6-Dinitrotoluene | 0.381 | 0.307 | 0.307 | 0.336 | 0.313 | 0.329 | 9.59 | |
| 46) | T | Acenaphthene | 1.052 | 0.994 | 1.099 | 1.196 | 1.209 | 1.110 | 8.30 | |
| 47) | T | 3-Nitroaniline | 0.349 | 0.315 | 0.324 | 0.325 | | 0.328 | 4.48 | |
| 48) | T | 2,4-Dinitrophenol | 0.199 | 0.160 | 0.170 | 0.122 | | 0.163 | 19.48 | .978 |
| 49) | T | Dibenzofuran | 1.481 | 1.522 | 1.583 | 1.618 | 1.679 | 1.577 | 4.95 | |
| 50) | T | 2,4-Dinitrotoluene | 0.439 | 0.368 | 0.428 | 0.410 | 0.382 | 0.405 | 7.38 | |
| 51) | T | 4-Nitrophenol | 0.183 | 0.152 | 0.165 | 0.141 | | 0.160 | 11.17 | |
| 52) | T | Fluorene | 1.184 | 1.257 | 1.240 | 1.292 | 1.283 | 1.251 | 3.44 | |
| 53) | T | 4-Chlorophenyl phenyl | 0.518 | 0.544 | 0.547 | 0.628 | 0.591 | 0.566 | 7.71 | |
| 54) | T | Diethylphthalate | 1.357 | 1.424 | 1.575 | 1.595 | 1.630 | 1.516 | 7.83 | |
| 55) | T | 4-Nitroaniline | 0.311 | 0.225 | 0.279 | 0.273 | | 0.272 | 13.12 | |
| 56) | I | d10-Phenanthrene (I) | ----------ISTD---------- | | | | | | | |
| 57) | T | 4,6-Dinitro-2-methylp | 0.161 | 0.168 | 0.168 | 0.139 | | 0.159 | 8.82 | |
| 58) | T | n-Nitrosodiphenylamin | 0.451 | 0.564 | 0.583 | 0.581 | 0.610 | 0.558 | 11.14 | |
| 59) | S | 2,4,6-Tribromophenol | 0.134 | 0.135 | 0.139 | 0.136 | 0.125 | 0.134 | 4.11 | |
| 60) | T | Octachlorocyclopenten | 0.094 | 0.099 | 0.100 | 0.089 | 0.080 | 0.092 | 8.70 | |
| 61) | T | 4-Bromophenyl phenyl | 0.224 | 0.252 | 0.265 | 0.246 | 0.262 | 0.250 | 6.63 | |
| 62) | T | Hexachlorobenzene | 0.190 | 0.207 | 0.204 | 0.226 | 0.225 | 0.211 | 7.16 | |
| 63) | T | Pentachlorophenol | 0.173 | 0.164 | 0.178 | 0.151 | | 0.167 | 7.07 | |
| 64) | T | Phenanthrene | 0.940 | 1.067 | 1.152 | 1.032 | 1.143 | 1.067 | 8.17 | |
| 65) | T | Anthracene | 1.011 | 1.028 | 1.020 | 1.110 | 1.088 | 1.051 | 4.24 | |
| 66) | T | Carbazole | 0.667 | 0.575 | 0.663 | 0.678 | 0.868 | 0.690 | 15.60 | .987 |
| 67) | T | Di-n-butyl phthalate | 1.541 | 1.646 | 1.812 | 1.714 | 1.975 | 1.737 | 9.52 | |
| 68) | T | Fluoranthene | 1.012 | 1.147 | 1.195 | 1.142 | 1.246 | 1.148 | 7.57 | |
| 69) | I | d12-Chrysene (I) | ----------ISTD---------- | | | | | | | |
| 70) | T | Benzidine | 0.005 | 0.011 | 0.002 | 0.006 | 0.007 | 0.006 | 53.93 | .556 |
| 71) | T | Pyrene | 1.191 | 1.510 | 1.587 | 1.446 | 1.497 | 1.446 | 10.47 | |
| 72) | S | d14-Terphenyl (S) | 0.798 | 0.957 | 0.986 | 0.921 | 0.940 | 0.921 | 7.85 | |
| 73) | T | Butyl benzyl phthalat | 0.856 | 0.998 | 1.017 | 0.930 | 0.920 | 0.944 | 6.87 | |
| 74) | T | Benzo(a) anthracene | 1.133 | 1.283 | 1.300 | 1.204 | 1.227 | 1.229 | 5.43 | |
| 75) | T | Chrysene | 0.813 | 0.931 | 0.952 | 0.885 | 0.919 | 0.900 | 6.02 | |
| 76) | T | 3,3'-Dichlorobenzidin | 0.261 | 0.243 | 0.282 | 0.226 | 0.273 | 0.257 | 8.83 | |
| 77) | T | bis(2-Ethylhexyl) pht | 1.076 | 1.356 | 1.307 | 1.252 | 1.259 | 1.250 | 8.49 | |
| 78) | T | Di-n-octyl phthalate | 1.813 | 2.124 | 2.147 | 2.063 | 1.974 | 2.024 | 6.69 | |
| 79) | I | d12-Perylene (I) | ----------ISTD---------- | | | | | | | |
| 80) | T | Benzo(b) fluoranthene | 1.733 | 1.646 | 1.743 | 1.685 | 1.481 | 1.658 | 6.41 | |

(#) = Out of Range

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration

Calibration Files
160 =160BXG08.D 120 =120BXG08.D 80 =80BXG08.D
50 =50BXG08.D 10 =10BXG08.D

| | | Compound | 160 | 120 | 80 | 50 | 10 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|
| 81) | T | Benzo(k) fluoranthene | 1.148 | 1.325 | 1.404 | 1.583 | 1.542 | 1.400 | 12.51 |
| 82) | T | Benzo(a) pyrene | 1.306 | 1.348 | 1.462 | 1.469 | 1.420 | 1.401 | 5.12 |
| 83) | T | Indeno (1,2,3-cd) pyr | 1.316 | 1.305 | 1.368 | 1.407 | 1.294 | 1.338 | 3.59 |
| 84) | T | Dibenz (ah) anthracen | 0.952 | 0.970 | 1.008 | 1.034 | 0.969 | 0.987 | 3.40 |
| 85) | T | Benzo (ghi) perylene | 0.978 | 1.031 | 1.082 | 1.096 | 1.070 | 1.051 | 4.52 |

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : D:\DATA\160BXG08.D
Acq On : 8 Jul 98 10:58
Sample :
Misc : 7-8-98
Quant Time: Jul 8 14:38 1998

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.86 | 152 | 516075 | 40.00 | ng | 0.03 |
| 21) d8-Naphthalene (I) | 8.09 | 136 | 1647770 | 40.00 | ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.47 | 164 | 821459 | 40.00 | ng | 0.03 |
| 56) d10-Phenanthrene (I) | 14.48 | 188 | 1261917 | 40.00 | ng | -0.13 |
| 69) d12-Chrysene (I) | 20.47 | 240 | 1056626 | 40.00 | ng | 0.07 |
| 79) d12-Perylene (I) | 23.53 | 264 | 728737 | 40.00 | ng | 0.07 |
| **System Monitoring Compounds** | | | | | | |
| 3) 2-Fluorophenol (S) | 3.97 | 112 | 2675062 | 182.43 | ng | 0.06 |
| Surrogate Spike 150.000 | | | Recovery | = | 121.62% | |
| 5) d4-2-Chlorophenol (S) | 5.51 | 132 | 2444622 | 150.01 | ng | 0.06 |
| Surrogate Spike 150.000 | | | Recovery | = | 100.01% | |
| 8) d5-Phenol (S) | 5.36 | 99 | 2808074 | 148.08 | ng | 0.09 |
| Surrogate Spike 150.000 | | | Recovery | = | 98.72% | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.12 | 152 | 1817386 | 142.66 | ng | 0.06 |
| Surrogate Spike 100.000 | | | Recovery | = | 142.66% | |
| 22) d5-Nitrobenzene (S) | 6.83 | 82 | 2711942 | 177.81 | ng | 0.05 |
| Surrogate Spike 100.000 | | | Recovery | = | 177.81% | |
| 40) 2-Fluorobiphenyl (S) | 10.22 | 172 | 3676280 | 139.52 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery | = | 139.52% | |
| 59) 2,4,6-Tribromophenol (S) | 13.08 | 330 | 678467 | 139.75 | ng | -0.10 |
| Surrogate Spike 150.000 | | | Recovery | = | 93.17% | |
| 72) d14-Terphenyl (S) | 18.16 | 244 | 3374765 | 138.99 | ng | 0.06 |
| Surrogate Spike 100.000 | | | Recovery | = | 138.99% | |

| Target Compounds | | | | | | | Qvalue |
|---|---|---|---|---|---|---|---|
| 2) Pyridine | 2.55 | 79 | 2535150m | 136.09 | ng | | 93 |
| 4) Aniline | 5.37 | 93 | 2718003m | 147.70 | ng | | 97 |
| 6) 2-Chlorophenol | 5.54 | 128 | 2443058 | 144.80 | ng | | 93 |
| 7) bis(2-Chloroethyl) ether | 5.51 | 93 | 2457830m | 135.64 | ng | | 76 |
| 9) Phenol | 5.39 | 94 | 3086200 | 150.34 | ng | # | 84 |
| 10) 1,3-Dichlorobenzene | 5.76 | 146 | 2815566 | 135.06 | ng | | 98 |
| 11) 1,4-Dichlorobenzene | 5.90 | 146 | 2975505 | 143.06 | ng | | 97 |
| 13) 1,2-Dichlorobenzene | 6.13 | 146 | 2317247m | 120.39 | ng | | 98 |
| 14) Benzyl alcohol | 6.17 | 108 | 1362808 | 162.31 | ng | | 88 |
| 15) bis(2-Chloroisopropyl) eth | 6.37 | 45 | 2790505 | 131.00 | ng | # | 29 |
| 16) 2-Methylphenol | 6.35 | 108 | 1954032 | 148.13 | ng | | 95 |
| 17) Hexachloroethane | 6.69 | 117 | 1076546 | 136.25 | ng | | 89 |
| 18) n-Nitroso-di-n-propylamine | 6.62 | 70 | 1571958 | 135.62 | ng | | 93 |
| 19) 3-Methylphenol | 6.66 | 108 | 2110535 | 81.73 | ng | | 95 |
| 20) 4-Methylphenol | 6.66 | 108 | 2110535 | 81.40 | ng | | 95 |
| 23) Nitrobenzene | 6.88 | 77 | 2695789 | 182.67 | ng | | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\160BXG08.D
Acq On : 8 Jul 98 10:58
Sample :
Misc : 7-8-98
Quant Time: Jul 8 14:38 1998

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 24) | Isophorone | 7.33 | 82 | 5026970 | 161.15 ng | | 97 |
| 25) | 2-Nitrophenol | 7.43 | 139 | 1757300 | 199.83 ng | | 90 |
| 26) | 2,4-Dimethylphenol | 7.59 | 107 | 2093368 | 169.50 ng | | 88 |
| 27) | bis(2-chloroethoxy) methan | 7.76 | 93 | 2706463 | 158.78 ng | | 98 |
| 28) | 2,4-Dichlorophenol | 7.89 | 162 | 1756090 | 153.31 ng | | 97 |
| 29) | 1,2,4-Trichlorobenzene | 8.01 | 180 | 1806124 | 138.74 ng | | 98 |
| 30) | Naphthalene | 8.14 | 128 | 5562199 | 136.31 ng | | 99 |
| 31) | Benzoic acid | 8.04 | 122 | 1346865m | 189.01 ng | | 0 |
| 32) | 4-Chloroaniline | 8.30 | 127 | 2376869 | 167.13 ng | | 98 |
| 33) | Hexachlorobutadiene | 8.40 | 225 | 1021286 | 130.20 ng | | 99 |
| 34) | 2-Methylnaphthalene | 9.48 | 142 | 4397020 | 163.39 ng | | 98 |
| 35) | 4-Chloro-3-methylphenol | 9.29 | 107 | 1946442 | 187.01 ng | | 88 |
| 37) | Hexachlorocyclopentadiene | 9.78 | 237 | 1132714 | 156.95 ng | | 100 |
| 38) | 2,4,6-Trichlorophenol | 10.05 | 196 | 1219083 | 146.95 ng | | 97 |
| 39) | 2,4,5-Trichlorophenol | 10.12 | 196 | 1392690 | 156.91 ng | | 98 |
| 41) | 2-Chloronapthalene | 10.41 | 162 | 3593894 | 139.68 ng | # | 91 |
| 42) | 2-Nitroaniline | 10.68 | 65 | 1419640 | 189.99 ng | | 91 |
| 43) | Acenaphthylene | 11.20 | 152 | 5474018 | 132.26 ng | | 99 |
| 44) | Dimethylphthalate | 11.10 | 163 | 4460923 | 150.75 ng | | 99 |
| 45) | 2,6-Dinitrotoluene | 11.20 | 165 | 1252974 | 184.87 ng | | 90 |
| 46) | Acenaphthene | 11.56 | 153 | 3455123 | 142.97 ng | | 99 |
| 47) | 3-Nitroaniline | 11.51 | 138 | 1147799 | 201.12 ng | # | 81 |
| 48) | 2,4-Dinitrophenol | 11.71 | 184 | 652350 | 189.09 ng | | 95 |
| 49) | Dibenzofuran | 11.89 | 168 | 4867200 | 145.86 ng | # | 84 |
| 50) | 2,4-Dinitrotoluene | 11.98 | 165 | 1443637 | 162.70 ng | # | 47 |
| 51) | 4-Nitrophenol | 11.94 | 109 | 601300 | 213.97 ng | # | 1 |
| 52) | Fluorene | 12.57 | 166 | 3889505 | 146.65 ng | | 100 |
| 53) | 4-Chlorophenyl phenyl ethe | 12.64 | 204 | 1703171 | 136.51 ng | | 96 |
| 54) | Diethylphthalate | 12.52 | 149 | 4459798 | 145.19 ng | | 99 |
| 55) | 4-Nitroaniline | 12.76 | 138 | 1023119m | 205.42 ng | | 19 |
| 57) | 4,6-Dinitro-2-methylphenol | 12.79 | 198 | 813990 | 188.93 ng | # | 92 |
| 58) | n-Nitrosodiphenylamine | 12.91 | 169 | 2274159 | 137.52 ng | | 96 |
| 60) | Octachlorocyclopentene | 13.06 | 307 | 474384 | 125.74 ng | | 99 |
| 61) | 4-Bromophenyl phenyl ether | 13.62 | 248 | 1128641 | 139.92 ng | | 94 |
| 62) | Hexachlorobenzene | 13.67 | 284 | 960964 | 132.21 ng | # | 88 |
| 63) | Pentachlorophenol | 14.12 | 266 | 875016 | 163.69 ng | | 100 |
| 64) | Phenanthrene | 14.55 | 178 | 4743278 | 143.60 ng | | 99 |
| 65) | Anthracene | 14.66 | 178 | 5101816 | 152.43 ng | | 99 |
| 66) | Carbazole | 15.05 | 167 | 3368122 | 168.56 ng | | 99 |
| 67) | Di-n-butyl phthalate | 16.02 | 149 | 7779106 | 152.05 ng | | 99 |
| 68) | Fluoranthene | 17.16 | 202 | 5110574 | 137.72 ng | | 98 |
| 71) | Pyrene | 17.65 | 202 | 5032800 | 143.79 ng | | 98 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\160BXG08.D
Acq On : 8 Jul 98 10:58
Sample :
Misc : 7-8-98
Quant Time: Jul 8 14:38 1998

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 73) | Butyl benzyl phthalate | 19.43 | 149 | 3616408 | 184.95 ng | | 91 |
| 74) | Benzo(a) anthracene | 20.46 | 228 | 4787130 | 157.52 ng | | 99 |
| 75) | Chrysene | 20.54 | 228 | 3436476 | 140.95 ng | | 99 |
| 76) | 3,3'-Dichlorobenzidine | 20.51 | 252 | 1104941 | 165.06 ng | | 97 |
| 77) | bis(2-Ethylhexyl) phthalat | 20.86 | 149 | 4545762 | 172.02 ng | | 96 |
| 78) | Di-n-octyl phthalate | 22.33 | 149 | 7664526 | 180.76 ng | | 98 |
| 80) | Benzo(b) fluoranthene | 22.82 | 252 | 5050449 | 183.74 ng | | 97 |
| 81) | Benzo(k) fluoranthene | 22.87 | 252 | 3346727 | 125.86 ng | | 98 |
| 82) | Benzo(a) pyrene | 23.45 | 252 | 3806527 | 149.59 ng | | 96 |
| 83) | Indeno (1,2,3-cd) pyrene | 25.53 | 276 | 3835082 | 147.15 ng | # | 74 |
| 84) | Dibenz (ah) anthracene | 25.59 | 278 | 2776060 | 136.91 ng | # | 93 |
| 85) | Benzo (ghi) perylene | 25.98 | 276 | 2850563 | 132.78 ng | | 95 |

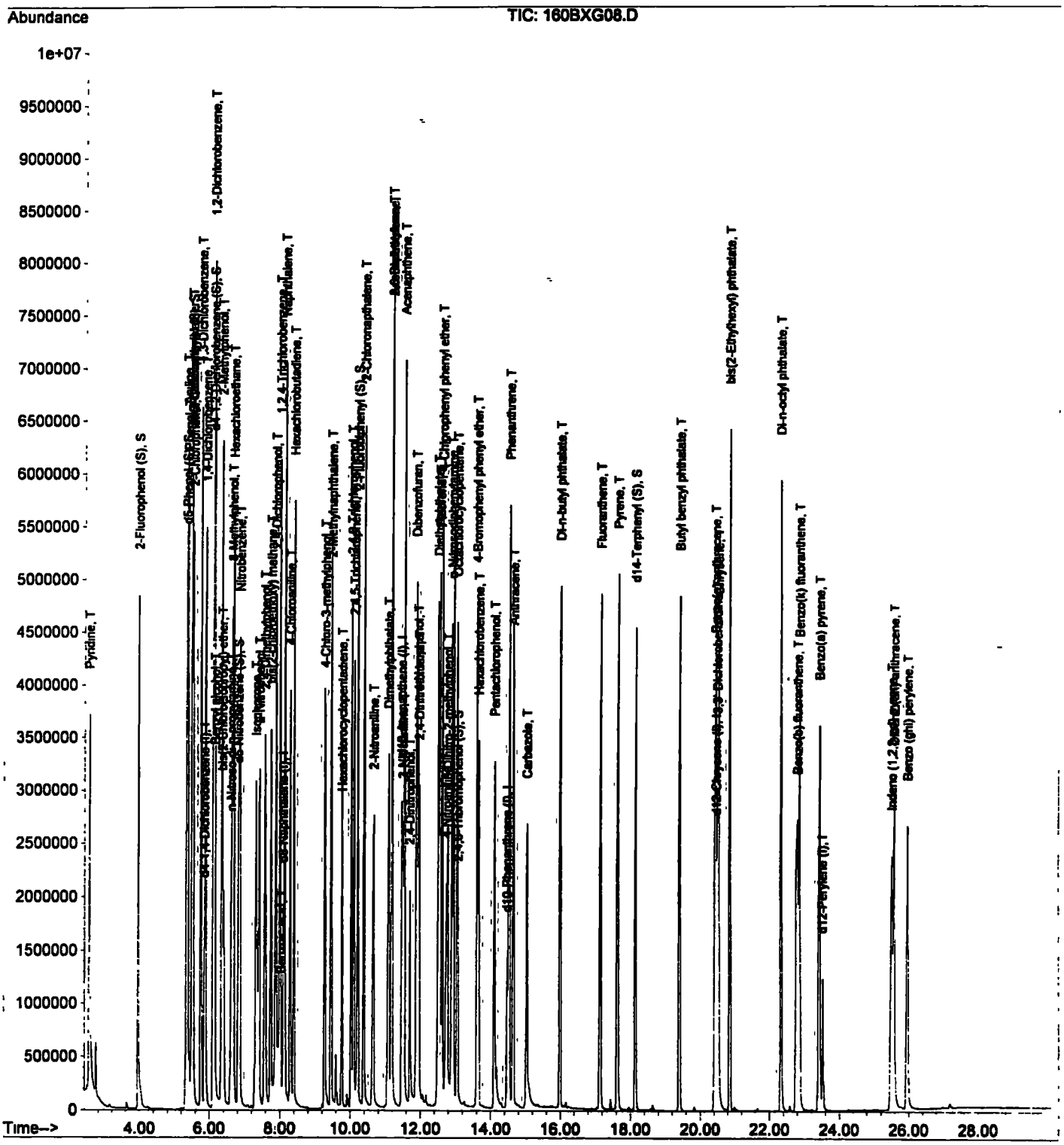
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\DATA\160BXG08.D
Acq On : 8 Jul 98 10:58
Sample :
Misc : 7-8-98
Quant Time: Jul 8 14:38 1998

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:35:26 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : D:\DATA\120BXG08.D
Acq On : 8 Jul 98 11:36
Sample :
Misc : 7-8-98
Quant Time: Jul 8 12:07 1998

Vial: 3
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.86 | 152 | 397438 | 40.00 | ng | 0.03 |
| 21) d8-Naphthalene (I) | 8.09 | 136 | 1295894 | 40.00 | ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.47 | 164 | 638048 | 40.00 | ng | 0.03 |
| 56) d10-Phenanthrene (I) | 14.46 | 188 | 900598 | 40.00 | ng | -0.15 |
| 69) d12-Chrysene (I) | 20.44 | 240 | 665870 | 40.00 | ng | 0.03 |
| 79) d12-Perylene (I) | 23.51 | 264 | 473301 | 40.00 | ng | 0.05 |
| System Monitoring Compounds | | | | | | |
| 3) 2-Fluorophenol (S) | 3.95 | 112 | 1463579 | 129.60 | ng | 0.04 |
| Surrogate Spike 150.000 | | | Recovery = 86.40% | | | |
| 5) d4-2-Chlorophenol (S) | 5.51 | 132 | 1488749 | 118.63 | ng | 0.06 |
| Surrogate Spike 150.000 | | | Recovery = 79.09% | | | |
| 8) d5-Phenol (S) | 5.34 | 99 | 1752727 | 120.02 | ng | 0.07 |
| Surrogate Spike 150.000 | | | Recovery = 80.01% | | | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.10 | 152 | 1121589 | 114.32 | ng | 0.04 |
| Surrogate Spike 100.000 | | | Recovery = 114.32% | | | |
| 22) d5-Nitrobenzene (S) | 6.82 | 82 | 1610017 | 134.22 | ng | 0.04 |
| Surrogate Spike 100.000 | | | Recovery = 134.22% | | | |
| 40) 2-Fluorobiphenyl (S) | 10.22 | 172 | 2333159 | 114.00 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 114.00% | | | |
| 59) 2,4,6-Tribromophenol (S) | 13.06 | 330 | 365294 | 105.41 | ng | -0.12 |
| Surrogate Spike 150.000 | | | Recovery = 70.27% | | | |
| 72) d14-Terphenyl (S) | 18.14 | 244 | 1912011 | 124.96 | ng | 0.04 |
| Surrogate Spike 100.000 | | | Recovery = 124.96% | | | |

| Target Compounds | | | | | | | Qvalue |
|---|---|---|---|---|---|---|---|
| 2) Pyridine | 2.53 | 79 | 1904825 | 132.78 | ng | | 92 |
| 4) Aniline | 5.35 | 93 | 1556901 | 109.86 | ng | | 95 |
| 6) 2-Chlorophenol | 5.52 | 128 | 1467923 | 112.98 | ng | # | 91 |
| 7) bis(2-Chloroethyl) ether | 5.49 | 93 | 1610723 | 115.43 | ng | # | 77 |
| 9) Phenol | 5.35 | 94 | 1752057 | 110.83 | ng | # | 84 |
| 10) 1,3-Dichlorobenzene | 5.76 | 146 | 1937434 | 120.68 | ng | | 98 |
| 11) 1,4-Dichlorobenzene | 5.88 | 146 | 1766466 | 110.28 | ng | | 96 |
| 13) 1,2-Dichlorobenzene | 6.13 | 146 | 1700783 | 114.74 | ng | | 98 |
| 14) Benzyl alcohol | 6.13 | 108 | 711473 | 110.03 | ng | | 85 |
| 15) bis(2-Chloroisopropyl) eth | 6.37 | 45 | 1909284 | 116.39 | ng | # | 66 |
| 16) 2-Methylphenol | 6.33 | 108 | 1142551 | 112.47 | ng | | 95 |
| 17) Hexachloroethane | 6.69 | 117 | 748707 | 123.04 | ng | | 90 |
| 18) n-Nitroso-di-n-propylamine | 6.60 | 70 | 943413 | 105.69 | ng | | 91 |
| 19) 3-Methylphenol | 6.62 | 108 | 1110116 | 55.82 | ng | | 98 |
| 20) 4-Methylphenol | 6.62 | 108 | 1110116 | 55.60 | ng | | 98 |
| 23) Nitrobenzene | 6.86 | 77 | 1627534 | 140.23 | ng | | 98 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\120BXG08.D
Acq On : 8 Jul 98 11:36
Sample :
Misc : 7-8-98
Quant Time: Jul 8 12:07 1998

Vial: 3
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 24) | Isophorone | 7.31 | 82 | 2870793 | 117.02 ng | | 96 |
| 25) | 2-Nitrophenol | 7.41 | 139 | 915972 | 131.54 ng | | 94 |
| 26) | 2,4-Dimethylphenol | 7.57 | 107 | 1173786 | 122.20 ng | | 92 |
| 27) | bis(2-chloroethoxy) methan | 7.75 | 93 | 1758904 | 131.21 ng | | 99 |
| 28) | 2,4-Dichlorophenol | 7.87 | 162 | 1055956 | 117.22 ng | | 97 |
| 29) | 1,2,4-Trichlorobenzene | 8.01 | 180 | 1159627 | 113.26 ng | | 98 |
| 30) | Naphthalene | 8.14 | 128 | 3941314 | 122.81 ng | | 99 |
| 31) | Benzoic acid | 7.94 | 122 | 601266 | 120.01 ng | | 88 |
| 32) | 4-Chloroaniline | 8.28 | 127 | 1426110 | 127.51 ng | | 96 |
| 33) | Hexachlorobutadiene | 8.39 | 225 | 669324 | 108.50 ng | | 99 |
| 34) | 2-Methylnaphthalene | 9.46 | 142 | 2400171 | 113.40 ng | | 100 |
| 35) | 4-Chloro-3-methylphenol | 9.27 | 107 | 1159607 | 141.66 ng | | 94 |
| 37) | Hexachlorocyclopentadiene | 9.76 | 237 | 597415 | 111.28 ng | | 98 |
| 38) | 2,4,6-Trichlorophenol | 10.03 | 196 | 704260 | 110.13 ng | | 100 |
| 39) | 2,4,5-Trichlorophenol | 10.10 | 196 | 746910 | 108.34 ng | | 98 |
| 41) | 2-Chloronapthalene | 10.39 | 162 | 2053472 | 102.75 ng | # | 94 |
| 42) | 2-Nitroaniline | 10.64 | 65 | 742649 | 127.96 ng | | 89 |
| 43) | Acenaphthylene | 11.18 | 152 | 3327843 | 103.52 ng | | 100 |
| 44) | Dimethylphthalate | 11.08 | 163 | 2460122 | 107.03 ng | | 99 |
| 45) | 2,6-Dinitrotoluene | 11.16 | 165 | 587939 | 112.60 ng | | 92 |
| 46) | Acenaphthene | 11.54 | 153 | 1903274 | 101.39 ng | | 99 |
| 47) | 3-Nitroaniline | 11.49 | 138 | 602362 | 135.89 ng | # | 79 |
| 48) | 2,4-Dinitrophenol | 11.69 | 184 | 307038 | 128.35 ng | | 89 |
| 49) | Dibenzofuran | 11.89 | 168 | 2913596 | 112.41 ng | | 89 |
| 50) | 2,4-Dinitrotoluene | 11.94 | 165 | 705169 | 104.47 ng | # | 37 |
| 51) | 4-Nitrophenol | 11.91 | 109 | 291623 | 133.60 ng | | 80 |
| 52) | Fluorene | 12.57 | 166 | 2406915 | 116.84 ng | | 99 |
| 53) | 4-Chlorophenyl phenyl ethe | 12.62 | 204 | 1041587 | 107.48 ng | | 97 |
| 54) | Diethylphthalate | 12.50 | 149 | 2724937 | 114.21 ng | | 98 |
| 55) | 4-Nitroaniline | 12.68 | 138 | 430388 | 111.26 ng | # | 87 |
| 57) | 4,6-Dinitro-2-methylphenol | 12.75 | 198 | 454015 | 147.65 ng | # | 47 |
| 58) | n-Nitrosodiphenylamine | 12.89 | 169 | 1523560 | 129.10 ng | | 97 |
| 60) | Octachlorocyclopentene | 13.04 | 307 | 268441 | 100.25 ng | | 98 |
| 61) | 4-Bromophenyl phenyl ether | 13.61 | 248 | 680797 | 118.26 ng | | 96 |
| 62) | Hexachlorobenzene | 13.65 | 284 | 560458 | 108.04 ng | # | 86 |
| 63) | Pentachlorophenol | 14.10 | 266 | 442800 | 116.07 ng | | 99 |
| 64) | Phenanthrene | 14.53 | 178 | 2881525 | 122.24 ng | | 99 |
| 65) | Anthracene | 14.63 | 178 | 2776932 | 116.25 ng | | 98 |
| 66) | Carbazole | 15.03 | 167 | 1554350 | 109.00 ng | | 99 |
| 67) | Di-n-butyl phthalate | 16.00 | 149 | 4447300 | 121.80 ng | | 99 |
| 68) | Fluoranthene | 17.14 | 202 | 3099838 | 117.05 ng | | 95 |
| 71) | Pyrene | 17.63 | 202 | 3015830 | 136.73 ng | | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\120BXG08.D
Acq On : 8 Jul 98 11:36
Sample :
Misc : 7-8-98
Quant Time: Jul 8 12:07 1998

Vial: 3
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|
| 73) Butyl benzyl phthalate | 19.41 | 149 | 1993141 | 161.75 ng | | 93 |
| 74) Benzo(a) anthracene | 20.42 | 228 | 2563410 | 133.84 ng | | 99 |
| 75) Chrysene | 20.51 | 228 | 1859257 | 121.01 ng | | 99 |
| 76) 3,3'-Dichlorobenzidine | 20.49 | 252 | 484764 | 114.92 ng | | 99 |
| 77) bis(2-Ethylhexyl) phthalat | 20.86 | 149 | 2708469 | 162.64 ng | | 96 |
| 78) Di-n-octyl phthalate | 22.31 | 149 | 4242331 | 158.77 ng | | 100 |
| 80) Benzo(b) fluoranthene | 22.77 | 252 | 2337547 | 130.94 ng | | 98 |
| 81) Benzo(k) fluoranthene | 22.84 | 252 | 1880695 | 108.90 ng | | 97 |
| 82) Benzo(a) pyrene | 23.41 | 252 | 1913991 | 115.81 ng | | 97 |
| 83) Indeno (1,2,3-cd) pyrene | 25.49 | 276 | 1852655 | 109.45 ng | # | 78 |
| 84) Dibenz (ah) anthracene | 25.56 | 278 | 1376932 | 104.56 ng | | 96 |
| 85) Benzo (ghi) perylene | 25.94 | 276 | 1463874 | 104.99 ng | | 98 |

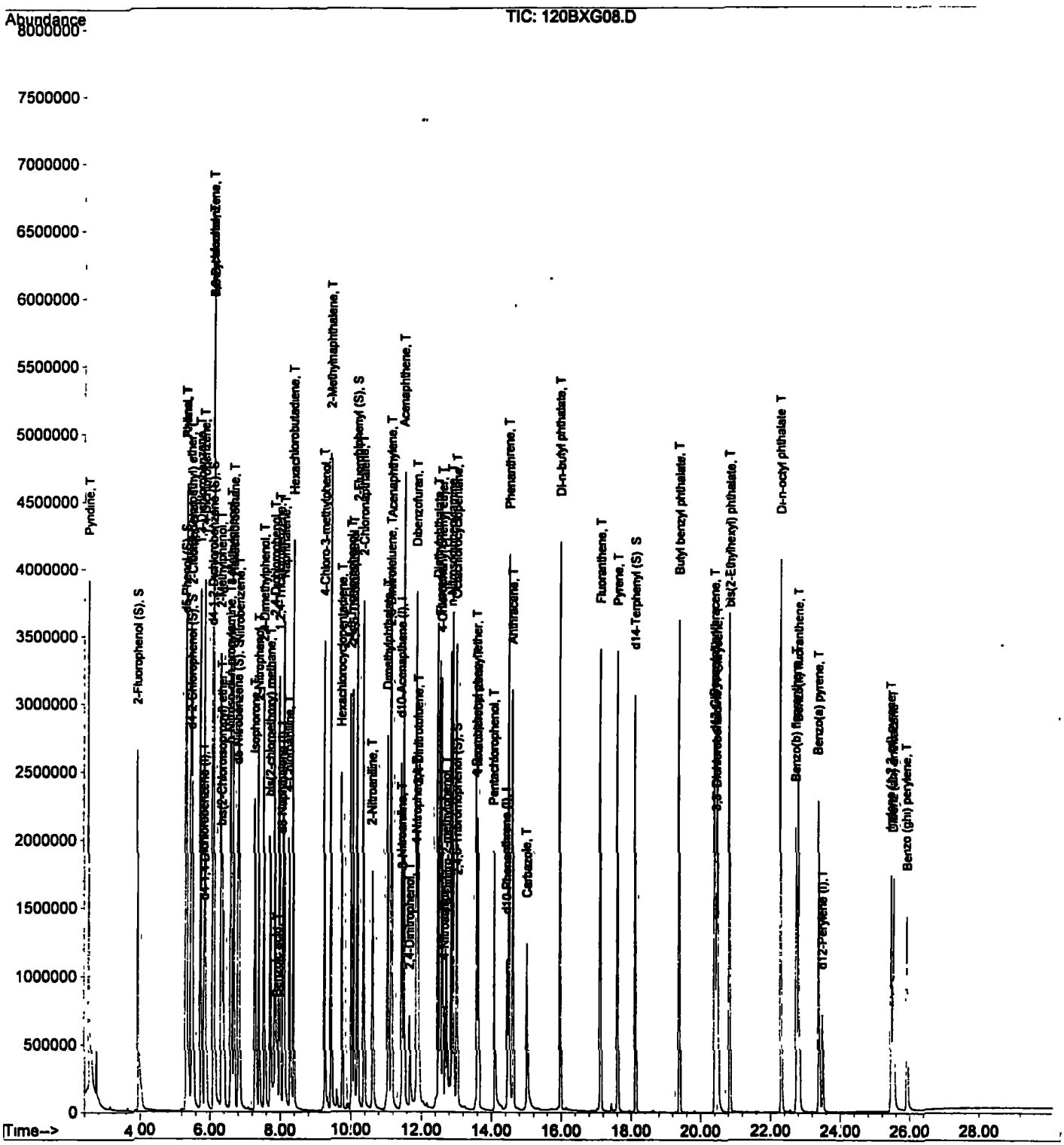
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\DATA\120BXG08.D
Acq On : 8 Jul 98 11:36
Sample :
Misc : 7-8-98
Quant Time: Jul 8 12:07 1998

Vial: 3
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : D:\DATA\80BXG08.D
Acq On : 8 Jul 98 12:14
Sample :
Misc : 7-8-98
Quant Time: Jul 8 13:46 1998

Vial: 4
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.86 | 152 | 456862 | 40.00 | ng | 0.03 |
| 21) d8-Naphthalene (I) | 8.09 | 136 | 1622911 | 40.00 | ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.47 | 164 | 809311 | 40.00 | ng | 0.03 |
| 56) d10-Phenanthrene (I) | 14.46 | 188 | 1166901 | 40.00 | ng | -0.15 |
| 69) d12-Chrysene (I) | 20.44 | 240 | 872207 | 40.00 | ng | 0.03 |
| 79) d12-Perylene (I) | 23.51 | 264 | 620573 | 40.00 | ng | 0.05 |
| System Monitoring Compounds | | | | | | |
| 3) 2-Fluorophenol (S) | 3.95 | 112 | 1250379 | 96.32 | ng | 0.04 |
| Surrogate Spike 150.000 | | | Recovery = 64.21% | | | |
| 5) d4-2-Chlorophenol (S) | 5.49 | 132 | 1236816 | 85.73 | ng | 0.04 |
| Surrogate Spike 150.000 | | | Recovery = 57.15% | | | |
| 8) d5-Phenol (S) | 5.34 | 99 | 1500443 | 89.38 | ng | 0.07 |
| Surrogate Spike 150.000 | | | Recovery = 59.59% | | | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.10 | 152 | 902483 | 80.02 | ng | 0.04 |
| Surrogate Spike 100.000 | | | Recovery = 80.02% | | | |
| 22) d5-Nitrobenzene (S) | 6.81 | 82 | 1354942 | 90.20 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 90.20% | | | |
| 40) 2-Fluorobiphenyl (S) | 10.22 | 172 | 2016083 | 77.66 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 77.66% | | | |
| 59) 2,4,6-Tribromophenol (S) | 13.06 | 330 | 324959 | 72.35 | ng | -0.12 |
| Surrogate Spike 150.000 | | | Recovery = 48.23% | | | |
| 72) d14-Terphenyl (S) | 18.14 | 244 | 1720062 | 85.82 | ng | 0.04 |
| Surrogate Spike 100.000 | | | Recovery = 85.82% | | | |

| Target Compounds | | | | | | | Qvalue |
|---|---|---|---|---|---|---|---|
| 2) Pyridine | 2.55 | 79 | 1076503 | 65.28 | ng | | 95 |
| 4) Aniline | 5.35 | 93 | 1296648 | 79.59 | ng | | 96 |
| 6) 2-Chlorophenol | 5.52 | 128 | 1280511 | 85.73 | ng | | 93 |
| 7) bis(2-Chloroethyl) ether | 5.47 | 93 | 1192506 | 74.34 | ng | # | 71 |
| 9) Phenol | 5.35 | 94 | 1593549 | 87.69 | ng | # | 85 |
| 10) 1,3-Dichlorobenzene | 5.76 | 146 | 1488063 | 80.63 | ng | | 99 |
| 11) 1,4-Dichlorobenzene | 5.88 | 146 | 1408110 | 76.48 | ng | | 97 |
| 13) 1,2-Dichlorobenzene | 6.13 | 146 | 1335581 | 78.38 | ng | | 98 |
| 14) Benzyl alcohol | 6.13 | 108 | 642133 | 86.39 | ng | | 86 |
| 15) bis(2-Chloroisopropyl) eth | 6.37 | 45 | 1549673 | 82.18 | ng | # | 66 |
| 16) 2-Methylphenol | 6.33 | 108 | 1035866 | 88.70 | ng | | 96 |
| 17) Hexachloroethane | 6.69 | 117 | 585991 | 83.78 | ng | | 89 |
| 18) n-Nitroso-di-n-propylamine | 6.60 | 70 | 883268 | 86.08 | ng | | 93 |
| 19) 3-Methylphenol | 6.62 | 108 | 1066886 | 46.67 | ng | | 99 |
| 20) 4-Methylphenol | 6.62 | 108 | 1066886 | 46.48 | ng | | 99 |
| 23) Nitrobenzene | 6.86 | 77 | 1371488 | 94.36 | ng | | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\80BXG08.D
Acq On : 8 Jul 98 12:14
Sample :
Misc : 7-8-98
Quant Time: Jul 8 13:46 1998

Vial: 4
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 24) | Isophorone | 7.30 | 82 | 2462110 | 80.14 ng | | 96 |
| 25) | 2-Nitrophenol | 7.41 | 139 | 831088 | 94.57 ng | | 92 |
| 26) | 2,4-Dimethylphenol | 7.57 | 107 | 1042274 | 88.01 ng | | 90 |
| 27) | bis(2-chloroethoxy) methan | 7.73 | 93 | 1393548 | 83.01 ng | | 98 |
| 28) | 2,4-Dichlorophenol | 7.87 | 162 | 971868 | 86.14 ng | | 97 |
| 29) | 1,2,4-Trichlorobenzene | 8.01 | 180 | 976283 | 76.14 ng | | 99 |
| 30) | Naphthalene | 8.12 | 128 | 3020183 | 75.15 ng | | 99 |
| 31) | Benzoic acid | 7.90 | 122 | 498042 | 89.34 ng | | 87 |
| 32) | 4-Chloroaniline | 8.28 | 127 | 1258024 | 89.81 ng | | 96 |
| 33) | Hexachlorobutadiene | 8.39 | 225 | 579254 | 74.98 ng | | 99 |
| 34) | 2-Methylnaphthalene | 9.46 | 142 | 2246667 | 84.76 ng | | 100 |
| 35) | 4-Chloro-3-methylphenol | 9.27 | 107 | 1019765 | 99.48 ng | | 91 |
| 37) | Hexachlorocyclopentadiene | 9.76 | 237 | 441518 | 70.95 ng | | 99 |
| 38) | 2,4,6-Trichlorophenol | 10.03 | 196 | 621404 | 77.61 ng | | 100 |
| 39) | 2,4,5-Trichlorophenol | 10.10 | 196 | 660017 | 75.48 ng | | 99 |
| 41) | 2-Chloronapthalene | 10.39 | 162 | 1789154 | 70.58 ng | # | 93 |
| 42) | 2-Nitroaniline | 10.64 | 65 | 640679 | 87.03 ng | | 90 |
| 43) | Acenaphthylene | 11.18 | 152 | 2910636 | 71.38 ng | | 100 |
| 44) | Dimethylphthalate | 11.08 | 163 | 2236544 | 76.72 ng | | 99 |
| 45) | 2,6-Dinitrotoluene | 11.16 | 165 | 496989 | 75.80 ng | | 96 |
| 46) | Acenaphthene | 11.54 | 153 | 1778226 | 74.68 ng | | 99 |
| 47) | 3-Nitroaniline | 11.47 | 138 | 525075 | 93.39 ng | # | 82 |
| 48) | 2,4-Dinitrophenol | 11.69 | 184 | 274609 | 100.81 ng | | 89 |
| 49) | Dibenzofuran | 11.89 | 168 | 2562277 | 77.94 ng | | 87 |
| 50) | 2,4-Dinitrotoluene | 11.94 | 165 | 692131 | 82.15 ng | # | 42 |
| 51) | 4-Nitrophenol | 11.91 | 109 | 267544 | 96.63 ng | | 85 |
| 52) | Fluorene | 12.55 | 166 | 2007596 | 76.83 ng | | 99 |
| 53) | 4-Chlorophenyl phenyl ethe | 12.62 | 204 | 884605 | 71.97 ng | | 99 |
| 54) | Diethylphthalate | 12.50 | 149 | 2549416 | 84.24 ng | | 98 |
| 55) | 4-Nitroaniline | 12.68 | 138 | 450987 | 91.91 ng | # | 84 |
| 57) | 4,6-Dinitro-2-methylphenol | 12.75 | 198 | 393143 | 98.68 ng | # | 47 |
| 58) | n-Nitrosodiphenylamine | 12.89 | 169 | 1359723 | 88.92 ng | | 98 |
| 60) | Octachlorocyclopentene | 13.04 | 307 | 232423 | 67.87 ng | | 99 |
| 61) | 4-Bromophenyl phenyl ether | 13.61 | 248 | 618042 | 82.86 ng | | 95 |
| 62) | Hexachlorobenzene | 13.65 | 284 | 476628 | 70.91 ng | # | 89 |
| 63) | Pentachlorophenol | 14.10 | 266 | 415817 | 84.12 ng | | 99 |
| 64) | Phenanthrene | 14.53 | 178 | 2688546 | 88.02 ng | | 99 |
| 65) | Anthracene | 14.63 | 178 | 2380593 | 76.92 ng | | 99 |
| 66) | Carbazole | 15.03 | 167 | 1547095 | 83.73 ng | | 99 |
| 67) | Di-n-butyl phthalate | 15.99 | 149 | 4228309 | 89.38 ng | | 99 |
| 68) | Fluoranthene | 17.14 | 202 | 2787946 | 81.25 ng | | 93 |
| 71) | Pyrene | 17.63 | 202 | 2768117 | 95.81 ng | | 92 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\80BXG08.D
Acq On : 8 Jul 98 12:14
Sample :
Misc : 7-8-98
Quant Time: Jul 8 13:46 1998

Vial: 4
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 73) | Butyl benzyl phthalate | 19.41 | 149 | 1774476 | 109.94 ng | | 92 |
| 74) | Benzo(a) anthracene | 20.42 | 228 | 2267011 | 90.37 ng | | 99 |
| 75) | Chrysene | 20.50 | 228 | 1660405 | 82.50 ng | | 99 |
| 76) | 3,3'-Dichlorobenzidine | 20.49 | 252 | 492444 | 89.12 ng | | 99 |
| 77) | bis(2-Ethylhexyl) phthalat | 20.84 | 149 | 2280475 | 104.55 ng | | 95 |
| 78) | Di-n-octyl phthalate | 22.31 | 149 | 3745133 | 107.00 ng | | 100 |
| 80) | Benzo(b) fluoranthene | 22.77 | 252 | 2163811 | 92.44 ng | | 100 |
| 81) | Benzo(k) fluoranthene | 22.84 | 252 | 1742240m | 76.94 ng | | 99 |
| 82) | Benzo(a) pyrene | 23.41 | 252 | 1814331 | 83.73 ng | | 97 |
| 83) | Indeno (1,2,3-cd) pyrene | 25.49 | 276 | 1697926 | 76.50 ng | # | 75 |
| 84) | Dibenz (ah) anthracene | 25.56 | 278 | 1251480 | 72.48 ng | | 96 |
| 85) | Benzo (ghi) perylene | 25.93 | 276 | 1342349 | 73.42 ng | | 98 |

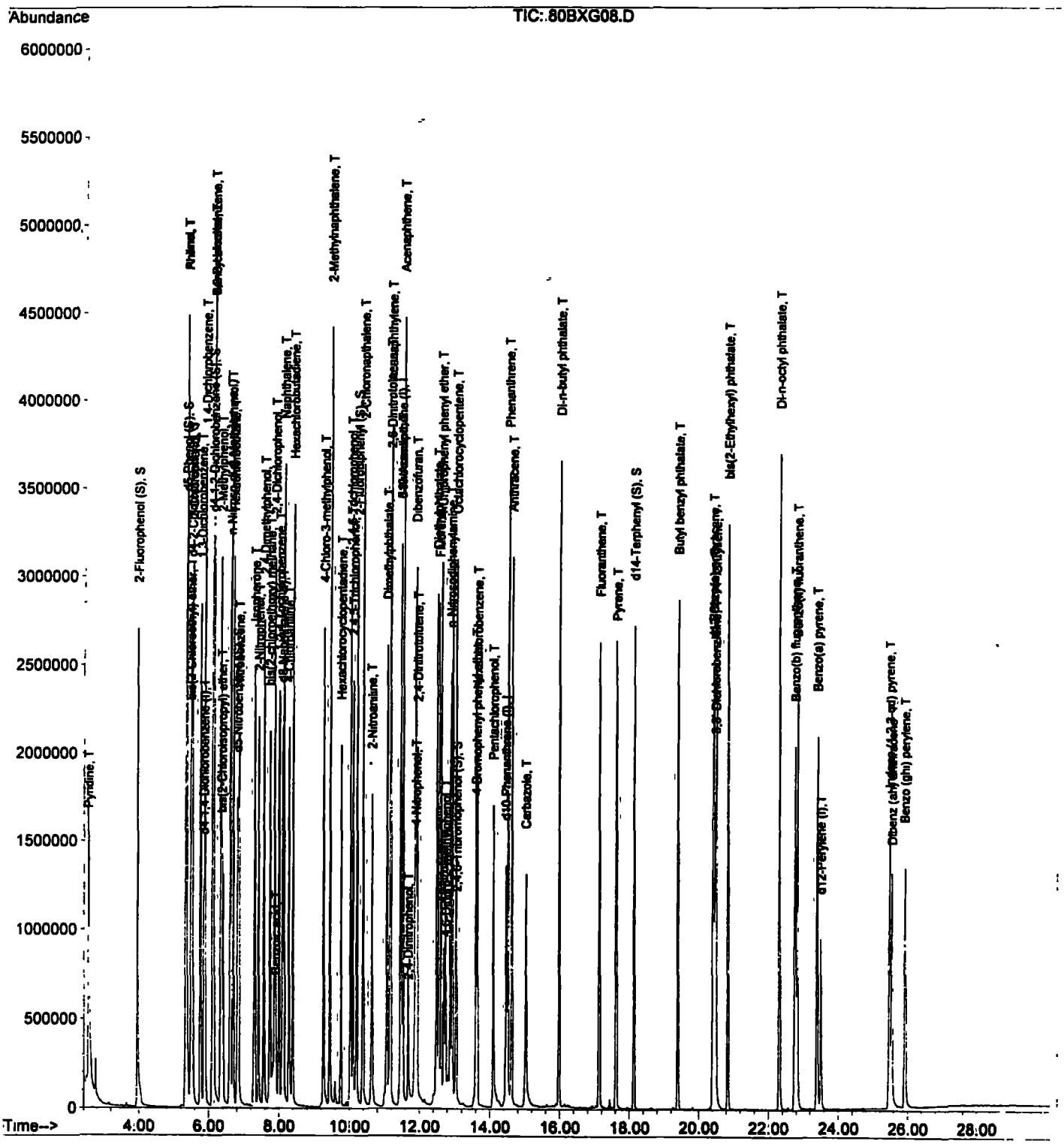
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\DATA\80BXG08.D
Acq On : 8 Jul 98 12:14
Sample :
Misc : 7-8-98
Quant Time: Jul 8 13:46 1998

Vial: 4
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : D:\DATA\50BXG08.D
Acq On : 8 Jul 98 12:52
Sample :
Misc : 7-8-98
Quant Time: Jul 8 13:49 1998

Vial: 5
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.84 | 152 | 435852 | 40.00 | ng | 0.01 |
| 21) d8-Naphthalene (I) | 8.09 | 136 | 1523165 | 40.00 | ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.47 | 164 | 742990 | 40.00 | ng | 0.03 |
| 56) d10-Phenanthrene (I) | 14.46 | 188 | 1111698 | 40.00 | ng | -0.15 |
| 69) d12-Chrysene (I) | 20.44 | 240 | 859681 | 40.00 | ng | 0.03 |
| 79) d12-Perylene (I) | 23.49 | 264 | 541790 | 40.00 | ng | 0.03 |
| **System Monitoring Compounds** | | | | | | |
| 3) 2-Fluorophenol (S) | 3.95 | 112 | 790389 | 63.82 | ng | 0.04 |
| Surrogate Spike 150.000 | | | Recovery = 42.55% | | | |
| 5) d4-2-Chlorophenol (S) | 5.49 | 132 | 769854 | 55.94 | ng | 0.04 |
| Surrogate Spike 150.000 | | | Recovery = 37.29% | | | |
| 8) d5-Phenol (S) | 5.32 | 99 | 927460 | 57.91 | ng | 0.05 |
| Surrogate Spike 150.000 | | | Recovery = 38.61% | | | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.10 | 152 | 567350 | 52.73 | ng | 0.04 |
| Surrogate Spike 100.000 | | | Recovery = 52.73% | | | |
| 22) d5-Nitrobenzene (S) | 6.81 | 82 | 841606 | 59.69 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 59.69% | | | |
| 40) 2-Fluorobiphenyl (S) | 10.20 | 172 | 1135052 | 47.63 | ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = 47.63% | | | |
| 59) 2,4,6-Tribromophenol (S) | 13.04 | 330 | 189442 | 44.24 | ng | -0.14 |
| Surrogate Spike 150.000 | | | Recovery = 29.49% | | | |
| 72) d14-Terphenyl (S) | 18.12 | 244 | 990137 | 50.12 | ng | 0.02 |
| Surrogate Spike 100.000 | | | Recovery = 50.12% | | | |

| Target Compounds | | | | | | | Qvalue |
|---|---|---|---|---|---|---|---|
| 2) Pyridine | 2.55 | 79 | 721542 | 45.86 | ng | | 97 |
| 4) Aniline | 5.35 | 93 | 773855 | 49.79 | ng | | 97 |
| 6) 2-Chlorophenol | 5.52 | 128 | 746236 | 52.37 | ng | # | 90 |
| 7) bis(2-Chloroethyl) ether | 5.47 | 93 | 864011 | 56.46 | ng | # | 77 |
| 9) Phenol | 5.34 | 94 | 977229 | 56.37 | ng | # | 85 |
| 10) 1,3-Dichlorobenzene | 5.76 | 146 | 920407 | 52.28 | ng | | 96 |
| 11) 1,4-Dichlorobenzene | 5.88 | 146 | 928445 | 52.86 | ng | | 95 |
| 13) 1,2-Dichlorobenzene | 6.11 | 146 | 809319 | 49.79 | ng | | 97 |
| 14) Benzyl alcohol | 6.11 | 108 | 377616 | 53.25 | ng | | 86 |
| 15) bis(2-Chloroisopropyl) eth | 6.35 | 45 | 948278 | 52.71 | ng | # | 66 |
| 16) 2-Methylphenol | 6.32 | 108 | 577880 | 51.87 | ng | | 98 |
| 17) Hexachloroethane | 6.69 | 117 | 365288 | 54.74 | ng | | 88 |
| 18) n-Nitroso-di-n-propylamine | 6.59 | 70 | 522727 | 53.40 | ng | # | 93 |
| 19) 3-Methylphenol | 6.60 | 108 | 583173 | 26.74 | ng | | 98 |
| 20) 4-Methylphenol | 6.60 | 108 | 583173 | 26.63 | ng | | 98 |
| 23) Nitrobenzene | 6.84 | 77 | 826464 | 60.58 | ng | | 97 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\50BXG08.D
Acq On : 8 Jul 98 12:52
Sample :
Misc : 7-8-98
Quant Time: Jul 8 13:49 1998

Vial: 5
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 24) | Isophorone | 7.28 | 82 | 1532059 | 53.13 ng | | 96 |
| 25) | 2-Nitrophenol | 7.41 | 139 | 446273 | 52.97 ng | | 93 |
| 26) | 2,4-Dimethylphenol | 7.55 | 107 | 515174 | 48.57 ng | | 92 |
| 27) | bis(2-chloroethoxy) methan | 7.73 | 93 | 953080 | 60.49 ng | | 99 |
| 28) | 2,4-Dichlorophenol | 7.85 | 162 | 567600 | 53.61 ng | | 95 |
| 29) | 1,2,4-Trichlorobenzene | 7.99 | 180 | 595056 | 49.45 ng | | 99 |
| 30) | Naphthalene | 8.12 | 128 | 1931774 | 51.21 ng | | 99 |
| 31) | Benzoic acid | 7.84 | 122 | 184970 | 53.13 ng | | 96 |
| 32) | 4-Chloroaniline | 8.27 | 127 | 779278 | 59.28 ng | | 94 |
| 33) | Hexachlorobutadiene | 8.39 | 225 | 366918 | 50.60 ng | | 99 |
| 34) | 2-Methylnaphthalene | 9.46 | 142 | 1320206 | 53.07 ng | | 97 |
| 35) | 4-Chloro-3-methylphenol | 9.25 | 107 | 566402 | 58.87 ng | | 94 |
| 37) | Hexachlorocyclopentadiene | 9.76 | 237 | 181358 | 39.85 ng | | 98 |
| 38) | 2,4,6-Trichlorophenol | 10.03 | 196 | 383355 | 53.23 ng | | 99 |
| 39) | 2,4,5-Trichlorophenol | 10.10 | 196 | 379118 | 47.22 ng | | 98 |
| 41) | 2-Chloronapthalene | 10.39 | 162 | 1207697 | 51.90 ng | # | 93 |
| 42) | 2-Nitroaniline | 10.64 | 65 | 403058 | 59.64 ng | | 91 |
| 43) | Acenaphthylene | 11.18 | 152 | 1970656 | 52.64 ng | | 100 |
| 44) | Dimethylphthalate | 11.06 | 163 | 1305748 | 48.79 ng | | 99 |
| 45) | 2,6-Dinitrotoluene | 11.15 | 165 | 311635 | 52.50 ng | | 94 |
| 46) | Acenaphthene | 11.53 | 153 | 1110328 | 50.80 ng | | 98 |
| 47) | 3-Nitroaniline | 11.45 | 138 | 302165 | 58.54 ng | # | 80 |
| 48) | 2,4-Dinitrophenol | 11.67 | 184 | 113120 | 64.50 ng | | 87 |
| 49) | Dibenzofuran | 11.87 | 168 | 1502485 | 49.78 ng | | 90 |
| 50) | 2,4-Dinitrotoluene | 11.92 | 165 | 380467 | 51.52 ng | # | 46 |
| 51) | 4-Nitrophenol | 11.89 | 109 | 131247 | 51.64 ng | # | 59 |
| 52) | Fluorene | 12.55 | 166 | 1200206 | 50.03 ng | | 98 |
| 53) | 4-Chlorophenyl phenyl ethe | 12.62 | 204 | 583222 | 51.68 ng | | 100 |
| 54) | Diethylphthalate | 12.48 | 149 | 1481171 | 53.31 ng | | 97 |
| 55) | 4-Nitroaniline | 12.67 | 138 | 253219 | 56.21 ng | # | 85 |
| 57) | 4,6-Dinitro-2-methylphenol | 12.72 | 198 | 192670m | 50.76 ng | | 47 |
| 58) | n-Nitrosodiphenylamine | 12.87 | 169 | 806742 | 55.38 ng | | 99 |
| 60) | Octachlorocyclopentene | 13.04 | 307 | 123633 | 39.07 ng | | 99 |
| 61) | 4-Bromophenyl phenyl ether | 13.60 | 248 | 341369 | 48.04 ng | | 99 |
| 62) | Hexachlorobenzene | 13.65 | 284 | 313722 | 48.99 ng | # | 88 |
| 63) | Pentachlorophenol | 14.10 | 266 | 210442 | 44.69 ng | | 99 |
| 64) | Phenanthrene | 14.51 | 178 | 1433801 | 49.27 ng | | 99 |
| 65) | Anthracene | 14.63 | 178 | 1542390 | 52.31 ng | | 99 |
| 66) | Carbazole | 15.01 | 167 | 942654 | 53.55 ng | | 99 |
| 67) | Di-n-butyl phthalate | 15.98 | 149 | 2381229 | 52.83 ng | | 98 |
| 68) | Fluoranthene | 17.13 | 202 | 1586321 | 48.52 ng | | 96 |
| 71) | Pyrene | 17.62 | 202 | 1554163 | 54.58 ng | | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\50BXG08.D
Acq On : 8 Jul 98 12:52
Sample :
Misc : 7-8-98
Quant Time: Jul 8 13:49 1998

Vial: 5
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 73) | Butyl benzyl phthalate | 19.39 | 149 | 999871 | 62.85 ng | | 94 |
| 74) | Benzo(a) anthracene | 20.40 | 228 | 1293948 | 52.33 ng | | 99 |
| 75) | Chrysene | 20.49 | 228 | 951106 | 47.95 ng | | 98 |
| 76) | 3,3'-Dichlorobenzidine | 20.47 | 252 | 243340 | 44.68 ng | | 96 |
| 77) | bis(2-Ethylhexyl) phthalat | 20.84 | 149 | 1345836 | 62.60 ng | | 92 |
| 78) | Di-n-octyl phthalate | 22.31 | 149 | 2216981 | 64.26 ng | | 99 |
| 80) | Benzo(b) fluoranthene | 22.75 | 252 | 1141422 | 55.86 ng | | 98 |
| 81) | Benzo(k) fluoranthene | 22.82 | 252 | 1072035 | 54.23 ng | | 97 |
| 82) | Benzo(a) pyrene | 23.39 | 252 | 994956 | 52.59 ng | | 96 |
| 83) | Indeno (1,2,3-cd) pyrene | 25.47 | 276 | 952769 | 49.17 ng | # | 80 |
| 84) | Dibenz (ah) anthracene | 25.54 | 278 | 700401 | 46.46 ng | | 97 |
| 85) | Benzo (ghi) perylene | 25.91 | 276 | 742251 | 46.50 ng | | 96 |

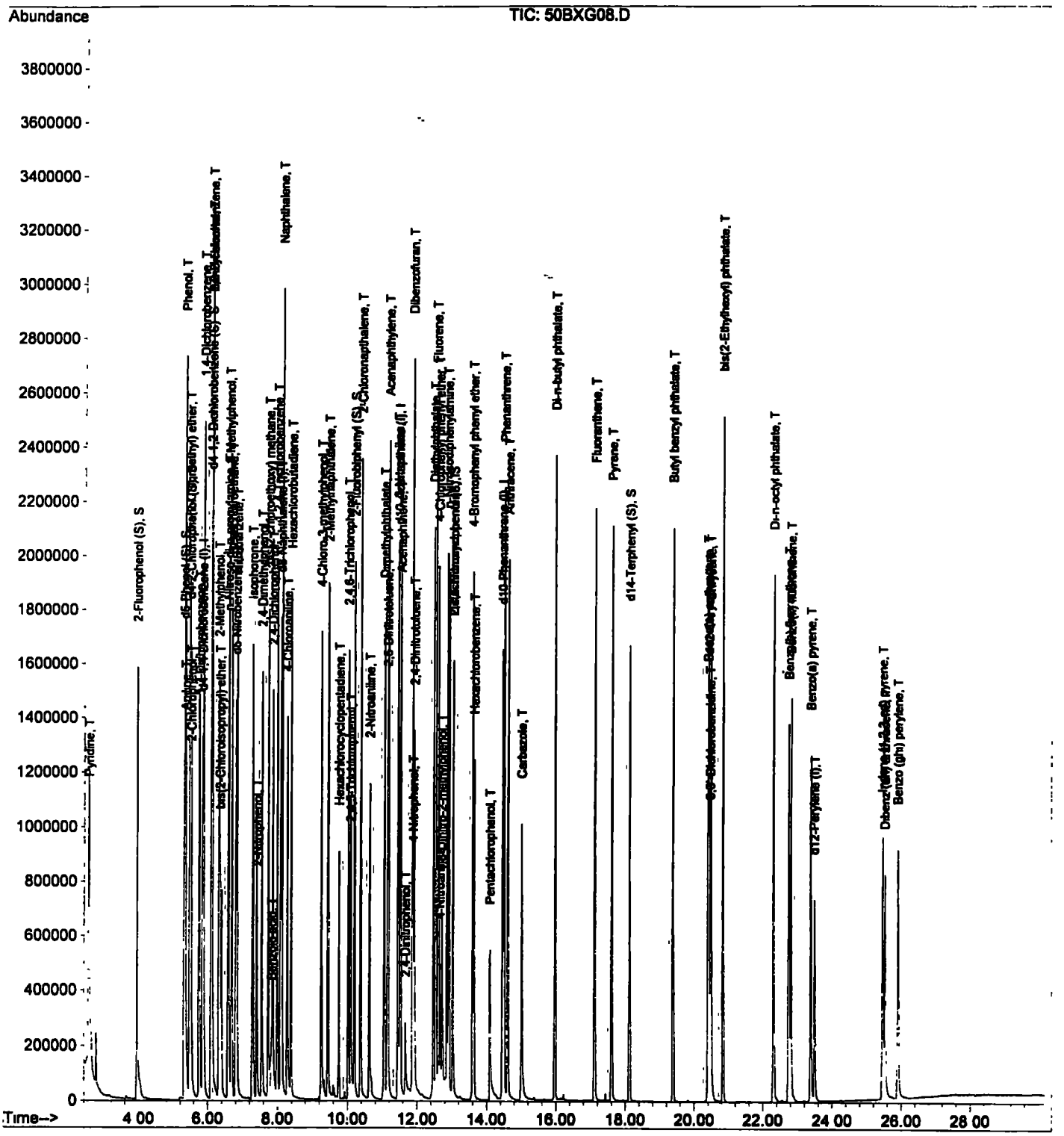
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\DATA\50BXG08.D
Acq On : 8 Jul 98 12:52
Sample :
Misc : 7-8-98
Quant Time: Jul 8 13:49 1998

Vial: 5
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : D:\DATA\10BXG08.D
Acq On : 8 Jul 98 13:30
Sample :
Misc : 7-8-98
Quant Time: Jul 8 14:49 1998

Vial: 6
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.84 | 152 | 713126 | 40.00 | ng | -0.02 |
| 21) d8-Naphthalene (I) | 8.09 | 136 | 2576933 | 40.00 | ng | 0.00 |
| 36) d10-Acenapthene (I) | 11.47 | 164 | 1283070 | 40.00 | ng | 0.00 |
| 56) d10-Phenanthrene (I) | 14.46 | 188 | 1783156 | 40.00 | ng | -0.02 |
| 69) d12-Chrysene (I) | 20.44 | 240 | 1493816 | 40.00 | ng | -0.04 |
| 79) d12-Perylene (I) | 23.51 | 264 | 1069683 | 40.00 | ng | -0.02 |
| **System Monitoring Compounds** | | | | | | |
| 3) 2-Fluorophenol (S) | 3.95 | 112 | 244647 | 10.98 | ng | -0.02 |
| Surrogate Spike 150.000 | | | Recovery = 7.32% | | | |
| 5) d4-2-Chlorophenol (S) | 5.49 | 132 | 266389 | 11.80 | ng | -0.02 |
| Surrogate Spike 150.000 | | | Recovery = 7.87% | | | |
| 8) d5-Phenol (S) | 5.30 | 99 | 331015 | 12.45 | ng | -0.06 |
| Surrogate Spike 150.000 | | | Recovery = 8.30% | | | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.10 | 152 | 193464 | 11.27 | ng | -0.02 |
| Surrogate Spike 100.000 | | | Recovery = 11.27% | | | |
| 22) d5-Nitrobenzene (S) | 6.79 | 82 | 277959 | 10.78 | ng | -0.04 |
| Surrogate Spike 100.000 | | | Recovery = 10.78% | | | |
| 40) 2-Fluorobiphenyl (S) | 10.20 | 172 | 426744 | 10.95 | ng | -0.02 |
| Surrogate Spike 100.000 | | | Recovery = 10.95% | | | |
| 59) 2,4,6-Tribromophenol (S) | 13.04 | 330 | 55581 | 9.80 | ng | -0.04 |
| Surrogate Spike 150.000 | | | Recovery = 6.53% | | | |
| 72) d14-Terphenyl (S) | 18.12 | 244 | 351102 | 10.43 | ng | -0.04 |
| Surrogate Spike 100.000 | | | Recovery = 10.43% | | | |

| Target Compounds | | | | | | | Qvalue |
|---|---|---|---|---|---|---|---|
| 2) Pyridine | 2.56 | 79 | 207776 | 8.93 | ng | # | 93 |
| 4) Aniline | 5.33 | 93 | 345555 | 13.94 | ng | | 94 |
| 6) 2-Chlorophenol | 5.50 | 128 | 280697 | 12.25 | ng | # | 91 |
| 7) bis(2-Chloroethyl) ether | 5.45 | 93 | 324414 | 13.42 | ng | | 94 |
| 9) Phenol | 5.32 | 94 | 351974 | 12.42 | ng | # | 76 |
| 10) 1,3-Dichlorobenzene | 5.74 | 146 | 320036 | 11.32 | ng | | 93 |
| 11) 1,4-Dichlorobenzene | 5.88 | 146 | 309583 | 11.19 | ng | | 95 |
| 13) 1,2-Dichlorobenzene | 6.11 | 146 | 307330 | 12.20 | ng | | 94 |
| 14) Benzyl alcohol | 6.11 | 108 | 128928 | 11.43 | ng | | 85 |
| 15) bis(2-Chloroisopropyl) eth | 6.35 | 45 | 339814 | 11.85 | ng | # | 66 |
| 16) 2-Methylphenol | 6.31 | 108 | 207282 | 11.59 | ng | | 95 |
| 17) Hexachloroethane | 6.69 | 117 | 127930 | 11.60 | ng | | 91 |
| 18) n-Nitroso-di-n-propylamine | 6.57 | 70 | 191638 | 12.47 | ng | # | 93 |
| 19) 3-Methylphenol | 6.58 | 108 | 188577 | 5.27 | ng | | 90 |
| 20) 4-Methylphenol | 6.58 | 108 | 188577 | 5.27 | ng | | 90 |
| 23) Nitrobenzene | 6.82 | 77 | 276485 | 10.66 | ng | | 95 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\10BXG08.D
Acq On : 8 Jul 98 13:30
Sample :
Misc : 7-8-98
Quant Time: Jul 8 14:49 1998

Vial: 6
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|
| 24) Isophorone | 7.28 | 82 | 544666 | 11.08 ng | # | 97 |
| 25) 2-Nitrophenol | 7.40 | 139 | 154444 | 14.58 ng | # | 91 |
| 26) 2,4-Dimethylphenol | 7.55 | 107 | 118428 | 11.90 ng | | 95 |
| 27) bis(2-chloroethoxy) methan | 7.72 | 93 | 303420 | 10.87 ng | | 99 |
| 28) 2,4-Dichlorophenol | 7.85 | 162 | 196758 | 11.21 ng | | 95 |
| 29) 1,2,4-Trichlorobenzene | 7.99 | 180 | 222950 | 11.50 ng | | 95 |
| 30) Naphthalene | 8.12 | 128 | 696305 | 11.33 ng | | 97 |
| 31) Benzoic acid | 7.99 | 122 | 7765 | 32.76 ng | # | 1 |
| 32) 4-Chloroaniline | 8.27 | 127 | 266542 | 11.26 ng | | 91 |
| 33) Hexachlorobutadiene | 8.39 | 225 | 120117 | 10.51 ng | | 99 |
| 34) 2-Methylnaphthalene | 9.44 | 142 | 440374 | 10.39 ng | | 95 |
| 35) 4-Chloro-3-methylphenol | 9.25 | 107 | 197042 | 10.97 ng | | 95 |
| 37) Hexachlorocyclopentadiene | 9.76 | 237 | 40930 | 19.68 ng | # | 94 |
| 38) 2,4,6-Trichlorophenol | 10.03 | 196 | 115313 | 9.17 ng | | 98 |
| 39) 2,4,5-Trichlorophenol | 10.08 | 196 | 121861 | 9.32 ng | | 97 |
| 41) 2-Chloronapthalene | 10.37 | 162 | 395082 | 10.64 ng | # | 92 |
| 42) 2-Nitroaniline | 10.62 | 65 | 126946 | 9.60 ng | | 93 |
| 43) Acenaphthylene | 11.16 | 152 | 660531 | 10.93 ng | | 97 |
| 44) Dimethylphthalate | 11.06 | 163 | 487608 | 11.09 ng | | 98 |
| 45) 2,6-Dinitrotoluene | 11.15 | 165 | 100532 | 16.94 ng | | 97 |
| 46) Acenaphthene | 11.52 | 153 | 387673 | 10.95 ng | | 99 |
| 47) 3-Nitroaniline | 11.45 | 138 | 98712 | 9.37 ng | # | 83 |
| 48) 2,4-Dinitrophenol | 11.75 | 184 | 6246 | 24.40 ng | # | 22 |
| 49) Dibenzofuran | 11.87 | 168 | 538701 | 10.74 ng | | 98 |
| 50) 2,4-Dinitrotoluene | 11.92 | 165 | 122533 | 13.56 ng | # | 33 |
| 51) 4-Nitrophenol | 11.89 | 109 | 27113 | 5.27 ng | # | 1 |
| 52) Fluorene | 12.53 | 166 | 411515 | 10.20 ng | | 95 |
| 53) 4-Chlorophenyl phenyl ethe | 12.62 | 204 | 189638 | 10.53 ng | | 97 |
| 54) Diethylphthalate | 12.46 | 149 | 522729 | 10.93 ng | | 95 |
| 55) 4-Nitroaniline | 12.65 | 138 | 84662 | 9.71 ng | | 87 |
| 57) 4,6-Dinitro-2-methylphenol | 12.72 | 198 | 38004 | 5.36 ng | # | 47 |
| 58) n-Nitrosodiphenylamine | 12.85 | 169 | 272003 | 11.39 ng | | 99 |
| 60) Octachlorocyclopentene | 13.04 | 307 | 35838 | 9.58 ng | | 93 |
| 61) 4-Bromophenyl phenyl ether | 13.59 | 248 | 117013 | 10.70 ng | | 94 |
| 62) Hexachlorobenzene | 13.63 | 284 | 100491 | 10.74 ng | # | 89 |
| 63) Pentachlorophenol | 14.10 | 266 | 41393 | 5.57 ng | | 89 |
| 64) Phenanthrene | 14.51 | 178 | 509411 | 10.96 ng | | 98 |
| 65) Anthracene | 14.61 | 178 | 484869 | 10.45 ng | | 97 |
| 66) Carbazole | 15.01 | 167 | 387167 | 13.10 ng | | 98 |
| 67) Di-n-butyl phthalate | 15.98 | 149 | 880419 | 11.79 ng | | 97 |
| 68) Fluoranthene | 17.11 | 202 | 555634 | 10.98 ng | | 93 |
| 70) Benzidine | 17.62 | 184 | 2462 | 9.30 ng | # | 17 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\10BXG08.D
Acq On : 8 Jul 98 13:30
Sample :
Misc : 7-8-98
Quant Time: Jul 8 14:49 1998

Vial: 6
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Thu Jul 02 15:01:10 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|
| 71) Pyrene | 17.60 | 202 | 559067 | 10.65 ng | 93 |
| 73) Butyl benzyl phthalate | 19.39 | 149 | 343627 | 10.33 ng | 95 |
| 74) Benzo(a) anthracene | 20.40 | 228 | 458042 | 10.24 ng | 98 |
| 75) Chrysene | 20.49 | 228 | 343034 | 10.23 ng | 97 |
| 76) 3,3'-Dichlorobenzidine | 20.47 | 252 | 102035 | 11.02 ng | 97 |
| 77) bis(2-Ethylhexyl) phthalat | 20.84 | 149 | 470140 | 10.61 ng | 91 |
| 78) Di-n-octyl phthalate | 22.29 | 149 | 737152 | 10.39 ng | 96 |
| 80) Benzo(b) fluoranthene | 22.73 | 252 | 396024m | 9.15 ng | 97 |
| 81) Benzo(k) fluoranthene | 22.80 | 252 | 412357 | 11.06 ng | 96 |
| 82) Benzo(a) pyrene | 23.38 | 252 | 379696 | 10.31 ng | 96 |
| 83) Indeno (1,2,3-cd) pyrene | 25.45 | 276 | 345958m | 9.70 ng | 1 |
| 84) Dibenz (ah) anthracene | 25.52 | 278 | 259217 | 9.93 ng | 96 |
| 85) Benzo (ghi) perylene | 25.89 | 276 | 286051 | 10.16 ng | 96 |

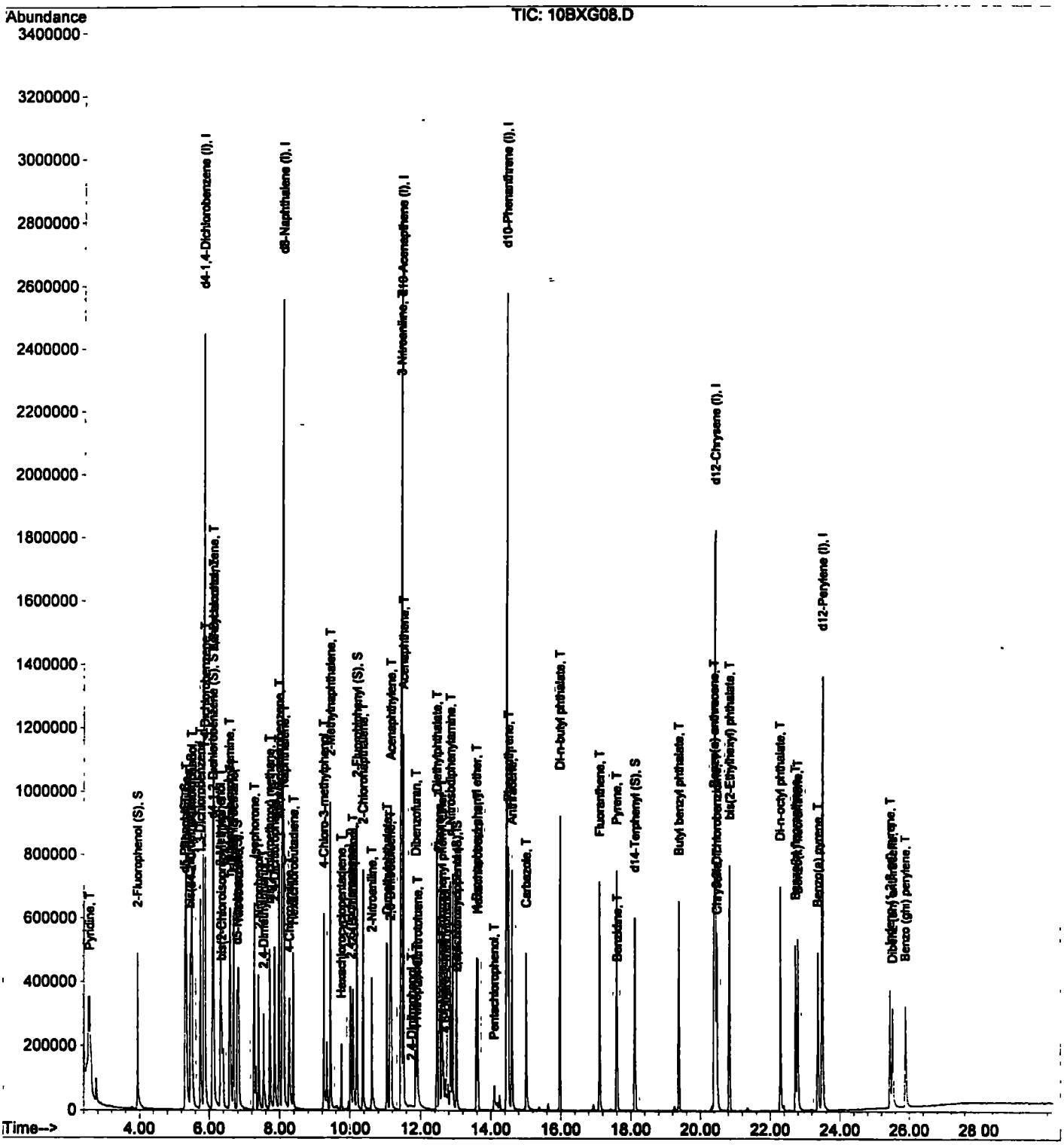
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\DATA\10BXG08.D
Acq On : 8 Jul 98 13:30
Sample :
Misc : 7-8-98
Quant Time: Jul 8 14:49 1998

Vial: 6
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Multiple Level Calibration



## *Laidlaw Environmental Services / Encotec*
### *GC/MS Semivolatile Analysis*

***Standard ID's:*** MB073D-078D
***Reference Std :*** 50BG14X.D
***Instrument ID:*** 5971-024
***GC Column :*** DB-5MS CAP 30 M, 0.25 mm, 0.25u

***Run ID :*** 7-14-98
***Date :*** 7/14/1998
***Tape Number :*** 1-98-X
***Operator :*** RBJ
***Multiplier :*** 2176

| | *Client* | *Batch* | *Time* | *File Name* | *Type* | *Matrix* | *Dilution* | *Factor* | *Rerun* | *Sample ID* |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ENCOTEC | 10000 | 09:48 | DFTG14X | TUNE | N/A | N/A | N/A | | Breakdown = 9.5% |
| 2 | ENCOTEC | 10000 | 10:26 | 50BG14X | STD | N/A | N/A | N/A | | |
| 3 | ENCOTEC | 10000 | 11:04 | 50IXG14 | STD | N/A | N/A | N/A | | |
| 4 | ENCOTEC | 10000 | 11:42 | 85468MB | BLANK | WATER | 500 ul Sample + 5 uL IS | 1/1 | | LWBG101B |
| 5 | LDP | 12446 | 12:20 | 86867B | SAMPLE | WATER | 500 ul Sample + 5 uL IS | 1/1 | | |
| 6 | LIV | 12448 | 12:59 | 86870B | SAMPLE | WATER | 500 ul Sample + 5 uL IS | 1/1 | | |
| 7 | LIV | 12448 | 13:37 | 86871B | SAMPLE | WATER | 500 ul Sample + 5 uL IS | 1/1 | | |
| 8 | LIV | 12448 | 14:15 | 86872B | SAMPLE | WATER | 500 ul Sample + 5 uL IS | 1/1 | | |
| 9 | LIV | 12448 | 14:53 | 86873B | SAMPLE | WATER | 500 ul Sample + 5 uL IS | 1/1 | | |
| 10 | LIV | 12448 | 15:32 | 86874B | SAMPLE | WATER | 500 ul Sample + 5 uL IS | 1/1 | | |
| 11 | LIV | 12448 | 16:10 | 86875B | SAMPLE | WATER | 500 ul Sample + 5 uL IS | 1/1 | | |
| 12 | ENCOTEC | 10000 | 16:48 | 85472MB | BLANK | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | LSBG131A |
| 13 | ENCOTEC | 10000 | 17:26 | 85609LCS | LCS | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | LCSG131A |
| 14 | EEI | 12497 | 18:05 | 87059DL | SAMPLE | SOIL | 50 ul Sample + 450 ul + 5 uL IS | 1/10 | | |
| 15 | EEI | 12497 | 18:43 | 87061DL | SAMPLE | SOIL | 50 ul Sample + 450 ul + 5 uL IS | 1/10 | | |

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| | IS1 | RT | IS2 | RT | IS3 | RT | IS4 | RT | IS5 | RT | IS6 | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Upper Limit* | 965590 | 6.39 | 3228456 | 8.62 | 1671254 | 12.02 | 2548356 | 15.01 | 2166900 | 21.01 | 1462244 | 24.08 |
| *Lower Limit* | 241398 | 5.39 | 807114 | 7.62 | 417814 | 11.02 | 637089 | 14.01 | 541725 | 20.01 | 365561 | 23.08 |

***Re- Analysis Codes: A) Surrogates B) EICP's C) Dilution D) Carry-Over***

*Laidlaw Environmental Services / Encotec*
*GC/MS Semivolatile Analysis*

## *Internal Standard Area and Retention Time Summary*

***Reference Std.*** 50BG14X.D ***Date / Time Analyzed:*** 7/14/1998 10:26:00

***SDG No.*** EEI-WC-98G1 ***GC Column :*** DB-5MS CAP 30 M, 0.25 mm, 0.25u

***Instrument ID:*** 5971-024

| | *d4-1,4-Dichlorobenzene* | | | | *d8-Naphthalene* | | | | *d10-Acenapthene* | | | | *d10-Phenanthrene* | | | | *d12-Chrysene* | | | | *d12-Perylene* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area | # | Time | # | Area | # | Time | # | Area | # | Time | # | Area | # | Time | # | Area | # | Time | # | Area | # | Time | # |
| ***12 Hour Std.*** | 482795 | | 5.89 | | 1614228 | | 8.12 | | 835627 | | 11.52 | | 1274178 | | 14.51 | | 1083450 | | 20.51 | | 731122 | | 23.58 | |
| ***Upper Limit*** | 965590 | | 6.39 | | 3228456 | | 8.62 | | 1671254 | | 12.02 | | 2548356 | | 15.01 | | 2166900 | | 21.01 | | 1462244 | | 24.08 | |
| ***Lower Limit*** | 241398 | | 5.39 | | 807114 | | 7.62 | | 417814 | | 11.02 | | 637089 | | 14.01 | | 541725 | | 20.01 | | 365561 | | 23.08 | |
| **Sample ID** | | | | | | | | | | | | | | | | | | | | | | | | |
| *200087059* | 382252 | | 5.89 | | 1589670 | | 8.12 | | 678655 | | 11.50 | | 1022633 | | 14.51 | | 796768 | | 20.50 | | 572208 | | 23.58 | |
| *200087061* | 324646 | | 5.89 | | 1248389 | | 8.12 | | 580727 | | 11.50 | | 844122 | | 14.51 | | 656507 | | 20.49 | | 494496 | | 23.56 | |
| *200085472MB* | 391831 | | 5.89 | | 1473228 | | 8.12 | | 706225 | | 11.50 | | 1038363 | | 14.51 | | 934501 | | 20.49 | | 733447 | | 23.56 | |
| *200085609LCS* | 389291 | | 5.90 | | 1398535 | | 8.13 | | 702674 | | 11.51 | | 1098716 | | 14.51 | | 830560 | | 20.51 | | 655550 | | 23.57 | |

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# = Value outside of surrogate recovery limits
Recovery : 0 out of 48 outside QC windows

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

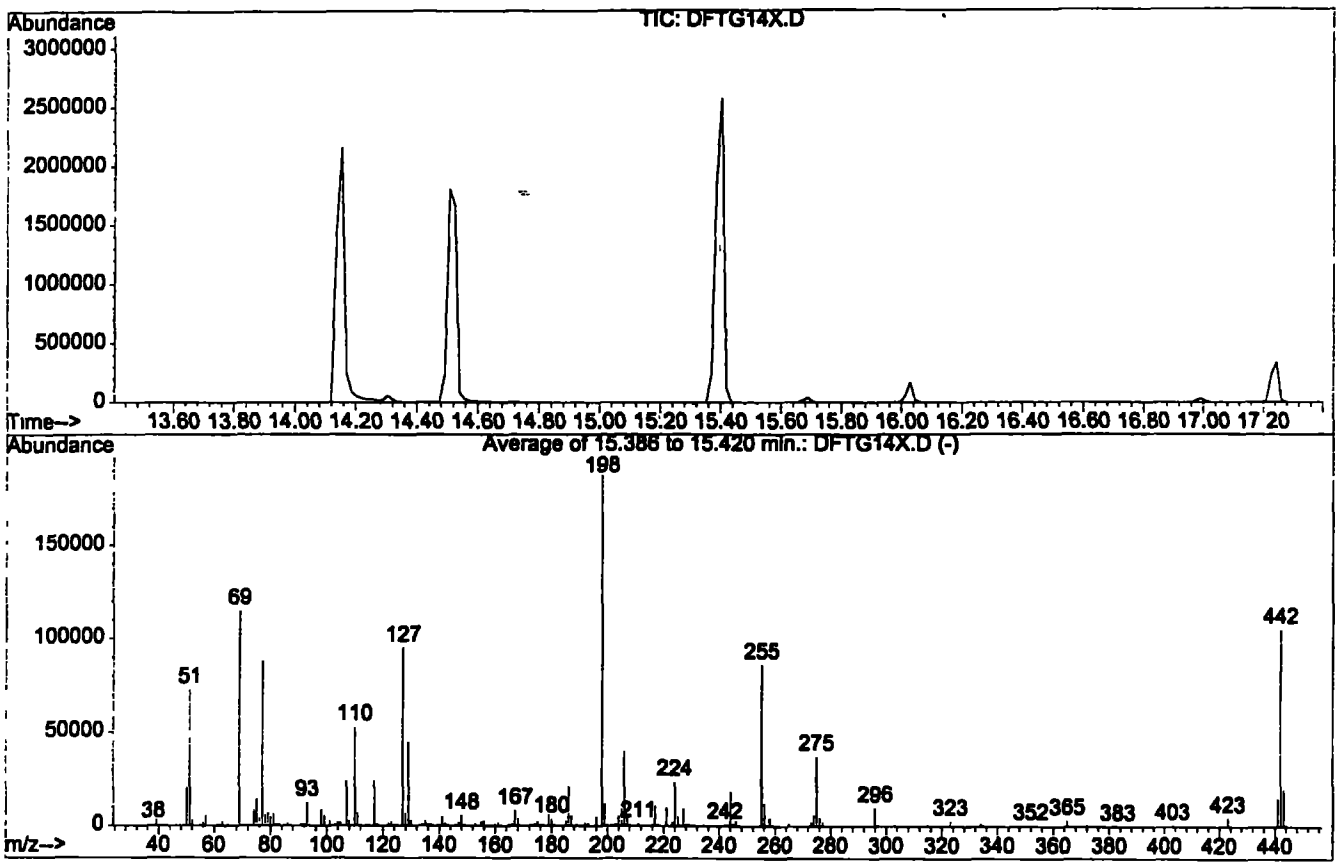
*BNAISART.xls , Sheets 1 - 2 , 5/19/98*

# DFTPP - EPA TUNE

Data File : D:\DATA\DFTG14X.D
Acq On : 14 Jul 98 9:48
Sample :
Misc : 7-14-98

Vial: 1
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :




AutoFind: Scans 770, 771, 772; Background Corrected with Scan 766

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 38.7 | 72865 | PASS |
| 68 | 69 | 0.00 | 2 | 0.8 | 881 | PASS |
| 69 | 198 | 0.00 | 100 | 61.2 | 115172 | PASS |
| 70 | 69 | 0.00 | 2 | 0.2 | 250 | PASS |
| 127 | 198 | 40 | 60 | 50.6 | 95234 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 188309 | PASS |
| 199 | 198 | 5 | 9 | 6.4 | 11980 | PASS |
| 275 | 198 | 10 | 30 | 19.8 | 37301 | PASS |
| 365 | 198 | 1 | 100 | 1.8 | 3390 | PASS |
| 441 | 443 | 0.01 | 100 | 76.8 | 15185 | PASS |
| 442 | 198 | 40 | 100 | 55.9 | 105277 | PASS |
| 443 | 442 | 17 | 23 | 18.8 | 19772 | PASS |

DFTG14X.D BNAHSL.M Tue Jul 14 10:12:09 1998

Average of 15.386 to 15.420 min.: DFTG14X.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.00 | 238 | 56.95 | 5276 | 74.95 | 14427 | 87.00 | 833 |
| 38.00 | 1110 | 61.00 | 1036 | 76.05 | 4142 | 90.95 | 1500 |
| 39.00 | 6190 | 62.00 | 961 | 77.05 | 88602 | 92.00 | 1546 |
| 40.00 | 202 | 63.00 | 2710 | 78.05 | 5963 | 92.95 | 12723 |
| 41.00 | 190 | 63.90 | 216 | 78.95 | 7095 | 93.90 | 733 |
| 48.95 | 235 | 65.00 | 1384 | 79.95 | 4872 | 95.95 | 410 |
| 50.05 | 20821 | 68.00 | 881 | 80.95 | 6752 | 97.90 | 8709 |
| 51.05 | 72865 | 68.90 | 115172 | 81.95 | 1369 | 98.95 | 5535 |
| 52.05 | 3284 | 70.00 | 250 | 82.95 | 1382 | 99.95 | 551 |
| 54.95 | 529 | 73.05 | 719 | 84.95 | 911 | 100.95 | 3138 |
| 55.95 | 2279 | 74.00 | 8487 | 86.00 | 1921 | 102.95 | 1209 |

Average of 15.386 to 15.420 min.: DFTG14X.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 103.95 | 2278 | 123.90 | 1066 | 137.95 | 197 | 151.70 | 180 |
| 104.95 | 1910 | 124.90 | 981 | 139.90 | 448 | 152.00 | 347 |
| 106.95 | 24245 | 126.95 | 95234 | 141.00 | 5122 | 152.90 | 1364 |
| 107.95 | 3274 | 127.95 | 6819 | 141.95 | 1461 | 153.95 | 927 |
| 109.95 | 53198 | 128.95 | 45000 | 143.00 | 987 | 155.00 | 2473 |
| 110.95 | 6928 | 129.95 | 3259 | 144.00 | 177 | 155.95 | 3045 |
| 111.90 | 742 | 130.95 | 602 | 145.95 | 791 | 157.00 | 791 |
| 116.90 | 24365 | 133.95 | 1193 | 146.95 | 2266 | 157.95 | 705 |
| 117.90 | 1550 | 134.95 | 3074 | 147.90 | 5744 | 158.95 | 561 |
| 121.95 | 1584 | 135.95 | 1146 | 148.90 | 991 | 159.95 | 1169 |
| 122.90 | 2466 | 136.95 | 1347 | 150.95 | 603 | 160.95 | 2056 |

Average of 15.386 to 15.420 min.: DFTG14X.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 161.90 | 481 | 176.00 | 979 | 188.95 | 1300 | 203.90 | 5353 |
| 164.95 | 1512 | 176.90 | 1301 | 190.95 | 513 | 205.00 | 9205 |
| 166.00 | 1212 | 177.90 | 496 | 191.95 | 1805 | 206.00 | 40212 |
| 167.00 | 8430 | 178.90 | 6321 | 192.95 | 1881 | 207.00 | 4944 |
| 168.00 | 3864 | 179.90 | 4009 | 194.00 | 428 | 207.95 | 1301 |
| 169.00 | 547 | 180.95 | 1716 | 196.00 | 5211 | 208.95 | 221 |
| 171.00 | 220 | 183.95 | 240 | 197.90 | 188309 | 210.15 | 231 |
| 171.90 | 676 | 185.00 | 2720 | 198.90 | 11980 | 211.00 | 1535 |
| 173.00 | 794 | 185.95 | 21486 | 199.90 | 857 | 211.65 | 192 |
| 173.95 | 1635 | 186.95 | 5632 | 201.50 | 850 | 214.95 | 221 |
| 174.95 | 2784 | 187.95 | 968 | 202.90 | 1155 | 216.00 | 828 |

Average of 15.386 to 15.420 min.: DFTG14X.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 216.95 | 10893 | 231.00 | 691 | 245.95 | 3125 | 272.95 | 2345 |
| 217.95 | 1424 | 233.95 | 515 | 246.90 | 550 | 273.95 | 6125 |
| 220.95 | 9924 | 234.90 | 622 | 249.00 | 424 | 274.95 | 37301 |
| 223.00 | 2259 | 235.95 | 271 | 253.00 | 198 | 276.00 | 4470 |
| 224.00 | 23839 | 236.95 | 617 | 255.00 | 86288 | 277.00 | 2607 |
| 225.00 | 4938 | 238.90 | 410 | 256.00 | 12118 | 278.00 | 294 |
| 226.00 | 409 | 240.95 | 384 | 257.00 | 765 | 284.90 | 270 |
| 226.90 | 9816 | 242.00 | 991 | 257.90 | 4486 | 292.95 | 512 |
| 227.95 | 1269 | 243.00 | 1004 | 258.95 | 777 | 295.95 | 10004 |
| 228.90 | 1649 | 243.95 | 18522 | 264.95 | 1608 | 296.95 | 1297 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 229.90 | 212 | 244.95 | 2229 | 265.95 | 213 | 303.00 | 1033 |

Average of 15.386 to 15.420 min.: DFTG14X.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 314.00 | 291 | 345.95 | 446 | 404.05 | 174 | | |
| 314.90 | 1013 | 351.95 | 623 | 421.00 | 455 | | |
| 316.00 | 351 | 352.95 | 404 | 422.00 | 373 | | |
| 323.00 | 2934 | 353.95 | 810 | 423.00 | 4714 | | |
| 323.95 | 373 | 364.90 | 3390 | 423.95 | 866 | | |
| 326.95 | 371 | 365.90 | 347 | 441.00 | 15185 | | |
| 327.95 | 169 | 372.00 | 1302 | 442.00 | 105277 | | |
| 333.00 | 195 | 372.95 | 185 | 443.00 | 19772 | | |
| 334.00 | 1615 | 382.95 | 209 | 444.00 | 1546 | | |
| 334.90 | 288 | 401.95 | 382 | | | | |
| 341.00 | 200 | 402.95 | 717 | | | | |

Quantitation Report (Not Reviewed)

Data File : D:\DATA\DFTG14X.D
Acq On : 14 Jul 98 9:48
Sample :
Misc : 7-14-98
Quant Time: Jul 14 10:31 1998

Vial: 1
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: DFTPP.RES

Quant Method : C:\HPCHEM\1\METHODS\DFTPP.M
Title :
Last Update : Mon Feb 23 20:23:22 1998
Response via : Continuing Cal File: D:\DATA\50BG07IX.D
DataAcq Meth : BNAHSL

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.88 | 152 | 650985 | 40.00 ng | -0.11 |
| 2) d8-Naphthalene (I) | 8.12 | 136 | 2263895 | 40.00 ng | -0.10 |
| 3) d10-Acenaphthene (I) | 11.50 | 164 | 1100743 | 40.00 ng | -0.10 |
| 5) d10-Phenanthrene (I) | 14.52 | 188 | 1562079 | 40.00 ng | -0.08 |
| 10) d12-Chrysene (I) | 20.49 | 240 | 1261922 | 40.00 ng | -0.08 |
| 11) d12-Perylene (I) | 23.56 | 264 | 980542 | 40.00 ng | -0.08 |

System Monitoring Compounds

| Target Compounds | | | | | Qvalue |
|---|---|---|---|---|---|
| 4) Pentachlorophenol | 14.15 | 266 | 505293 | 58.36 ng | 98 |
| 6) Benzidine | 17.63 | 184 | 1371855 | 43.23 ng | 95 |
| 7) 4,4'-DDE | 18.09 | 246 | 2817 | 21.12 ng | 100 |
| 8) 4,4'-DDD | 18.85 | 235 | 105803 | 208.00 ng | 100 |
| 9) 4,4'-DDT | 19.56 | 235 | 1037178 | 66.37 ng | 100 |

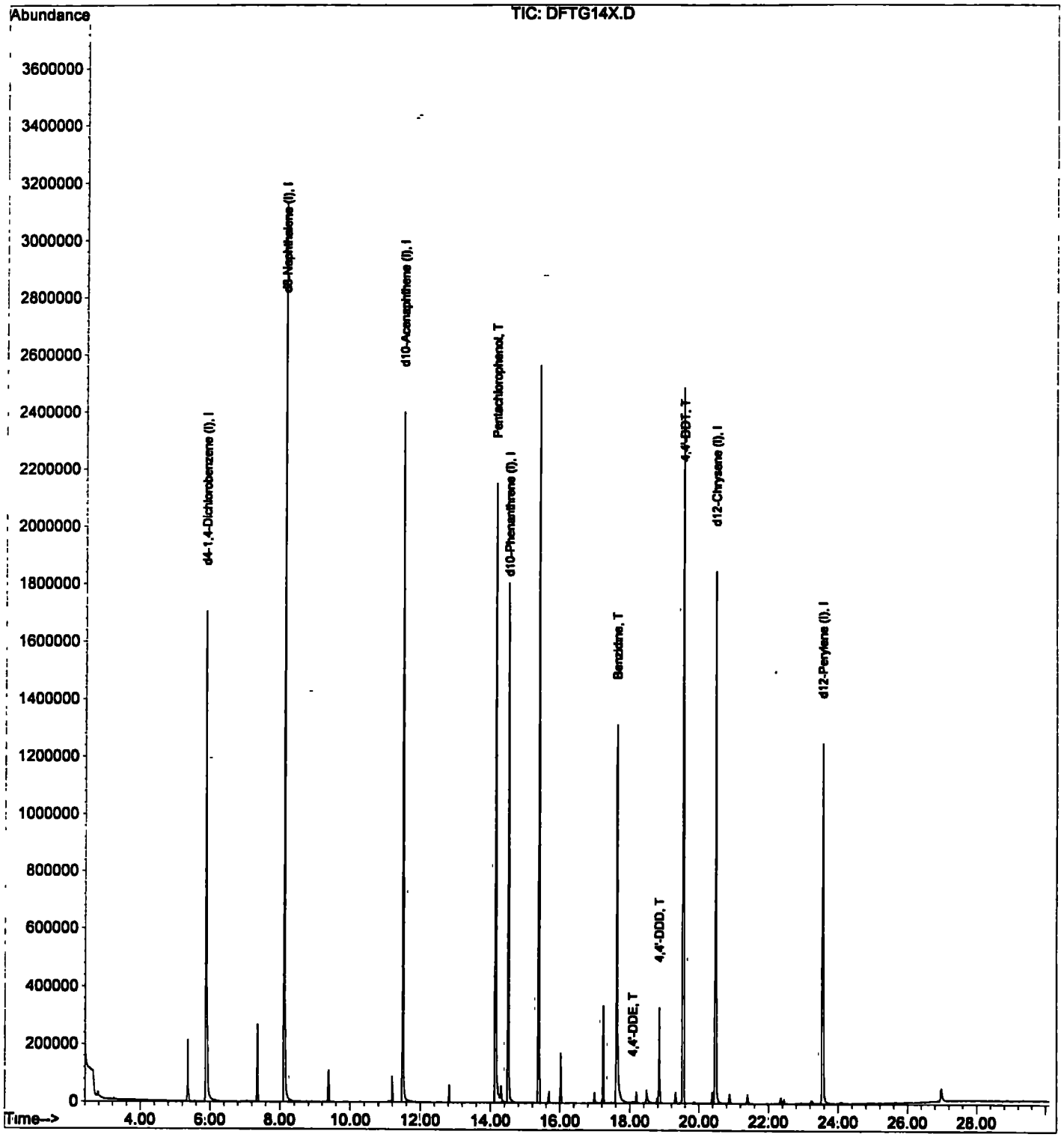
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\DATA\DFTG14X.D
Acq On : 14 Jul 98 9:48
Sample :
Misc : 7-14-98
Quant Time: Jul 14 10:31 1998

Vial: 1
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: DFTPP.RES

Method : C:\HPCHEM\1\METHODS\DFTPP.M
Title :
Last Update : Mon Feb 23 20:23:22 1998
Response via : Single Level Calibration



**ENCOTEC** GC/MS SEMIVOLATILE 5 WAY CALIBRATION

Instrument ID: 5971-024
Initial Calibration Date: 7/8/98
Continuing Calibration Date: 7/14/98
Continuing File Name: 50BG14X.D

| STD | FILE: | STD | FILE: | STD | FILE: |
|---|---|---|---|---|---|
| 160 | 160BXG08.D | 80 | 80BXG08.D | 10 | 10BXG08.D |
| 120 | 120BXG08.D | 50 | 50BXG08.D | | |

| Compound | 10 | 50 | 80 | 120 | 160 | RF avg. | % RSD | RF Cont | Cont Rec | % Drift | CCC/SPCC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Phenol | 1.974 | 1.794 | 1.744 | 1.469 | 1.495 | 1.695 | 13 | | 49.36 | 1.3 | * |
| 1,4-Dichlorobenzene | 1.736 | 1.704 | 1.541 | 1.482 | 1.441 | 1.581 | 8.4 | | 50.66 | 1.3 | * |
| n-Nitroso-di-n-propylamine | 1.075 | 0.959 | 0.967 | 0.791 | 0.761 | 0.911 | | 0.949 | | | ** |
| 2-Nitrophenol | 0.240 | 0.234 | 0.256 | 0.236 | 0.267 | 0.246 | 5.8 | | 50.77 | 1.5 | * |
| 2,4-Dichlorophenol | 0.305 | 0.298 | 0.299 | 0.272 | 0.266 | 0.288 | 6.2 | | 53.72 | 7.4 | * |
| Hexachlorobutadiene | 0.186 | 0.193 | 0.178 | 0.172 | 0.155 | 0.177 | 8.2 | | 53.27 | 6.5 | * |
| 4-Chloro-3-methylphenol | 0.306 | 0.297 | 0.314 | 0.298 | 0.295 | 0.302 | 2.6 | | 52.70 | 5.4 | * |
| Hexachlorocyclopentadiene | 0.128 | 0.195 | 0.273 | 0.312 | 0.345 | 0.250 | | 0.175 | | | ** |
| 2,4,6-Trichlorophenol | 0.359 | 0.413 | 0.384 | 0.368 | 0.371 | 0.379 | 5.5 | | 49.76 | 0.48 | * |
| Acenaphthene | 1.209 | 1.196 | 1.099 | 0.994 | 1.052 | 1.110 | 8.3 | | 54.39 | 8.8 | * |
| 2,4-Dinitrophenol | -------- | 0.122 | 0.170 | 0.160 | 0.199 | 0.163 | | 0.097 | | | ** |
| 4-Nitrophenol | -------- | 0.141 | 0.165 | 0.152 | 0.183 | 0.160 | | 0.154 | | | ** |
| n-Nitrosodiphenylamine | 0.610 | 0.581 | 0.583 | 0.564 | 0.451 | 0.558 | 11 | | 49.85 | 0.30 | * |
| Pentachlorophenol | -------- | 0.151 | 0.178 | 0.164 | 0.173 | 0.167 | 7.1 | | 50.81 | 1.6 | * |
| Fluoranthene | 1.246 | 1.142 | 1.195 | 1.147 | 1.012 | 1.148 | 7.6 | | 53.10 | 6.2 | * |
| Di-n-octyl phthalate | 1.974 | 2.063 | 2.147 | 2.124 | 1.813 | 2.024 | 6.7 | | 50.01 | 0.02 | * |
| Benzo(a) pyrene | 1.420 | 1.469 | 1.462 | 1.348 | 1.306 | 1.401 | 5.1 | | 51.29 | 2.6 | * |

* CCC - Calibration Check Compound: %RSD < 30 for initial calibration; % Diff. < 20.0 for continuing calibration.
** SPCC - System Performance Check Compound: Minimum avg. RF > .050 for initial calibration, RF > 0.050 for continuing calibration
% RSD = Relative Standard Deviation
% Drift = (Cont. Cal. Std Conc. - Recovery Conc.) / Cont. Cal. Std. Conc. Rec. x 100

EICPS:

| IS1 | RT1 | IS2 | RT2 | IS3 | RT3 | IS4 | RT4 | IS5 | RT5 | IS6 | RT6 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 965590 | 6.39 | 3228456 | 8.62 | 1671254 | 12.02 | 2548356 | 15.01 | 2166900 | 21.01 | 1462244 | 24.08 |
| 241398 | 5.39 | 807114 | 7.62 | 417814 | 11.02 | 637089 | 14.01 | 541725 | 20.01 | 365561 | 23.08 |

# Evaluate Continuing Calibration Report

Data File : D:\DATA\50BG14X.D
Acq On : 14 Jul 98 10:26
Sample :
Misc : 7-14-98

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | d4-1,4-Dichlorobenzene (I) | 1.000 | 1.000 | 0.0 | 111 | 0.03 |
| 2 | T | Pyridine | 1.277 | 1.131 | 11.4 | 95 | 0.03 |
| 3 | S | 2-Fluorophenol (S) | 1.343 | 1.314 | 2.2 | 100 | 0.01 |
| 4 | T | Aniline | 1.467 | 1.381 | 5.9 | 108 | 0.01 |
| 5 | S | d4-2-Chlorophenol (S) | 1.339 | 1.354 | -1.1 | 106 | 0.01 |
| 6 | T | 2-Chlorophenol | 1.352 | 1.379 | -2.0 | 111 | 0.01 |
| 7 | T | bis(2-Chloroethyl) ether | 1.441 | 1.408 | 2.3 | 98 | 0.00 |
| 8 | S | d5-Phenol (S) | 1.606 | 1.597 | 0.6 | 104 | 0.00 |
| 9 | T | Phenol | 1.695 | 1.673 | 1.3 | 103 | -0.02 |
| 10 | T | 1,3-Dichlorobenzene | 1.620 | 1.707 | -5.4 | 112 | 0.03 |
| 11 | T | 1,4-Dichlorobenzene | 1.581 | 1.602 | -1.3 | 104 | 0.01 |
| 12 | S | d4-1,2-Dichlorobenzene (S) | 0.987 | 0.998 | -1.1 | 106 | 0.01 |
| 13 | T | 1,2-Dichlorobenzene | 1.437 | 1.544 | -7.4 | 115 | 0.03 |
| 14 | T | Benzyl alcohol | 0.675 | 0.654 | 3.1 | 105 | 0.00 |
| 15 | T | bis(2-Chloroisopropyl) ethe | 1.659 | 1.641 | 1.1 | 104 | 0.03 |
| 16 | T | 2-Methylphenol | 1.052 | 1.012 | 3.8 | 106 | 0.01 |
| 17 | T | Hexachloroethane | 0.636 | 0.656 | -3.1 | 108 | 0.03 |
| 18 | T | n-Nitroso-di-n-propylamine | 0.911 | 0.949 | -4.2 | 110 | 0.01 |
| 19 | T | 3-Methylphenol | 2.100 | 2.205 | -5.0 | 114 | 0.00 |
| 20 | T | 4-Methylphenol | 2.100 | 2.205 | -5.0 | 114 | 0.00 |
| 21 | I | d8-Naphthalene (I) | 1.000 | 1.000 | 0.0 | 106 | 0.03 |
| 22 | S | d5-Nitrobenzene (S) | 0.423 | 0.441 | -4.3 | 106 | 0.03 |
| 23 | T | Nitrobenzene | 0.423 | 0.426 | -0.7 | 104 | 0.01 |
| 24 | T | Isophorone | 0.782 | 0.839 | -7.3 | 110 | 0.00 |
| 25 | T | 2-Nitrophenol | 0.246 | 0.250 | -1.6 | 113 | 0.01 |
| 26 | T | 2,4-Dimethylphenol | 0.279 | 0.267 | 4.3 | 105 | 0.01 |
| 27 | T | bis(2-chloroethoxy) methane | 0.453 | 0.454 | -0.2 | 96 | 0.01 |
| 28 | T | 2,4-Dichlorophenol | 0.288 | 0.310 | -7.6 | 110 | 0.01 |
| 29 | T | 1,2,4-Trichlorobenzene | 0.306 | 0.326 | -6.5 | 110 | 0.03 |
| 30 | T | Naphthalene | 0.977 | 1.127 | -15.4 | 118 | 0.03 |
| 31 | T | Benzoic acid | 0.152 | 0.106 | 30.3# | 116 | -0.14 |
| 32 | T | 4-Chloroaniline | 0.388 | 0.388 | 0.0 | 101 | 0.01 |
| 33 | T | Hexachlorobutadiene | 0.177 | 0.189 | -6.8 | 104 | 0.03 |
| 34 | T | 2-Methylnaphthalene | 0.671 | 0.695 | -3.6 | 106 | 0.01 |
| 35 | T | 4-Chloro-3-methylphenol | 0.302 | 0.319 | -5.6 | 113 | 0.01 |
| 36 | I | d10-Acenapthene (I) | 1.000 | 1.000 | 0.0 | 112 | 0.05 |
| 37 | T | Hexachlorocyclopentadiene | 0.250 | 0.175 | 30.0# | 101 | 0.03 |
| 38 | T | 2,4,6-Trichlorophenol | 0.379 | 0.377 | 0.5 | 103 | 0.01 |
| 39 | T | 2,4,5-Trichlorophenol | 0.408 | 0.414 | -1.5 | 114 | 0.01 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : D:\DATA\50BG14X.D
Acq On : 14 Jul 98 10:26
Sample :
Misc : 7-14-98

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 40 | S | 2-Fluorobiphenyl (S) | 1.227 | 1.230 | -0.2 | 113 | 0.03 |
| 41 | T | 2-Chloronapthalene | 1.161 | 1.296 | -11.6 | 112 | 0.03 |
| 42 | T | 2-Nitroaniline | 0.412 | 0.417 | -1.2 | 108 | 0.00 |
| 43 | T | Acenaphthylene | 1.877 | 2.162 | -15.2 | 115 | 0.03 |
| 44 | T | Dimethylphthalate | 1.390 | 1.458 | -4.9 | 117 | 0.01 |
| 45 | T | 2,6-Dinitrotoluene | 0.329 | 0.329 | 0.0 | 110 | 0.00 |
| 46 | T | Acenaphthene | 1.110 | 1.207 | -8.7 | 114 | 0.01 |
| 47 | T | 3-Nitroaniline | 0.328 | 0.287 | 12.5 | 99 | 0.00 |
| 48 | T | 2,4-Dinitrophenol | 0.163 | 0.097 | 40.5# | 89 | 0.01 |
| 49 | T | Dibenzofuran | 1.577 | 1.627 | -3.2 | 113 | 0.03 |
| 50 | T | 2,4-Dinitrotoluene | 0.405 | 0.415 | -2.5 | 114 | 0.00 |
| 51 | T | 4-Nitrophenol | 0.160 | 0.154 | 3.8 | 122 | -0.02 |
| 52 | T | Fluorene | 1.251 | 1.288 | -3.0 | 112 | 0.03 |
| 53 | T | 4-Chlorophenyl phenyl ether | 0.566 | 0.616 | -8.8 | 110 | 0.03 |
| 54 | T | Diethylphthalate | 1.516 | 1.684 | -11.1 | 119 | 0.01 |
| 55 | T | 4-Nitroaniline | 0.272 | 0.246 | 9.6 | 102 | -0.04 |
| 56 | I | d10-Phenanthrene (I) | 1.000 | 1.000 | 0.0 | 115 | 0.03 |
| 57 | T | 4,6-Dinitro-2-methylphenol | 0.159 | 0.140 | 11.9 | 116 | 0.00 |
| 58 | T | n-Nitrosodiphenylamine | 0.558 | 0.556 | 0.4 | 110 | 0.01 |
| 59 | S | 2,4,6-Tribromophenol (S) | 0.134 | 0.135 | -0.7 | 114 | 0.01 |
| 60 | T | Octachlorocyclopentene | 0.092 | 0.087 | 5.4 | 113 | 0.03 |
| 61 | T | 4-Bromophenyl phenyl ether | 0.250 | 0.242 | 3.2 | 113 | 0.03 |
| 62 | T | Hexachlorobenzene | 0.211 | 0.215 | -1.9 | 109 | 0.03 |
| 63 | T | Pentachlorophenol | 0.167 | 0.169 | -1.2 | 128 | 0.03 |
| 64 | T | Phenanthrene | 1.067 | 1.128 | -5.7 | 125 | 0.03 |
| 65 | T | Anthracene | 1.051 | 1.031 | 1.9 | 106 | 0.01 |
| 66 | T | Carbazole | 0.690 | 0.539 | 21.9 | 91 | 0.01 |
| 67 | T | Di-n-butyl phthalate | 1.737 | 1.841 | -6.0 | 123 | 0.01 |
| 68 | T | Fluoranthene | 1.148 | 1.220 | -6.3 | 122 | 0.03 |
| 69 | I | d12-Chrysene (I) | 1.000 | 1.000 | 0.0 | 126 | 0.03 |
| 70 | T | Benzidine | 0.006 | 0.000 | 100.0# | 0# | -17.56# |
| 71 | T | Pyrene | 1.446 | 1.434 | 0.8 | 125 | 0.03 |
| 72 | S | d14-Terphenyl (S) | 0.921 | 0.925 | -0.4 | 127 | 0.03 |
| 73 | T | Butyl benzyl phthalate | 0.944 | 0.945 | -0.1 | 128 | 0.03 |
| 74 | T | Benzo(a) anthracene | 1.229 | 1.187 | 3.4 | 124 | 0.01 |
| 75 | T | Chrysene | 0.900 | 0.875 | 2.8 | 125 | 0.01 |
| 76 | T | 3,3'-Dichlorobenzidine | 0.257 | 0.259 | -0.8 | 144 | 0.03 |
| 77 | T | bis(2-Ethylhexyl) phthalate | 1.250 | 1.196 | 4.3 | 120 | 0.03 |
| 78 | T | Di-n-octyl phthalate | 2.024 | 2.025 | -0.0 | 124 | 0.03 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : D:\DATA\50BG14X.D
Acq On : 14 Jul 98 10:26
Sample :
Misc : 7-14-98

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 79 | I | d12-Perylene (I) | 1.000 | 1.000 | 0.0 | 135 | 0.05 |
| 80 | T | Benzo(b) fluoranthene | 1.658 | 1.608 | 3.0 | 129 | 0.00 |
| 81 | T | Benzo(k) fluoranthene | 1.400 | 1.450 | -3.6 | 124 | 0.01 |
| 82 | T | Benzo(a) pyrene | 1.401 | 1.437 | -2.6 | 132 | 0.01 |
| 83 | T | Indeno (1,2,3-cd) pyrene | 1.338 | 1.361 | -1.7 | 131 | 0.01 |
| 84 | T | Dibenz (ah) anthracene | 0.987 | 1.115 | -13.0 | 146 | 0.01 |
| 85 | T | Benzo (ghi) perylene | 1.051 | 1.186 | -12.8 | 146 | 0.01 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\DATA\50BG14X.D
Acq On : 14 Jul 98 10:26
Sample :
Misc : 7-14-98
Quant Time: Jul 14 11:01 1998

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.89 | 152 | 482795 | 40.00 | ng | 0.03 |
| 21) d8-Naphthalene (I) | 8.12 | 136 | 1614228 | 40.00 | ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.52 | 164 | 835627 | 40.00 | ng | 0.05 |
| 56) d10-Phenanthrene (I) | 14.51 | 188 | 1274178 | 40.00 | ng | 0.03 |
| 69) d12-Chrysene (I) | 20.51 | 240 | 1083450 | 40.00 | ng | 0.03 |
| 79) d12-Perylene (I) | 23.58 | 264 | 731122 | 40.00 | ng | 0.05 |
| **System Monitoring Compounds** | | | | | | |
| 3) 2-Fluorophenol (S) | 3.99 | 112 | 792989 | 48.92 | ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = 32.61% | | | |
| 5) d4-2-Chlorophenol (S) | 5.52 | 132 | 816941 | 50.56 | ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = 33.71% | | | |
| 8) d5-Phenol (S) | 5.35 | 99 | 963904 | 49.72 | ng | 0.00 |
| Surrogate Spike 150.000 | | | Recovery = 33.15% | | | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.13 | 152 | 602010 | 50.53 | ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = 50.53% | | | |
| 22) d5-Nitrobenzene (S) | 6.86 | 82 | 889330 | 52.06 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 52.06% | | | |
| 40) 2-Fluorobiphenyl (S) | 10.25 | 172 | 1284644 | 50.11 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 50.11% | | | |
| 59) 2,4,6-Tribromophenol (S) | 13.09 | 330 | 215174 | 50.42 | ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = 33.61% | | | |
| 72) d14-Terphenyl (S) | 18.19 | 244 | 1252806 | 50.24 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 50.24% | | | |

| Target Compounds | | | | | | | Qvalue |
|---|---|---|---|---|---|---|---|
| 2) Pyridine | 2.58 | 79 | 682579 | 44.30 | ng | | 93 |
| 4) Aniline | 5.39 | 93 | 833197 | 48.25 | ng | | 96 |
| 6) 2-Chlorophenol | 5.56 | 128 | 832023 | 50.98 | ng | | 92 |
| 7) bis(2-Chloroethyl) ether | 5.51 | 93 | 849527 | 48.83 | ng | # | 71 |
| 9) Phenol | 5.37 | 94 | 1009945 | 49.36 | ng | # | 81 |
| 10) 1,3-Dichlorobenzene | 5.79 | 146 | 1030399 | 52.68 | ng | | 97 |
| 11) 1,4-Dichlorobenzene | 5.91 | 146 | 966722 | 50.66 | ng | | 95 |
| 13) 1,2-Dichlorobenzene | 6.16 | 146 | 931521 | 53.71 | ng | | 99 |
| 14) Benzyl alcohol | 6.16 | 108 | 394855 | 48.45 | ng | # | 83 |
| 15) bis(2-Chloroisopropyl) eth | 6.40 | 45 | 990464 | 49.46 | ng | # | 66 |
| 16) 2-Methylphenol | 6.37 | 108 | 610929 | 48.10 | ng | | 97 |
| 17) Hexachloroethane | 6.72 | 117 | 395940 | 51.60 | ng | | 91 |
| 18) n-Nitroso-di-n-propylamine | 6.64 | 70 | 572721 | 52.10 | ng | # | 92 |
| 19) 3-Methylphenol | 6.65 | 108 | 665348 | 26.25 | ng | | 99 |
| 20) 4-Methylphenol | 6.65 | 108 | 665348 | 26.25 | ng | | 99 |
| 23) Nitrobenzene | 6.89 | 77 | 858587 | 50.33 | ng | | 98 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\50BG14X.D
Acq On : 14 Jul 98 10:26
Sample :
Misc : 7-14-98
Quant Time: Jul 14 11:01 1998

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 24) | Isophorone | 7.33 | 82 | 1692776 | 53.64 ng | | 97 |
| 25) | 2-Nitrophenol | 7.45 | 139 | 504981 | 50.77 ng | | 92 |
| 26) | 2,4-Dimethylphenol | 7.60 | 107 | 539437 | 46.37 ng | | 91 |
| 27) | bis(2-chloroethoxy) methan | 7.77 | 93 | 915483 | 50.10 ng | | 99 |
| 28) | 2,4-Dichlorophenol | 7.90 | 162 | 624837 | 53.72 ng | | 96 |
| 29) | 1,2,4-Trichlorobenzene | 8.04 | 180 | 657045 | 53.15 ng | | 98 |
| 30) | Naphthalene | 8.17 | 128 | 2274207 | 57.70 ng | | 99 |
| 31) | Benzoic acid | 7.90 | 122 | 214421 | 34.86 ng | | 88 |
| 32) | 4-Chloroaniline | 8.31 | 127 | 783376 | 50.08 ng | | 97 |
| 33) | Hexachlorobutadiene | 8.43 | 225 | 380393 | 53.27 ng | | 99 |
| 34) | 2-Methylnaphthalene | 9.49 | 142 | 1403220 | 51.84 ng | | 99 |
| 35) | 4-Chloro-3-methylphenol | 9.31 | 107 | 642754 | 52.70 ng | | 91 |
| 37) | Hexachlorocyclopentadiene | 9.81 | 237 | 182585 | 34.89 ng | | 99 |
| 38) | 2,4,6-Trichlorophenol | 10.07 | 196 | 393986 | 49.76 ng | | 99 |
| 39) | 2,4,5-Trichlorophenol | 10.13 | 196 | 432278 | 50.78 ng | | 96 |
| 41) | 2-Chloronapthalene | 10.44 | 162 | 1353326 | 55.81 ng | | 94 |
| 42) | 2-Nitroaniline | 10.67 | 65 | 435898 | 50.59 ng | | 88 |
| 43) | Acenaphthylene | 11.23 | 152 | 2258413 | 57.60 ng | | 100 |
| 44) | Dimethylphthalate | 11.11 | 163 | 1522442 | 52.42 ng | | 98 |
| 45) | 2,6-Dinitrotoluene | 11.20 | 165 | 343590 | 50.01 ng | | 95 |
| 46) | Acenaphthene | 11.57 | 153 | 1260843 | 54.39 ng | | 98 |
| 47) | 3-Nitroaniline | 11.50 | 138 | 299797 | 43.69 ng | # | 81 |
| 48) | 2,4-Dinitrophenol | 11.72 | 184 | 101199 | 29.79 ng | | 92 |
| 49) | Dibenzofuran | 11.92 | 168 | 1699387 | 51.59 ng | | 88 |
| 50) | 2,4-Dinitrotoluene | 11.98 | 165 | 433151 | 51.14 ng | # | 86 |
| 51) | 4-Nitrophenol | 11.92 | 109 | 160429 | 47.85 ng | # | 69 |
| 52) | Fluorene | 12.60 | 166 | 1345836 | 51.48 ng | | 97 |
| 53) | 4-Chlorophenyl phenyl ethe | 12.67 | 204 | 643503 | 54.46 ng | | 95 |
| 54) | Diethylphthalate | 12.53 | 149 | 1759386 | 55.55 ng | | 96 |
| 55) | 4-Nitroaniline | 12.72 | 138 | 257417 | 45.32 ng | # | 87 |
| 57) | 4,6-Dinitro-2-methylphenol | 12.79 | 198 | 223682 | 44.14 ng | # | 47 |
| 58) | n-Nitrosodiphenylamine | 12.92 | 169 | 885376 | 49.85 ng | | 98 |
| 60) | Octachlorocyclopentene | 13.09 | 307 | 139223 | 47.27 ng | | 99 |
| 61) | 4-Bromophenyl phenyl ether | 13.65 | 248 | 385609 | 48.48 ng | | 98 |
| 62) | Hexachlorobenzene | 13.70 | 284 | 343011 | 51.12 ng | # | 90 |
| 63) | Pentachlorophenol | 14.15 | 266 | 269850 | 50.81 ng | | 100 |
| 64) | Phenanthrene | 14.58 | 178 | 1795914 | 52.86 ng | | 99 |
| 65) | Anthracene | 14.68 | 178 | 1641503 | 49.02 ng | | 100 |
| 66) | Carbazole | 15.07 | 167 | 859214 | 39.07 ng | | 98 |
| 67) | Di-n-butyl phthalate | 16.03 | 149 | 2931428 | 52.96 ng | | 98 |
| 68) | Fluoranthene | 17.19 | 202 | 1942417 | 53.10 ng | | 92 |
| 71) | Pyrene | 17.68 | 202 | 1941766 | 49.57 ng | | 92 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\50BG14X.D
Acq On : 14 Jul 98 10:26
Sample :
Misc : 7-14-98
Quant Time: Jul 14 11:01 1998

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 73) | Butyl benzyl phthalate | 19.46 | 149 | 1280163 | 50.05 ng | | 90 |
| 74) | Benzo(a) anthracene | 20.47 | 228 | 1608243 | 48.30 ng | | 99 |
| 75) | Chrysene | 20.56 | 228 | 1184984 | 48.62 ng | | 99 |
| 76) | 3,3'-Dichlorobenzidine | 20.54 | 252 | 350328 | 50.28 ng | | 98 |
| 77) | bis(2-Ethylhexyl) phthalat | 20.89 | 149 | 1619338 | 47.83 ng | | 95 |
| 78) | Di-n-octyl phthalate | 22.36 | 149 | 2741847 | 50.01 ng | | 100 |
| 80) | Benzo(b) fluoranthene | 22.82 | 252 | 1469691m | 48.50 ng | | 99 |
| 81) | Benzo(k) fluoranthene | 22.89 | 252 | 1325027 | 51.77 ng | # | 97 |
| 82) | Benzo(a) pyrene | 23.46 | 252 | 1313353 | 51.29 ng | | 96 |
| 83) | Indeno (1,2,3-cd) pyrene | 25.54 | 276 | 1243685 | 50.86 ng | # | 71 |
| 84) | Dibenz (ah) anthracene | 25.61 | 278 | 1019209 | 56.51 ng | | 96 |
| 85) | Benzo (ghi) perylene | 26.00 | 276 | 1084268 | 56.43 ng | | 94 |

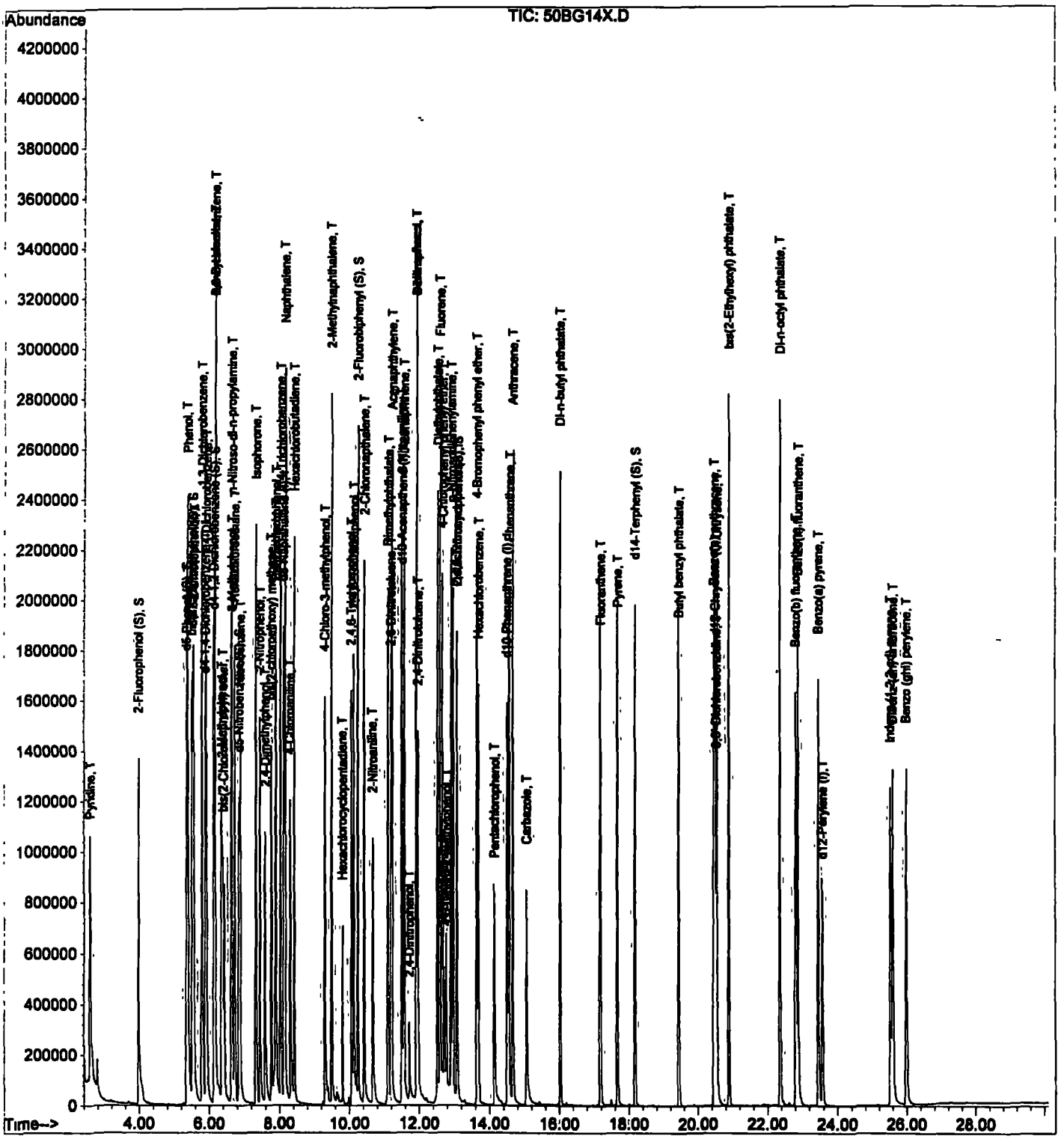
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\DATA\50BG14X.D
Acq On : 14 Jul 98 10:26
Sample :
Misc : 7-14-98
Quant Time: Jul 14 11:01 1998

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : D:\DATA\85472MB.D
Acq On : 14 Jul 98 16:48
Sample : LSBG131A
Misc : 7-14-98
Quant Time: Jul 15 9:02 1998

Vial: 12
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

(X) EICP's good

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.89 | 152 | 391831 | 40.00 | ng | 0.03 |
| 21) d8-Naphthalene (I) | 8.12 | 136 | 1473228 | 40.00 | ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.50 | 164 | 706225 | 40.00 | ng | 0.03 |
| 56) d10-Phenanthrene (I) | 14.51 | 188 | 1038363 | 40.00 | ng | 0.03 |
| 69) d12-Chrysene (I) | 20.49 | 240 | 934501 | 40.00 | ng | 0.01 |
| 79) d12-Perylene (I) | 23.56 | 264 | 733447 | 40.00 | ng | 0.03 |
| **System Monitoring Compounds** | | | | | | |
| 3) 2-Fluorophenol (S) | 4.02 | 112 | 1244087 | 94.57 | ng | 0.05 |
| Surrogate Spike 150.000 | | | Recovery = 63.05% | | | |
| 5) d4-2-Chlorophenol (S) | 5.54 | 132 | 1546229 | 117.91 | ng | 0.03 |
| Surrogate Spike 150.000 | | | Recovery = 78.61% | | | |
| 8) d5-Phenol (S) | 5.37 | 99 | 1992677 | 126.64 | ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = 84.43% | | | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.14 | 152 | 758069 | 78.40 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 78.40% | | | |
| 22) d5-Nitrobenzene (S) | 6.84 | 82 | 1169644 | 75.02 | ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = 75.02% | | | |
| 40) 2-Fluorobiphenyl (S) | 10.25 | 172 | 1792984 | 82.75 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 82.75% | | | |
| 59) 2,4,6-Tribromophenol (S) | 13.09 | 330 | 407955 | 117.30 | ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = 78.20% | | | |
| 72) d14-Terphenyl (S) | 18.19 | 244 | 1645628 | 76.51 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 76.51% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 77) bis(2-Ethylhexyl) phthalat | 20.89 | 149 | 79747 | 2.73 | ng # | 85 |

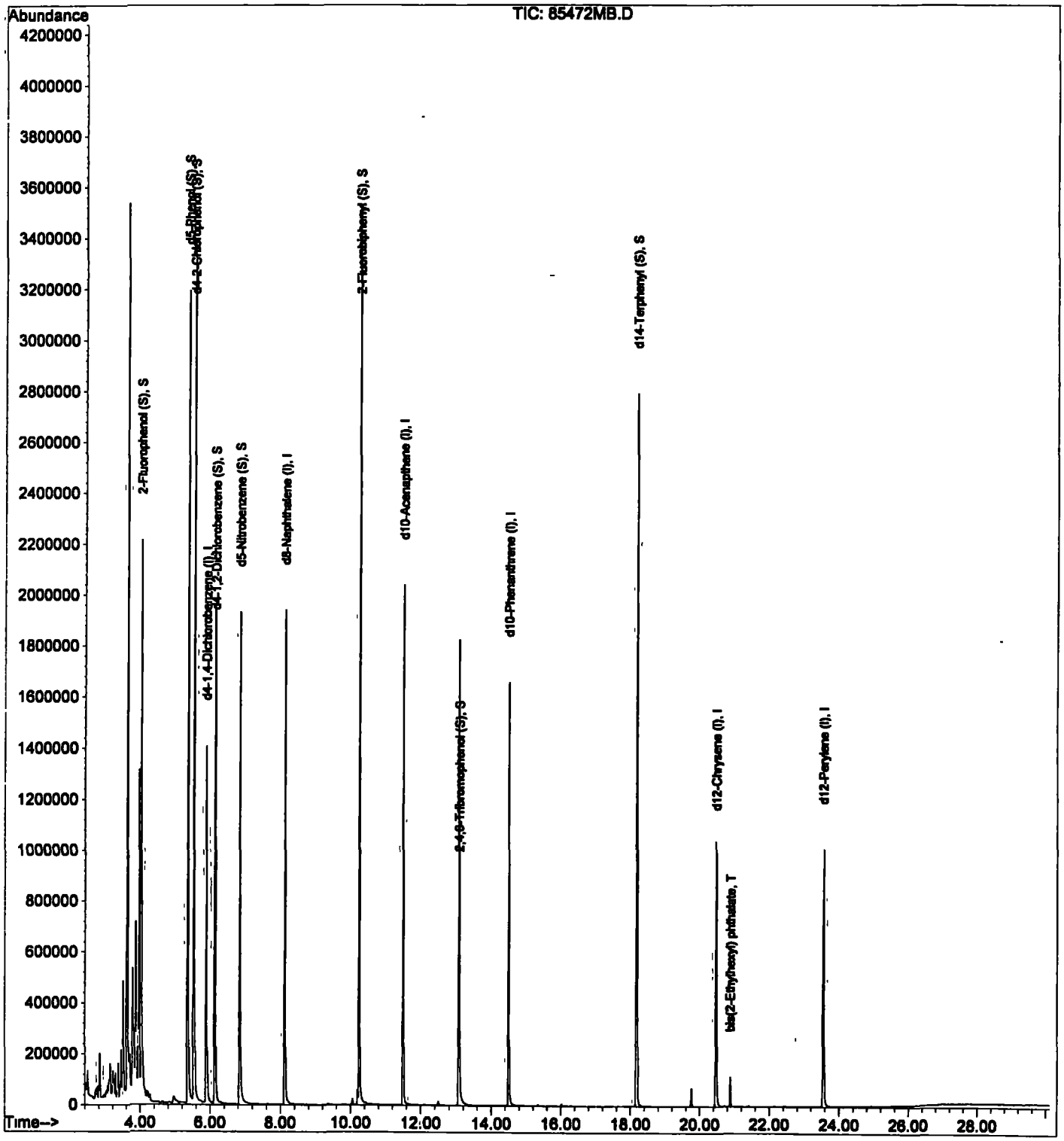
(#) = qualifier out of range (m) = manual integration

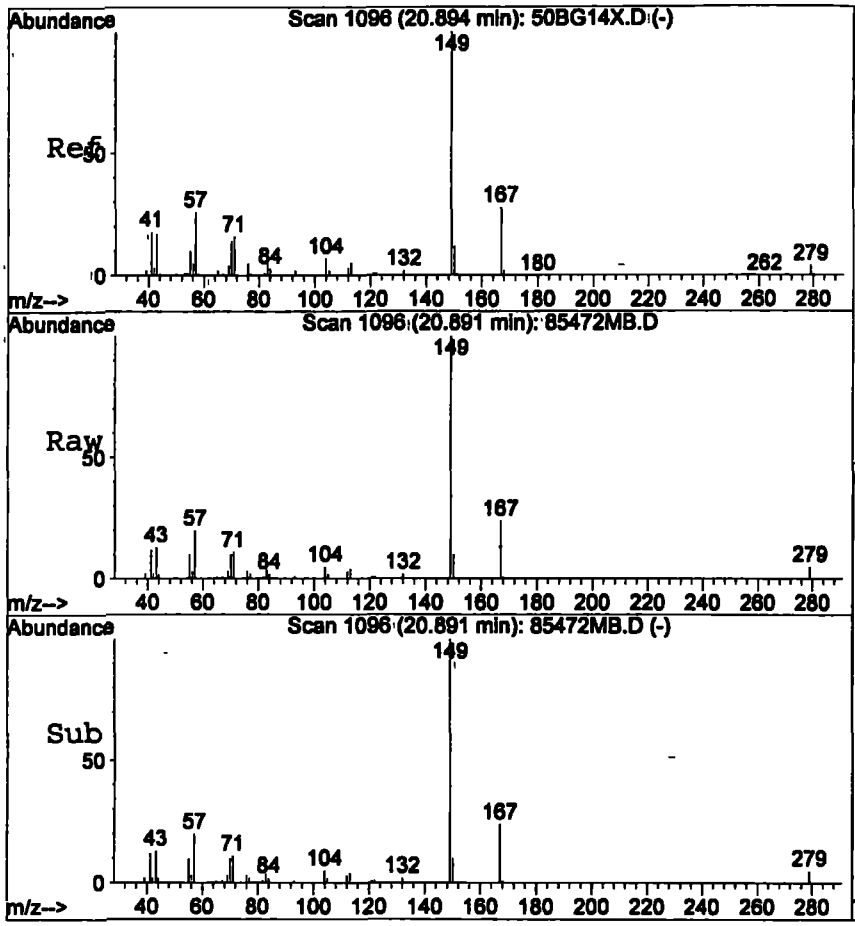
# Quantitation Report

Data File : D:\DATA\85472MB.D
Acq On : 14 Jul 98 16:48
Sample : LSBG131A
Misc : 7-14-98
Quant Time: Jul 15 9:02 1998

Vial: 12
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Mon Jul 20 13:16:00 1998
Response via : Multiple Level Calibration

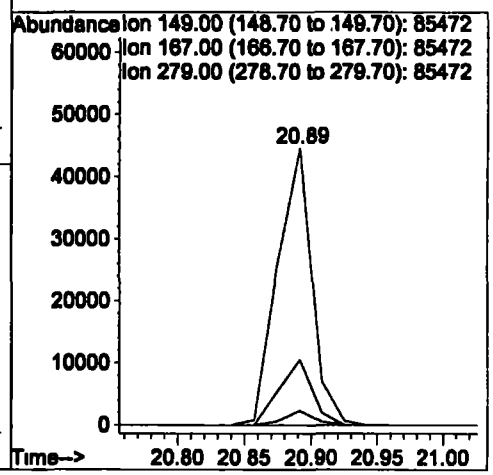





#77
bis(2-Ethylhexyl) phthalate
Concen: 2.73 ng
RT: 20.89 min Scan# 1096
Delta R.T. 0.03 min
Lab File: 85472MB.D
Acq: 14 Jul 98 16:48

Tgt Ion:149 Resp: 79747

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 167 | 22.6 | 25.6 | 38.4# |
| 279 | 4.5 | 3.7 | 5.5 |
| 0 | 0.0 | 0.0 | 0.0 |



Quantitation Report (QT Reviewed)

Data File : D:\DATA\87059DL.D
Acq On : 14 Jul 98 18:05
Sample : 1/10
Misc : 7-14-98
Quant Time: Jul 15 9:42 1998

Vial: 14
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

(X10) EICP's good

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.89 | 152 | 382252 | 40.00 ng | 0.03 |
| 21) d8-Naphthalene (I) | 8.12 | 136 | 1589670 | 40.00 ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.50 | 164 | 678655 | 40.00 ng | 0.03 |
| 56) d10-Phenanthrene (I) | 14.51 | 188 | 1022633 | 40.00 ng | 0.03 |
| 69) d12-Chrysene (I) | 20.50 | 240 | 796768 | 40.00 ng | 0.03 |
| 79) d12-Perylene (I) | 23.58 | 264 | 572208 | 40.00 ng | 0.05 |
| **System Monitoring Compounds** | | | | | |
| 3) 2-Fluorophenol (S) | 3.98 | 112 | 179515 | 13.99 ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = | 9.33% | |
| 5) d4-2-Chlorophenol (S) | 5.52 | 132 | 181598 | 14.19 ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = | 9.46% | |
| 8) d5-Phenol (S) | 5.34 | 99 | 242512 | 15.80 ng | -0.02 |
| Surrogate Spike 150.000 | | | Recovery = | 10.53% | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.13 | 152 | 97290 | 10.31 ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = | 10.31% | |
| 22) d5-Nitrobenzene (S) | 6.84 | 82 | 141223 | 8.39 ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = | 8.39% | |
| 40) 2-Fluorobiphenyl (S) | 10.25 | 172 | 216723 | 10.41 ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = | 10.41% | |
| 59) 2,4,6-Tribromophenol (S) | 13.07 | 330 | 48743 | 14.23 ng | 0.00 |
| Surrogate Spike 150.000 | | | Recovery = | 9.49% | |
| 72) d14-Terphenyl (S) | 18.19 | 244 | 165191 | 9.01 ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = | 9.01% | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 30) Naphthalene | 8.16 | 128 | 519109 | 13.37 ng | | 98 |
| 34) 2-Methylnaphthalene | 9.49 | 142 | 123584 | 4.64 ng | | 94 |
| 43) Acenaphthylene | 11.21 | 152 | 81103 | 2.55 ng | | 98 |
| 49) Dibenzofuran | 11.91 | 168 | 56092 | 2.10 ng | | 88 |
| 64) Phenanthrene | 14.56 | 178 | 322865 | 11.84 ng | | 99 |
| 65) Anthracene | 14.66 | 178 | 70893m | 2.64 ng | | 99 |
| 66) Carbazole | 15.06 | 167 | 29440 | 1.67 ng | # | 91 |
| 68) Fluoranthene | 17.21 | 202 | 994999 | 33.89 ng | # | 92 |
| 74) Benzo(a) anthracene | 20.49 | 228 | 582801 | 23.80 ng | | 96 |
| 75) Chrysene | 20.55 | 228 | 749653 | 41.82 ng | | 98 |
| 80) Benzo(b) fluoranthene | 22.84 | 252 | 981313m | 41.38 ng | | 96 |
| 81) Benzo(k) fluoranthene | 22.89 | 252 | 254109m | 12.69 ng | | 95 |
| 82) Benzo(a) pyrene | 23.46 | 252 | 284917 | 14.22 ng | # | 94 |
| 83) Indeno (1,2,3-cd) pyrene | 25.54 | 276 | 289173 | 15.11 ng | # | 59 |
| 84) Dibenz (ah) anthracene | 25.61 | 278 | 79069m | 5.60 ng | | 94 |
| 85) Benzo (ghi) perylene | 25.99 | 276 | 234483 | 15.59 ng | | 95 |

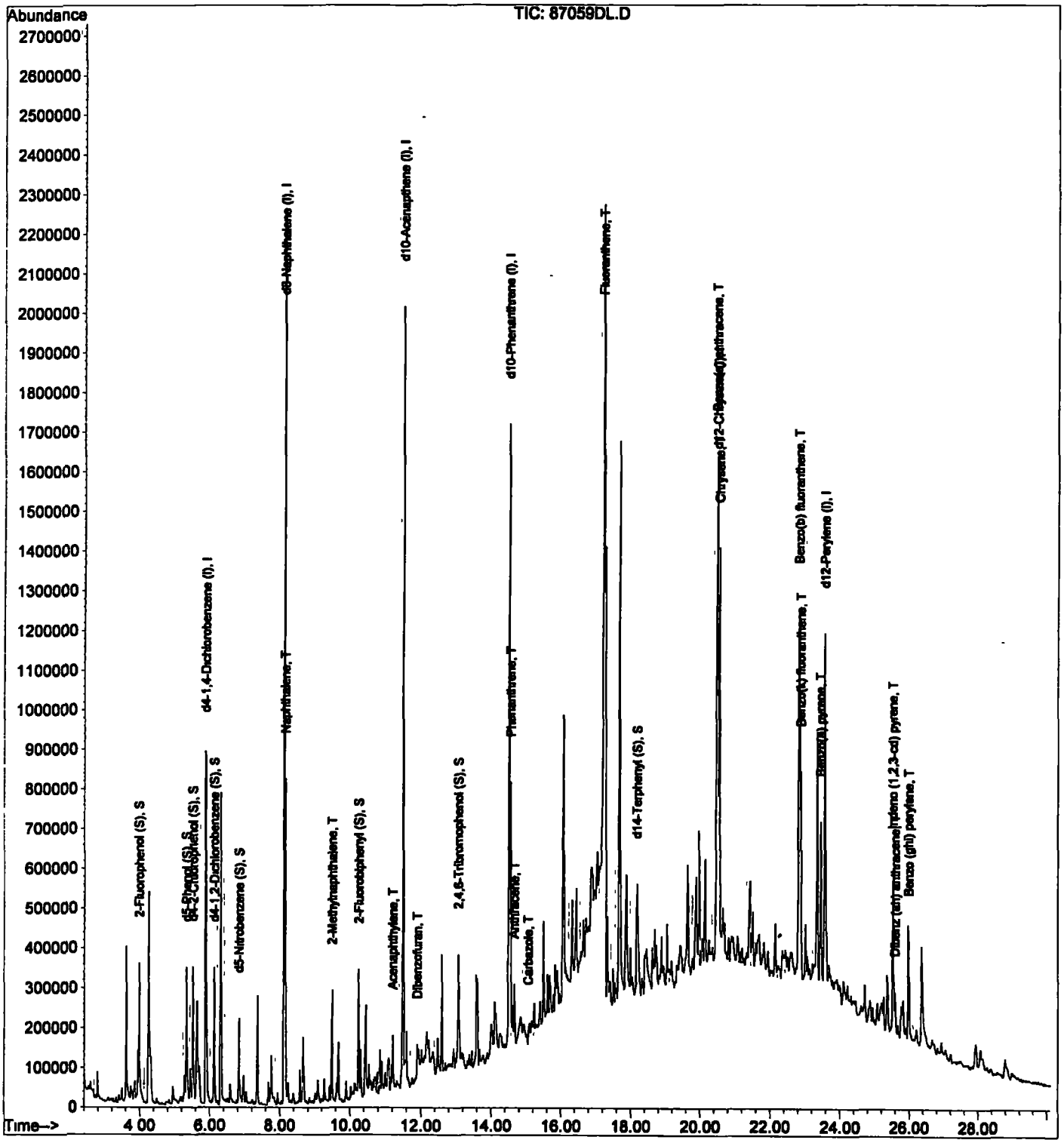
(#) = qualifier out of range (m) = manual integration

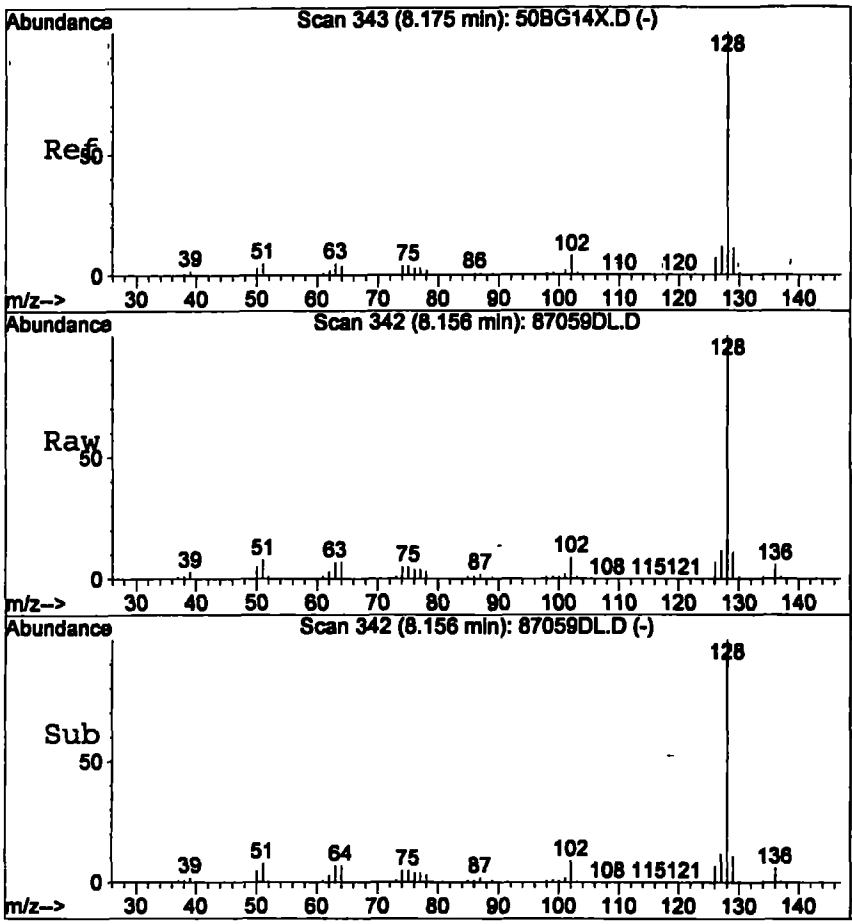
# Quantitation Report

Data File : D:\DATA\87059DL.D
Acq On : 14 Jul 98 18:05
Sample : 1/10
Misc : 7-14-98
Quant Time: Jul 15 9:42 1998

Vial: 14
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Mon Jul 20 13:16:00 1998
Response via : Multiple Level Calibration

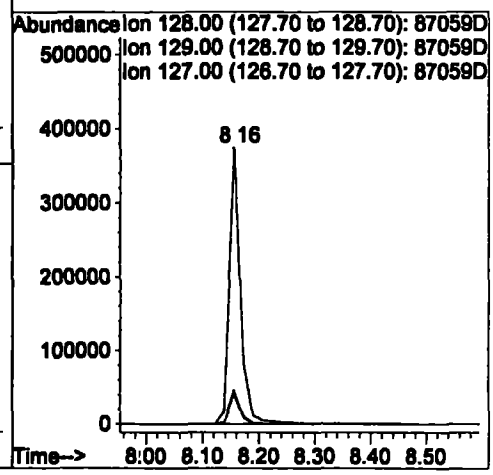


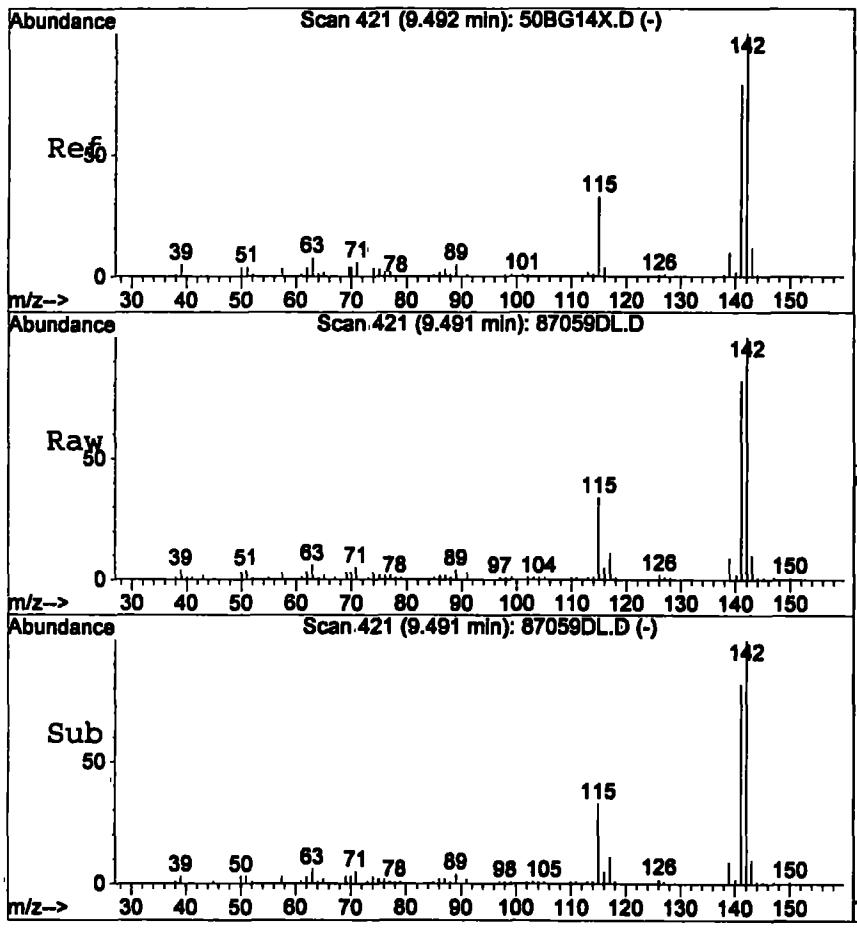



#30
Naphthalene
Concen: 13.37 ng
RT: 8.16 min Scan# 342
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:128 Resp: 519109

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 10.7 | 9.5 | 14.3 |
| 127 | 12.0 | 9.8 | 14.8 |
| 0 | 0.0 | 0.0 | 0.0 |

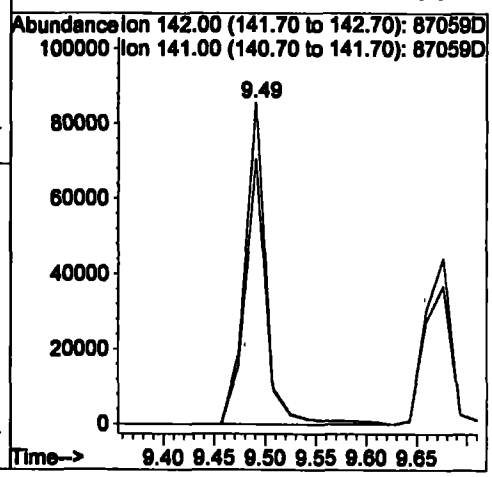


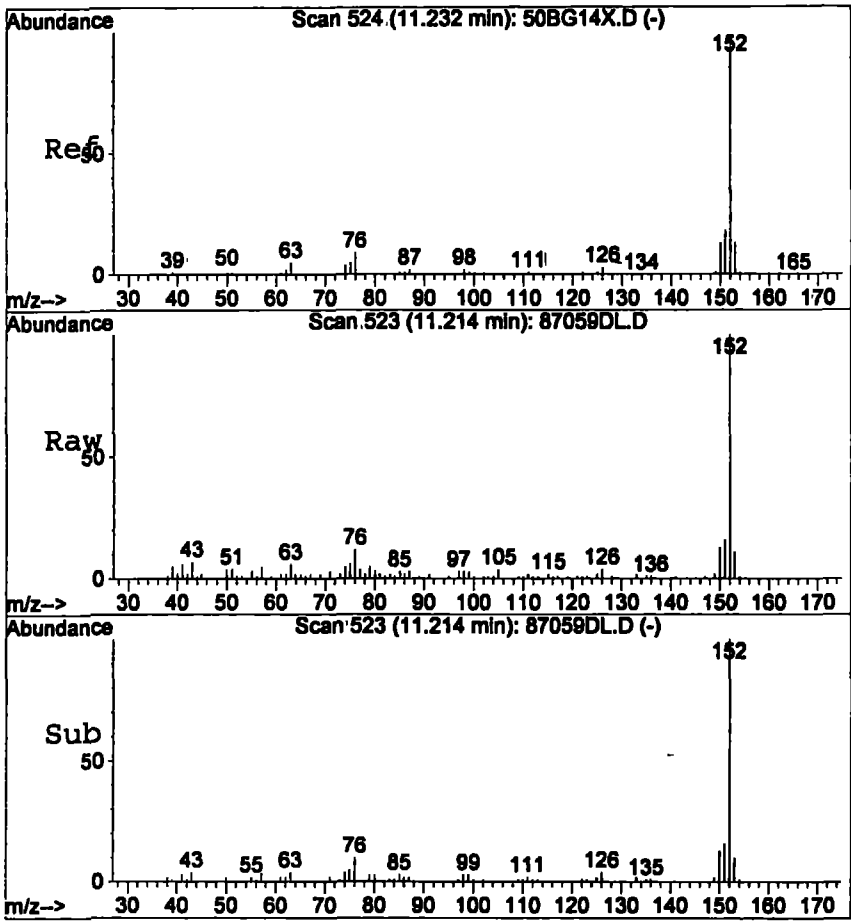

#34
2-Methylnaphthalene
Concen: 4.64 ng
RT: 9.49 min Scan# 421
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:142 Resp: 123584

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 83.6 | 63.0 | 94.4 |
| 0 | 0.0 | 0.0 | 0.0 |
| 0 | 0.0 | 0.0 | 0.0 |



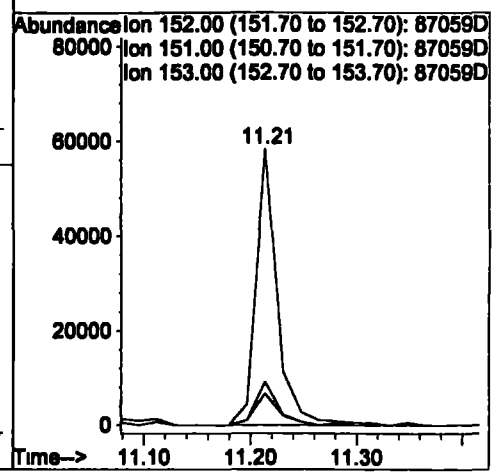

Sample: 1/10 Analyst: RBJ Instrument: 5971-024
87059DL.D BNAHSL.M Mon Jul 20 13:18:27 1998

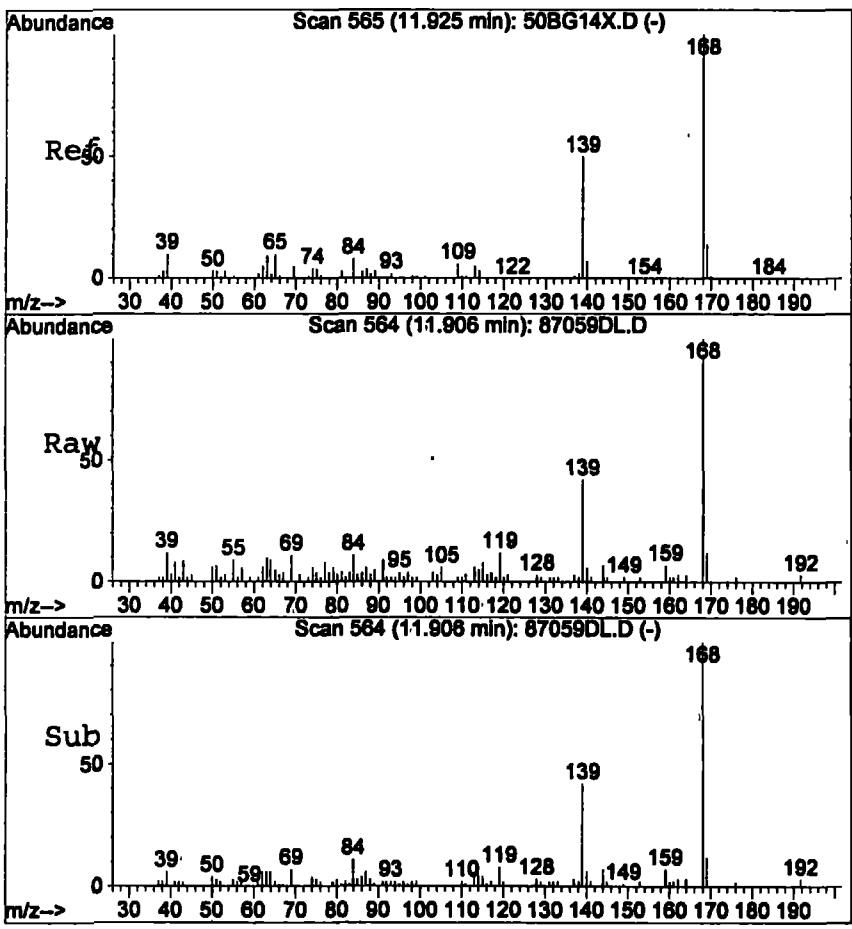



#43
Acenaphthylene
Concen: 2.55 ng
RT: 11.21 min Scan# 523
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:152 Resp: 81103

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 16.5 | 14.5 | 21.7 |
| 153 | 13.7 | 11.0 | 16.4 |
| 0 | 0.0 | 0.0 | 0.0 |

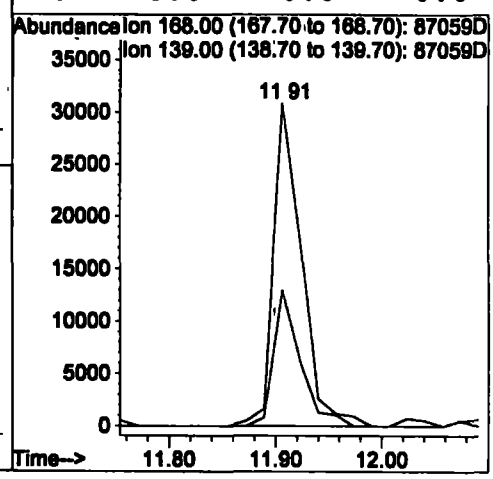


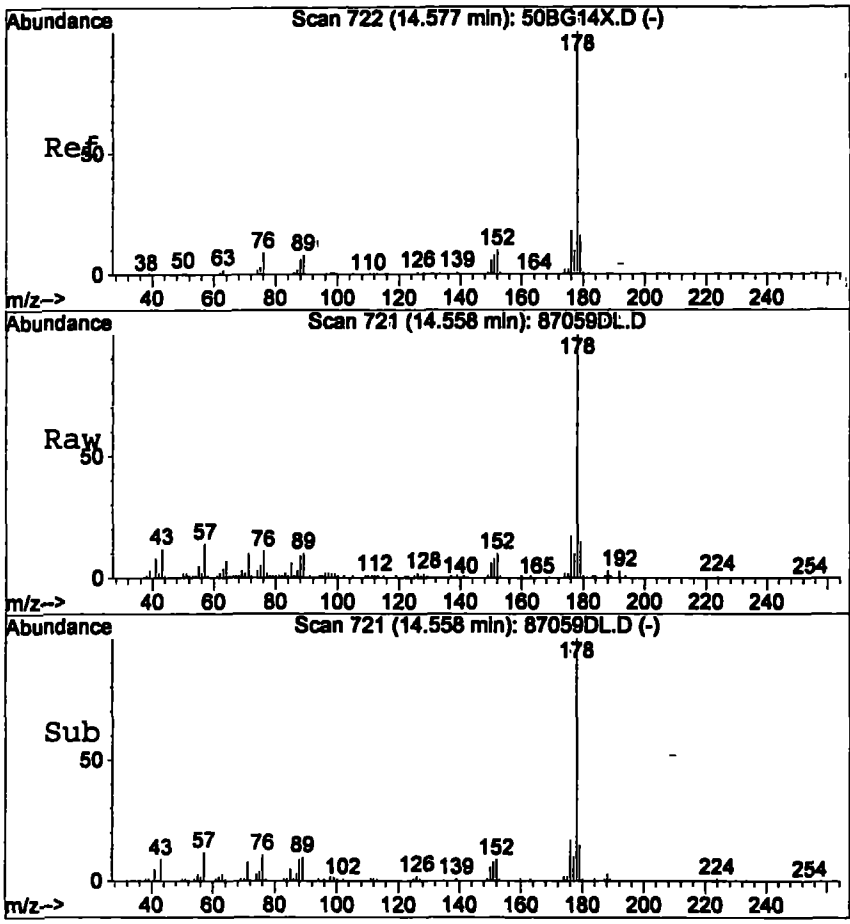

#49
Dibenzofuran
Concen: 2.10 ng
RT: 11.91 min Scan# 564
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:168 Resp: 56092

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 40.1 | 38.6 | 58.0 |
| 0 | 0.0 | 0.0 | 0.0 |
| 0 | 0.0 | 0.0 | 0.0 |



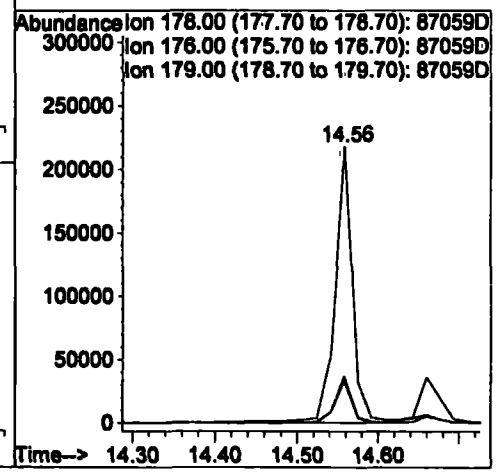

Sample: 1/10 Analyst: RBJ Instrument: 5971-024
87059DL.D BNAHSL.M Mon Jul 20 13:18:30 1998

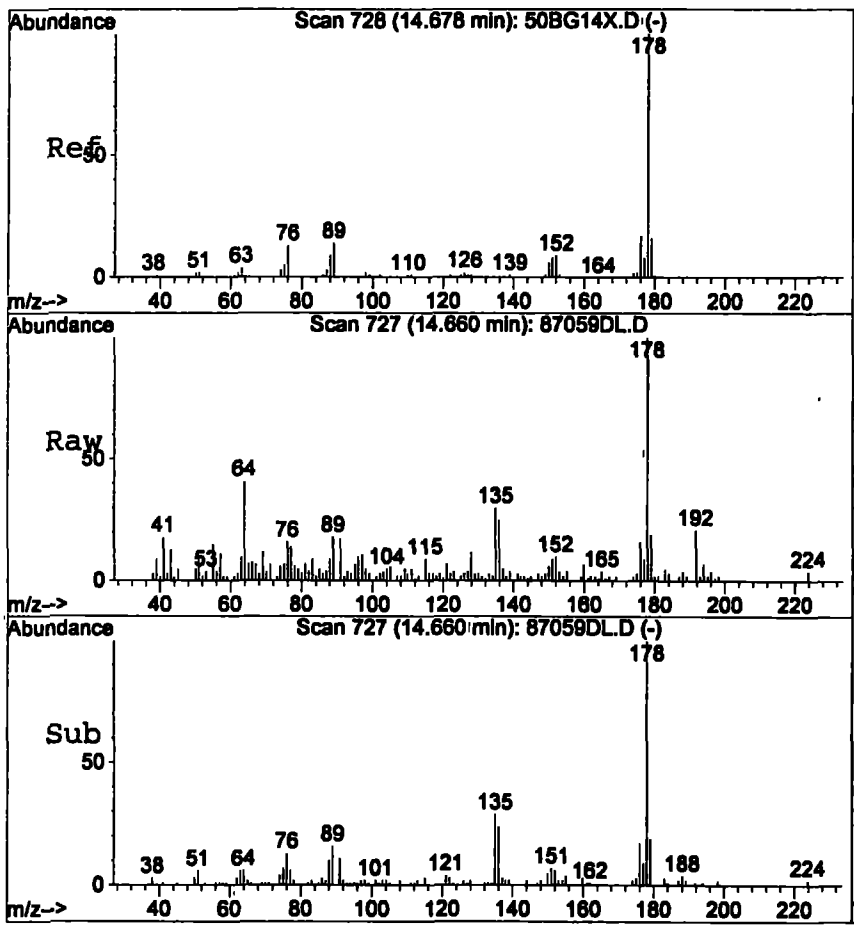



#64
Phenanthrene
Concen: 11.84 ng
RT: 14.56 min Scan# 721
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:178 Resp: 322865

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 176 | 17.8 | 14.2 | 21.4 |
| 179 | 16.6 | 12.7 | 19.1 |
| 0 | 0.0 | 0.0 | 0.0 |

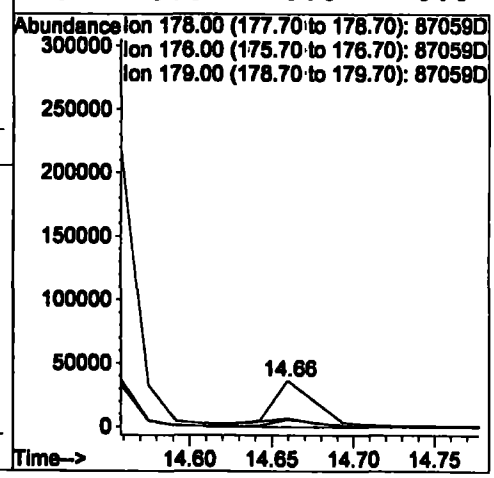


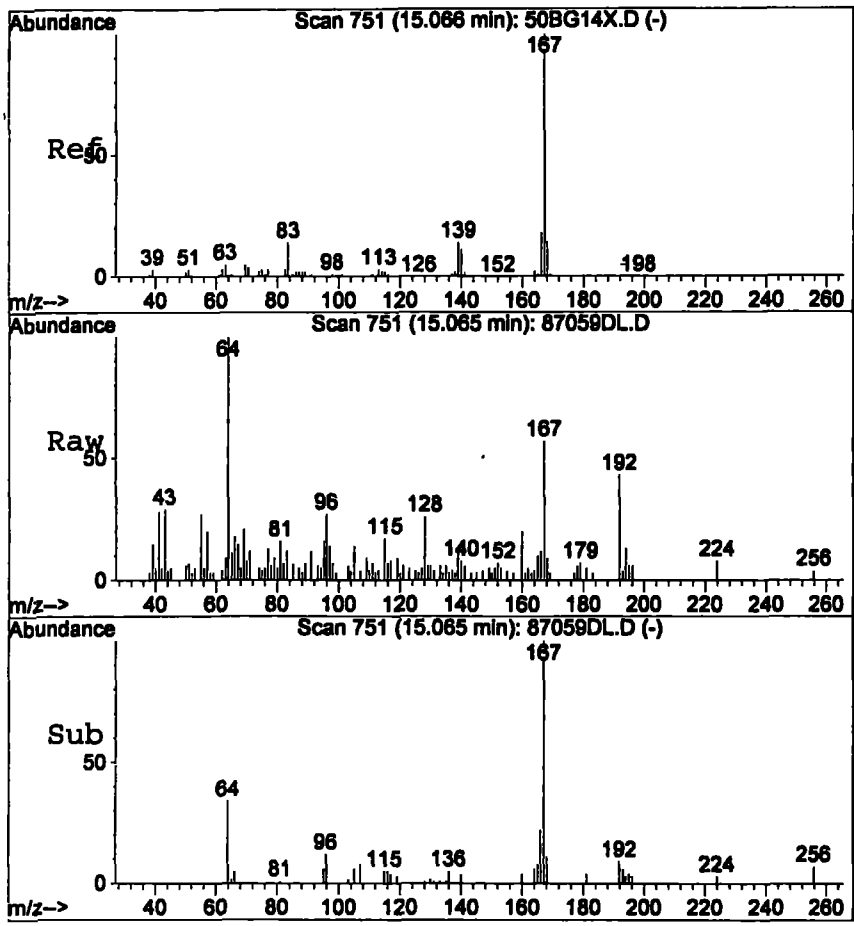

#65
Anthracene
Concen: 2.64 ng m
RT: 14.66 min Scan# 727
Delta R.T. -0.00 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:178 Resp: 70893

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 176 | 16.3 | 13.8 | 20.8 |
| 179 | 18.8 | 12.9 | 19.3 |
| 0 | 0.0 | 0.0 | 0.0 |



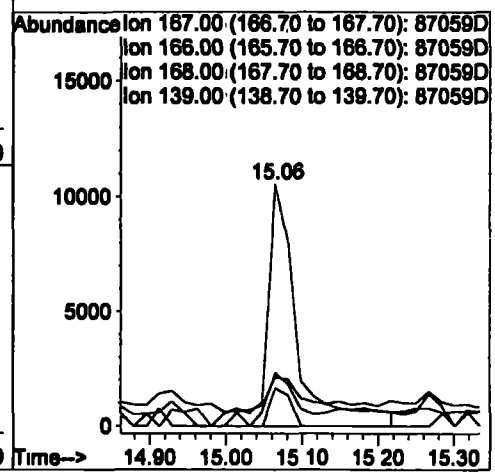

Sample: 1/10 Analyst: RBJ Instrument: 5971-024
87059DL.D BNAHSL.M Mon Jul 20 13:18:32 1998

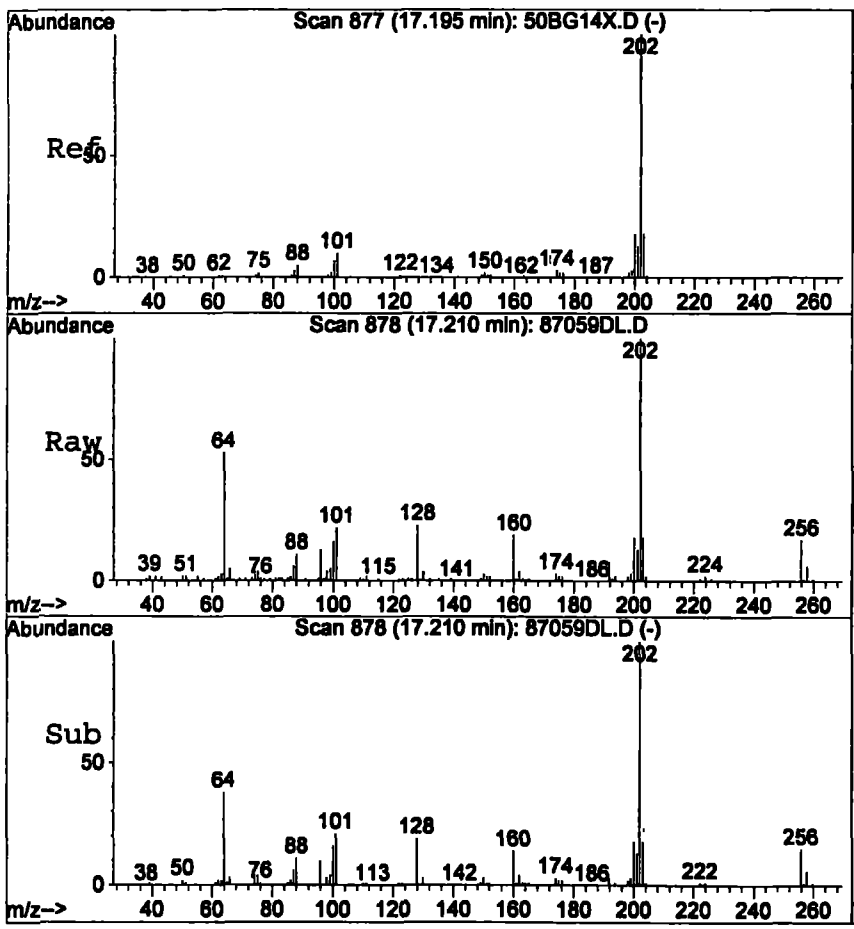



#66
Carbazole
Concen: 1.67 ng
RT: 15.06 min Scan# 751
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:167 Resp: 29440

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 22.8 | 14.8 | 22.2# |
| 168 | 10.3 | 10.6 | 16.0# |
| 139 | 15.8 | 9.4 | 14.2# |

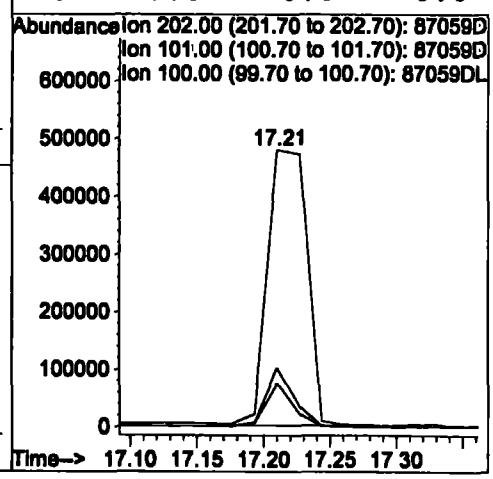


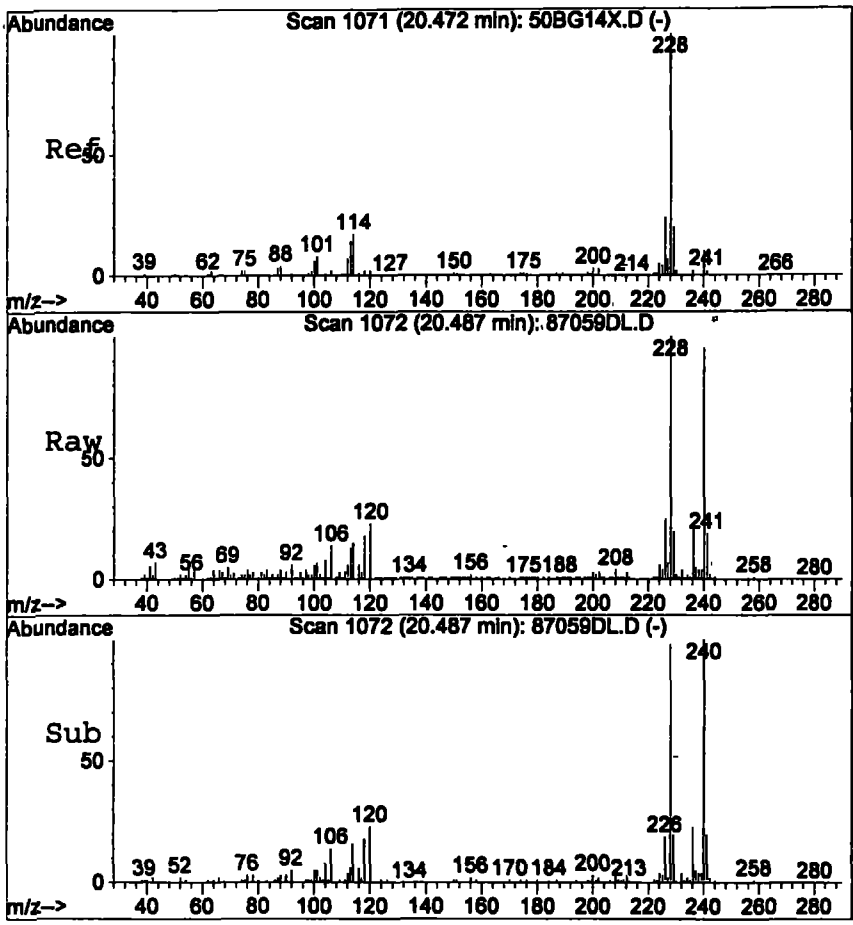




#68
Fluoranthene
Concen: 33.89 ng
RT: 17.21 min Scan# 878
Delta R.T. 0.05 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:202 Resp: 994999

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 15.1 | 15.1 | 22.7# |
| 100 | 11.4 | 11.5 | 17.3# |
| 0 | 0.0 | 0.0 | 0.0 |

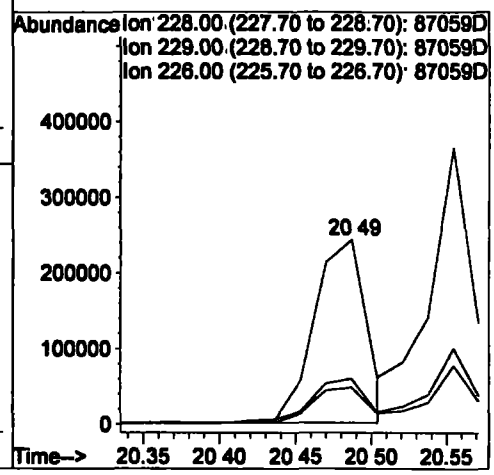


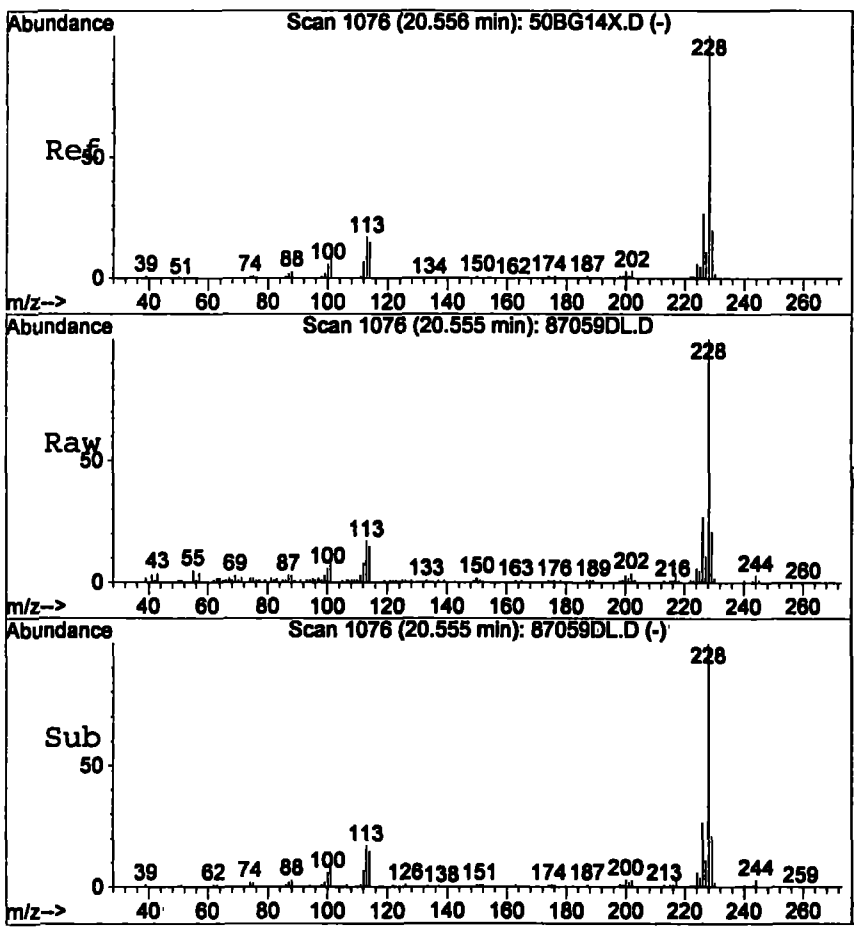



#74
Benzo(a) anthracene
Concen: 23.80 ng
RT: 20.49 min Scan# 1072
Delta R.T. 0.03 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:228 Resp: 582801

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 20.9 | 16.3 | 24.5 |
| 226 | 27.5 | 19.8 | 29.6 |
| 0 | 0.0 | 0.0 | 0.0 |

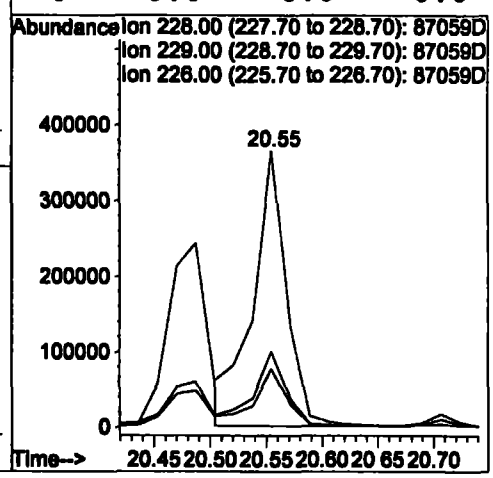


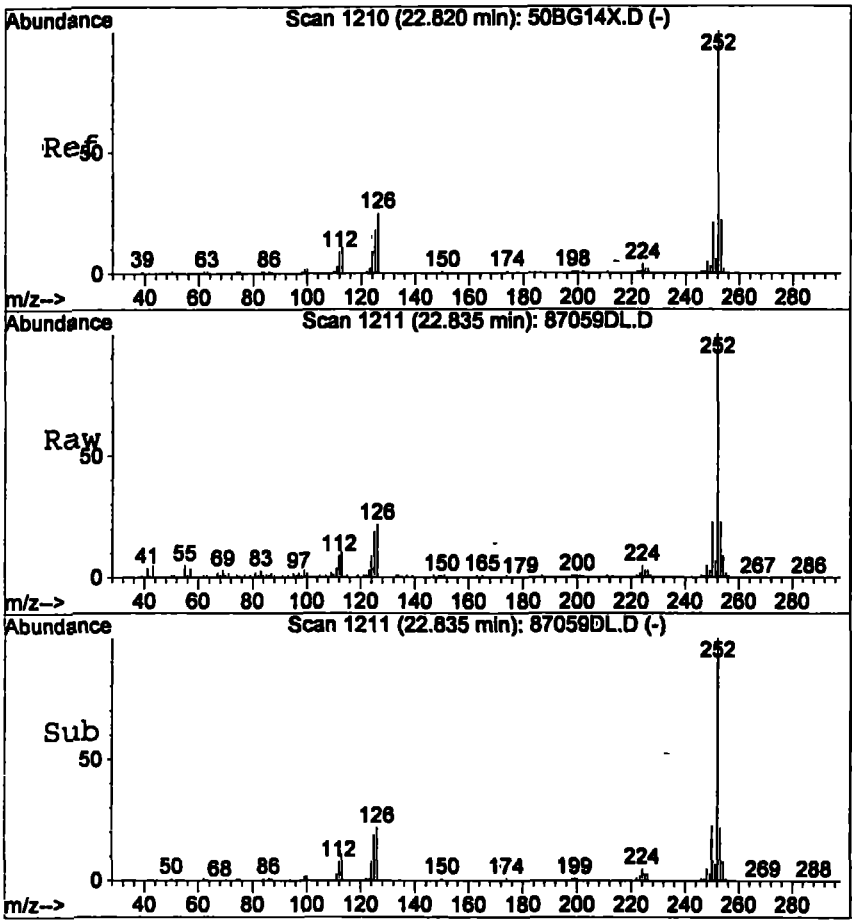

#75
Chrysene
Concen: 41.82 ng
RT: 20.55 min Scan# 1076
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:228 Resp: 749653

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 21.2 | 16.0 | 24.0 |
| 226 | 28.3 | 22.0 | 33.0 |
| 0 | 0.0 | 0.0 | 0.0 |



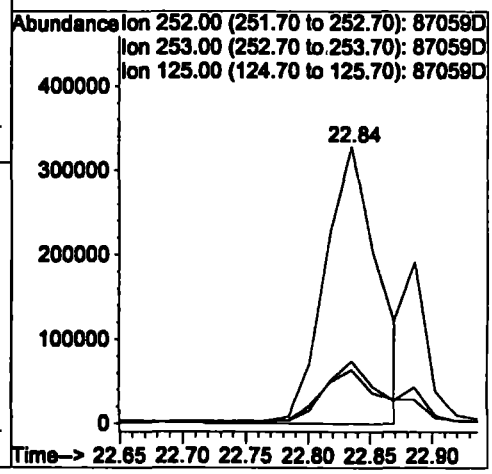

Sample: 1/10 Analyst: RBJ Instrument: 5971-024
87059DL.D BNAHSL.M Mon Jul 20 13:18:37 1998

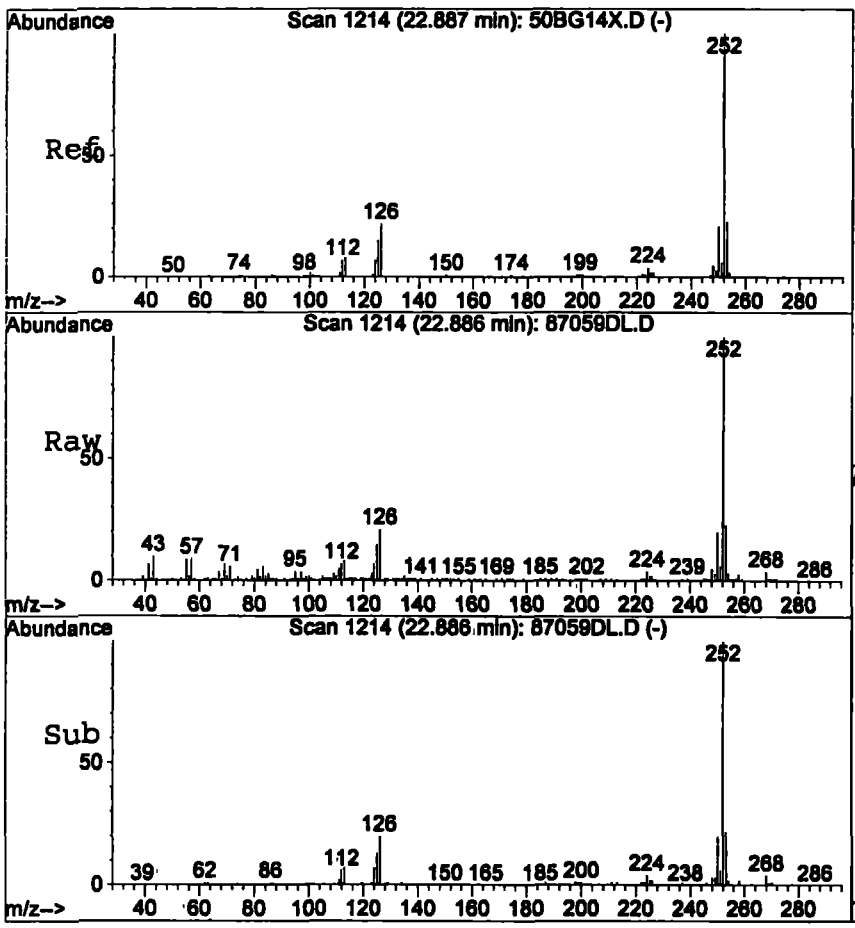



#80
Benzo(b) fluoranthene
Concen: 41.38 ng m
RT: 22.84 min Scan# 1211
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:252 Resp: 981313

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.5 | 17.8 | 26.6 |
| 125 | 19.4 | 12.2 | 18.2# |
| 0 | 0.0 | 0.0 | 0.0 |

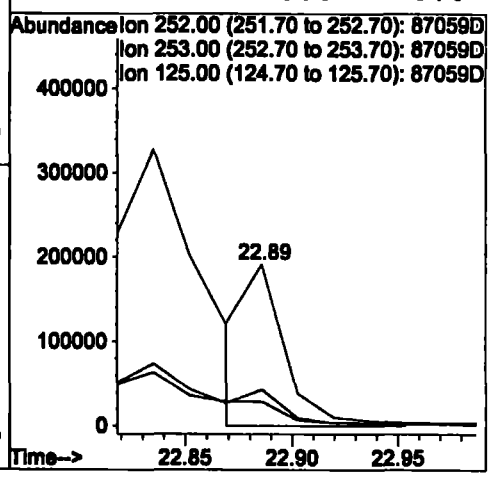


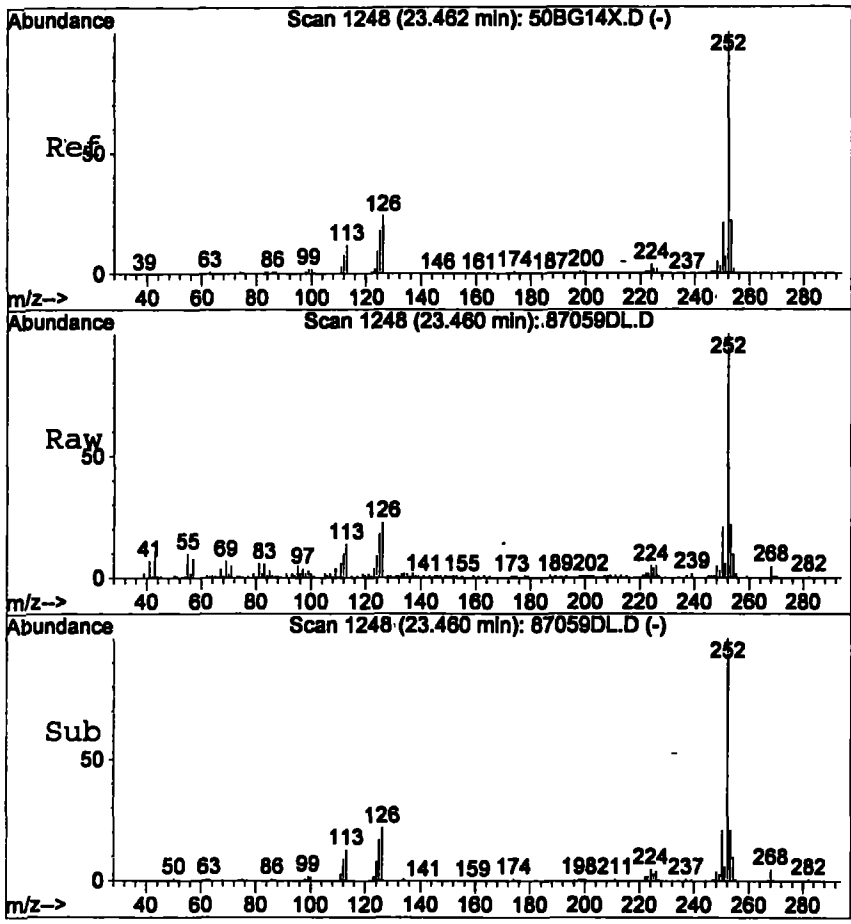

#81
Benzo(k) fluoranthene
Concen: 12.69 ng m
RT: 22.89 min Scan# 1214
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:252 Resp: 254109

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.5 | 17.8 | 26.6 |
| 125 | 15.1 | 10.9 | 16.3 |
| 0 | 0.0 | 0.0 | 0.0 |



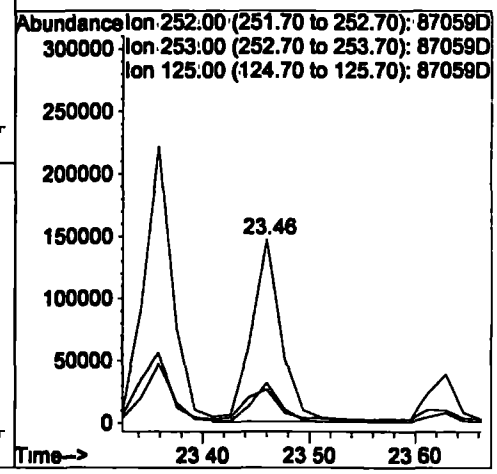

Sample: 1/10 Analyst: RBJ Instrument: 5971-024
87059DL.D BNAHSL.M Mon Jul 20 13:18:40 1998

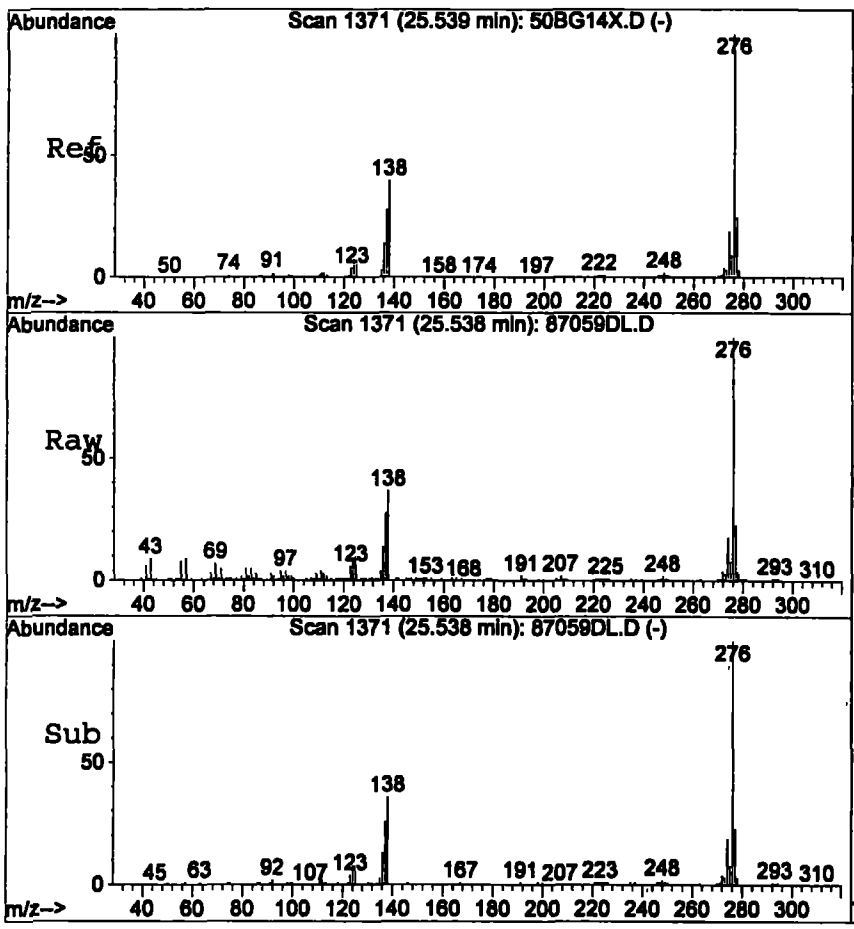



#82
Benzo(a) pyrene
Concen: 14.22 ng
RT: 23.46 min Scan# 1248
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:252 Resp: 284917

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 20.3 | 18.1 | 27.1 |
| 125 | 19.4 | 12.6 | 19.0# |
| 0 | 0.0 | 0.0 | 0.0 |

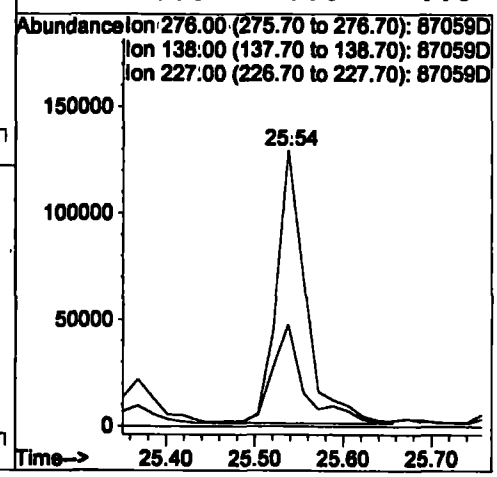


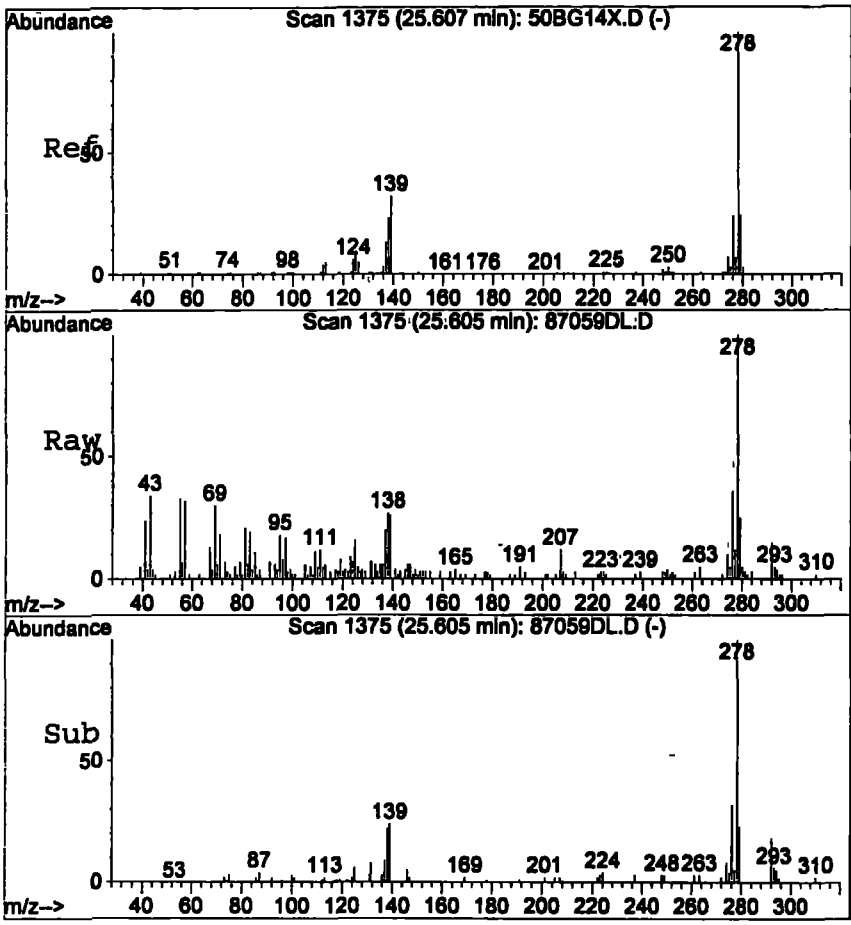




#83
Indeno (1,2,3-cd) pyrene
Concen: 15.11 ng
RT: 25.54 min Scan# 1371
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:276 Resp: 289173

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 40.4 | 16.9 | 25.3# |
| 227 | 0.0 | 0.0 | 0.0 |
| 0 | 0.0 | 0.0 | 0.0 |

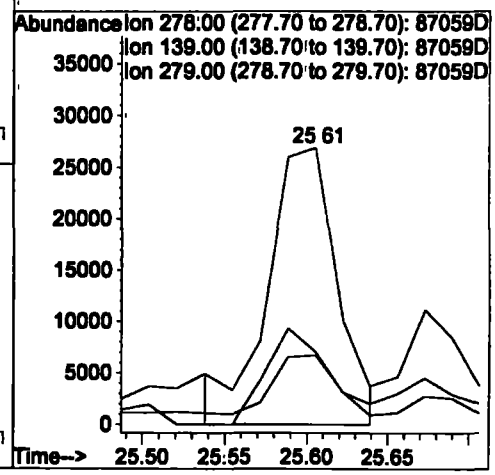


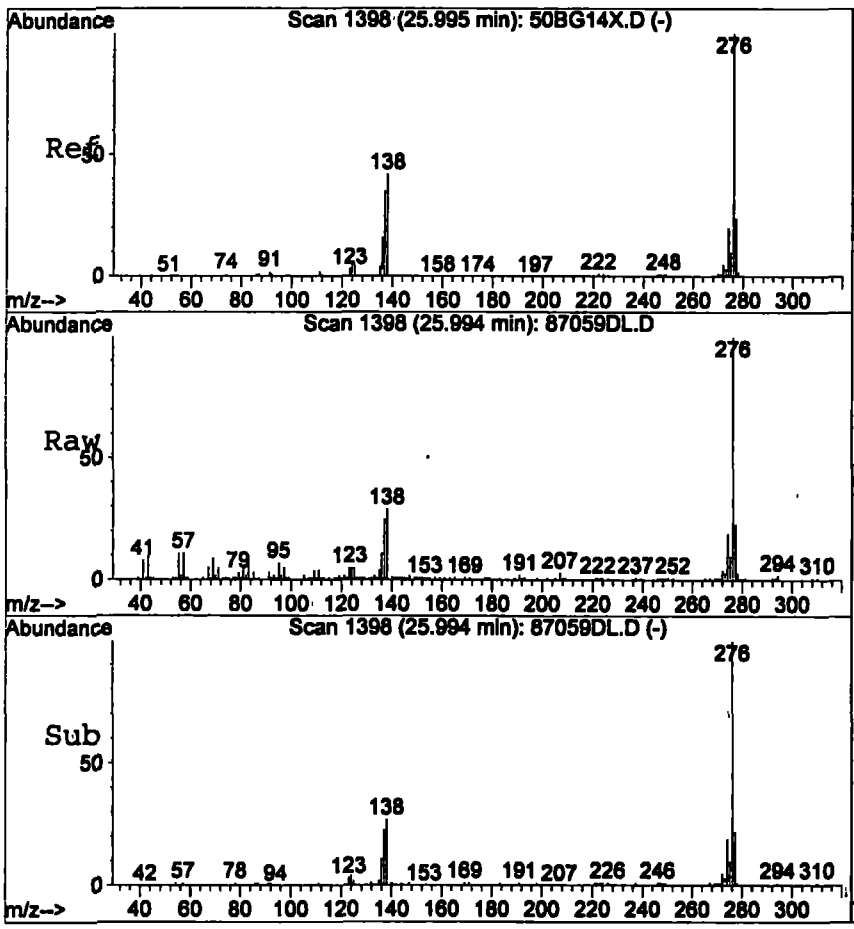



#84
Dibenz (ah) anthracene
Concen: 5.60 ng m
RT: 25.61 min Scan# 1375
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:278 Resp: 79069

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 26.1 | 20.0 | 30.0 |
| 279 | 25.0 | 18.6 | 27.8 |
| 0 | 0.0 | 0.0 | 0.0 |

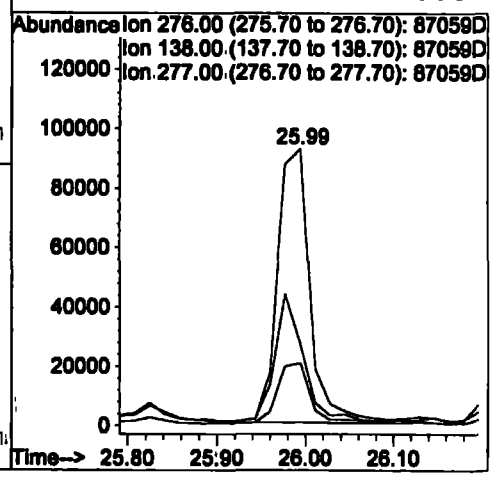



#85
Benzo (ghi) perylene
Concen: 15.59 ng
RT: 25.99 min Scan# 1398
Delta R.T. 0.01 min
Lab File: 87059DL.D
Acq: 14 Jul 98 18:05

Tgt Ion:276 Resp: 234483

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 40.9 | 29.0 | 43.6 |
| 277 | 24.6 | 19.8 | 29.8 |
| 0 | 0.0 | 0.0 | 0.0 |



Quantitation Report (QT Reviewed)

Data File : D:\DATA\87061DL.D
Acq On : 14 Jul 98 18:43
Sample : 1/10
Misc : 7-14-98
Quant Time: Jul 15 9:47 1998

Vial: 15
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

NOT used

(x10) EICP's good

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.89 | 152 | 324646 | 40.00 | ng | 0.03 |
| 21) d8-Naphthalene (I) | 8.12 | 136 | 1248389 | 40.00 | ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.50 | 164 | 580727 | 40.00 | ng | 0.03 |
| 56) d10-Phenanthrene (I) | 14.51 | 188 | 844122 | 40.00 | ng | 0.03 |
| 69) d12-Chrysene (I) | 20.49 | 240 | 656507 | 40.00 | ng | 0.01 |
| 79) d12-Perylene (I) | 23.56 | 264 | 494496 | 40.00 | ng | 0.03 |
| **System Monitoring Compounds** | | | | | | |
| 3) 2-Fluorophenol (S) | 3.98 | 112 | 108552 | 9.96 | ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = 6.64% | | | |
| 5) d4-2-Chlorophenol (S) | 5.52 | 132 | 127293 | 11.72 | ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = 7.81% | | | |
| 8) d5-Phenol (S) | 5.33 | 99 | 136152 | 10.44 | ng | -0.02 |
| Surrogate Spike 150.000 | | | Recovery = 6.96% | | | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.13 | 152 | 66396 | 8.29 | ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = 8.29% | | | |
| 22) d5-Nitrobenzene (S) | 6.84 | 82 | 87473 | 6.62 | ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = 6.62% | | | |
| 40) 2-Fluorobiphenyl (S) | 10.25 | 172 | 139457 | 7.83 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 7.83% | | | |
| 59) 2,4,6-Tribromophenol (S) | 13.07 | 330 | 28634 | 10.13 | ng | 0.00 |
| Surrogate Spike 150.000 | | | Recovery = 6.75% | | | |
| 72) d14-Terphenyl (S) | 18.17 | 244 | 111522 | 7.38 | ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = 7.38% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 30) Naphthalene | 8.16 | 128 | 85796 | 2.81 | ng | # 93 |
| 34) 2-Methylnaphthalene | 9.49 | 142 | 67761 | 3.24 | ng | 95 |
| 43) Acenaphthylene | 11.21 | 152 | 66018 | 2.42 | ng | 95 |
| 64) Phenanthrene | 14.56 | 178 | 90897 | 4.04 | ng | 97 |
| 65) Anthracene | 14.66 | 178 | 35325 | 1.59 | ng | 95 |
| 68) Fluoranthene | 17.18 | 202 | 536774 | 22.15 | ng | 94 |
| 71) Pyrene | 17.67 | 202 | 526822 | 22.20 | ng | 96 |
| 74) Benzo(a) anthracene | 20.47 | 228 | 354856m | 17.59 | ng | 97 |
| 75) Chrysene | 20.54 | 228 | 344267 | 23.31 | ng | 98 |
| 80) Benzo(b) fluoranthene | 22.82 | 252 | 571319m | 27.88 | ng | 97 |
| 81) Benzo(k) fluoranthene | 22.87 | 252 | 155428m | 8.98 | ng | 95 |
| 82) Benzo(a) pyrene | 23.44 | 252 | 248299 | 14.34 | ng | 97 |
| 83) Indeno (1,2,3-cd) pyrene | 25.52 | 276 | 192039 | 11.61 | ng | # 61 |
| 84) Dibenz (ah) anthracene | 25.59 | 278 | 42869 | 3.51 | ng | # 92 |
| 85) Benzo (ghi) perylene | 25.98 | 276 | 161311 | 12.41 | ng | 96 |

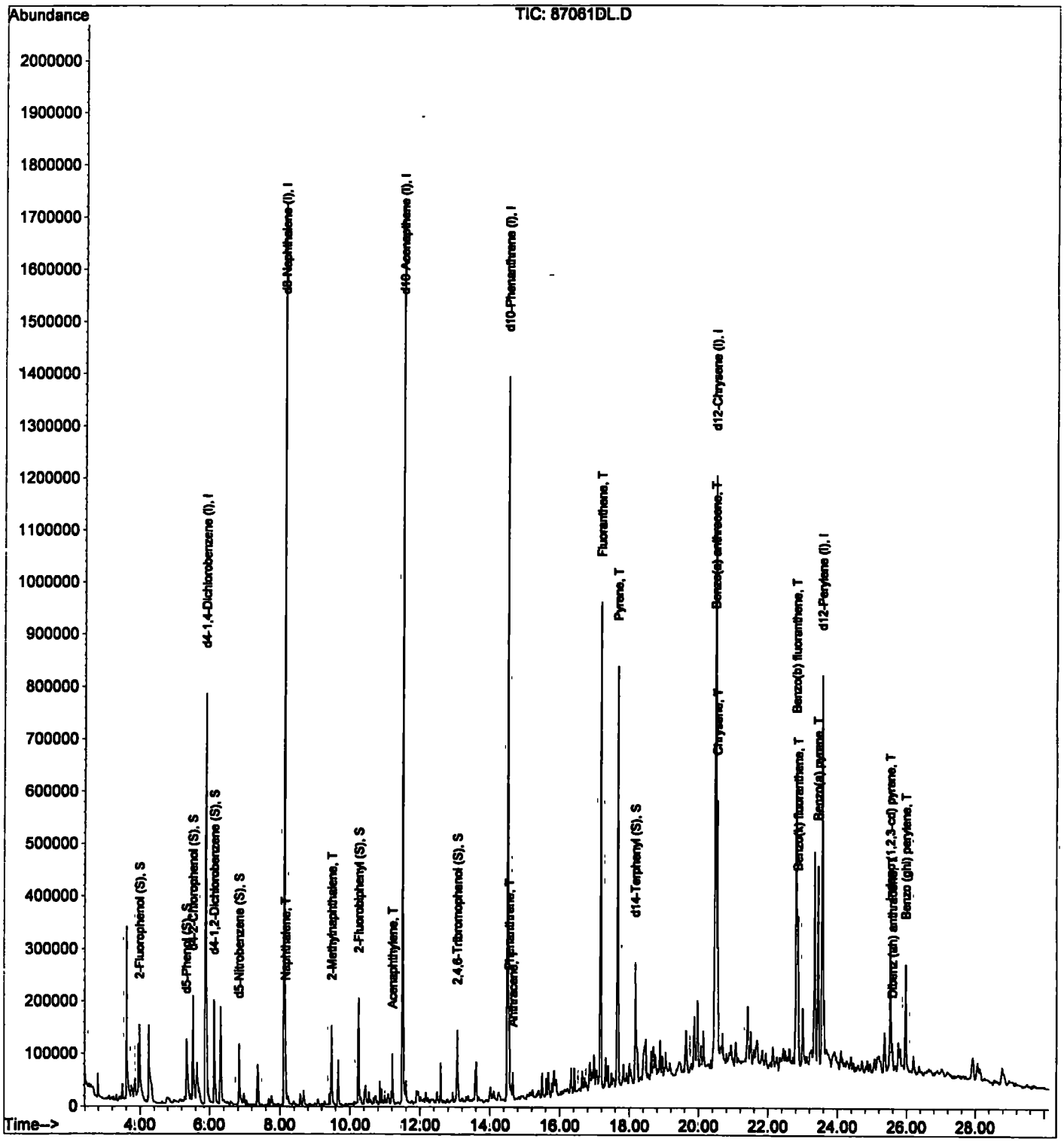
(#) = qualifier out of range (m) = manual integration

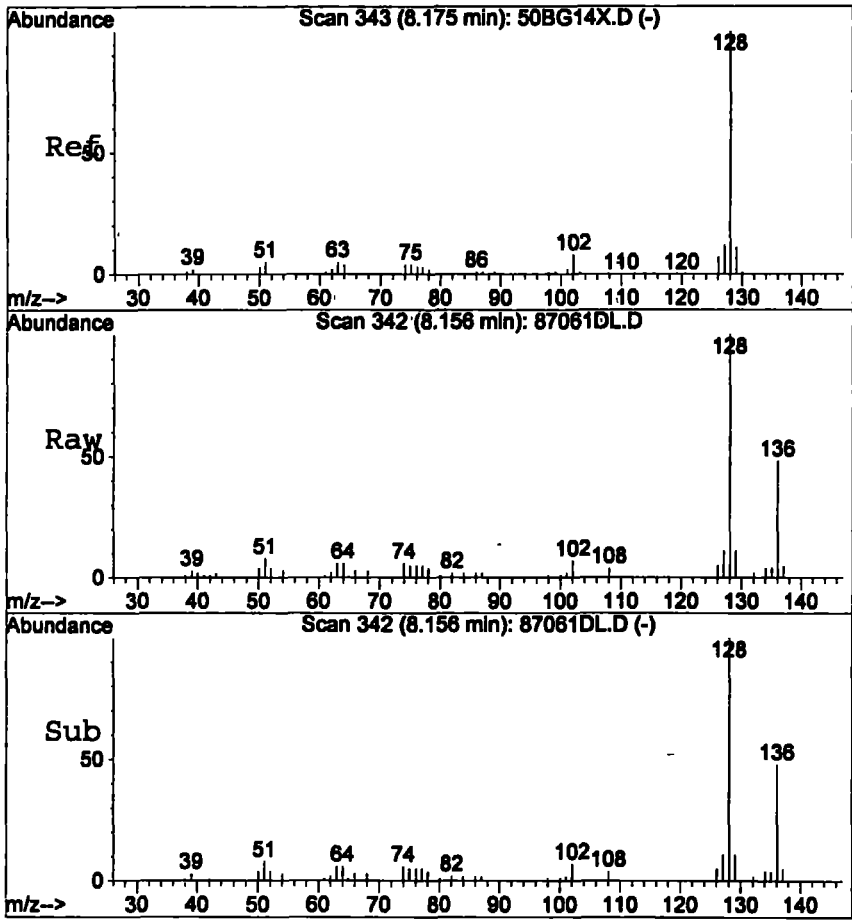
Quantitation Report

Data File : D:\DATA\87061DL.D
Acq On : 14 Jul 98 18:43
Sample : 1/10
Misc : 7-14-98
Quant Time: Jul 15 9:47 1998

Vial: 15
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Mon Jul 20 13:16:00 1998
Response via : Multiple Level Calibration

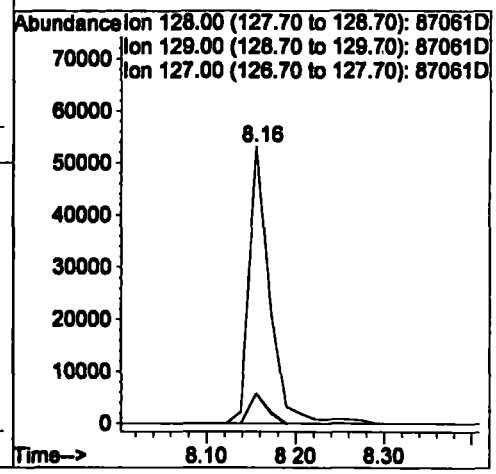


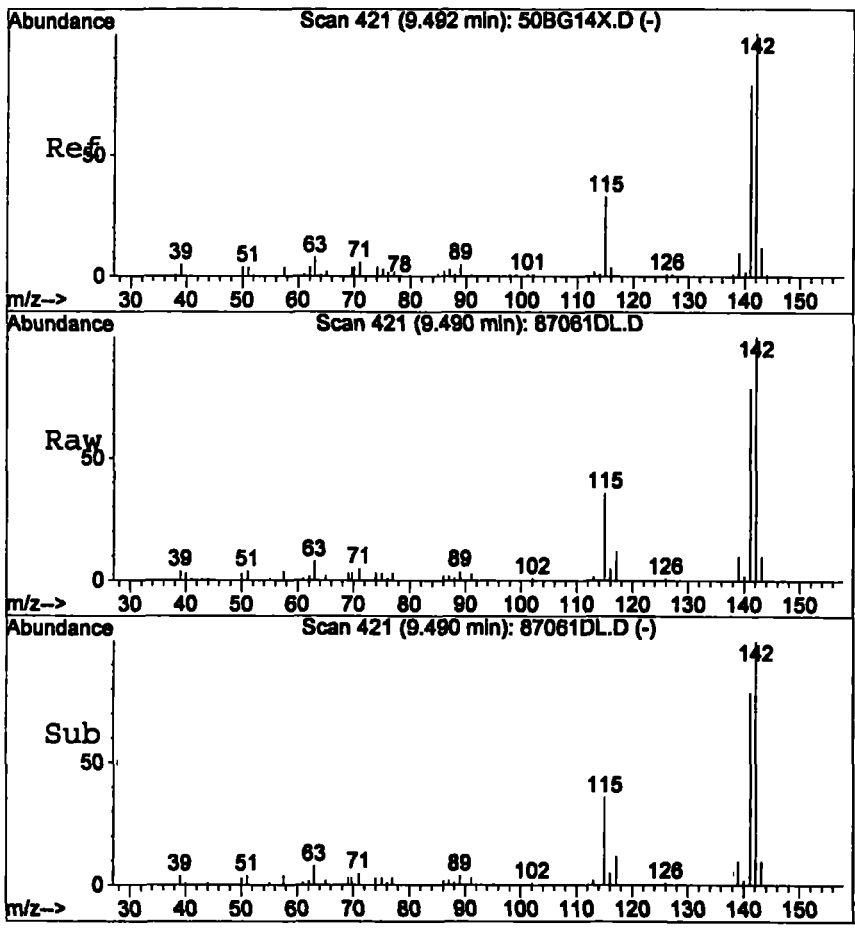



#30
Naphthalene
Concen: 2.81 ng
RT: 8.16 min Scan# 342
Delta R.T. 0.01 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:128 Resp: 85796

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 9.0 | 9.5 | 14.3# |
| 127 | 9.4 | 9.8 | 14.8# |
| 0 | 0.0 | 0.0 | 0.0 |

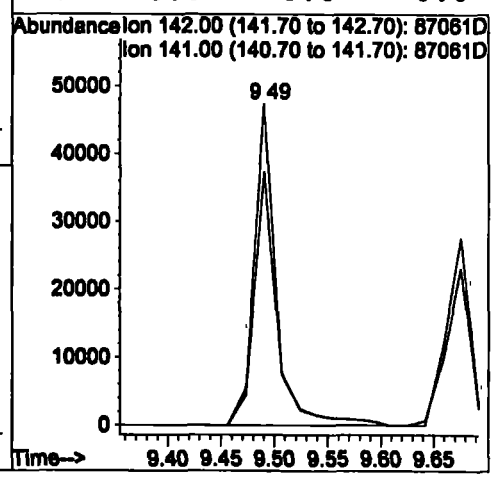


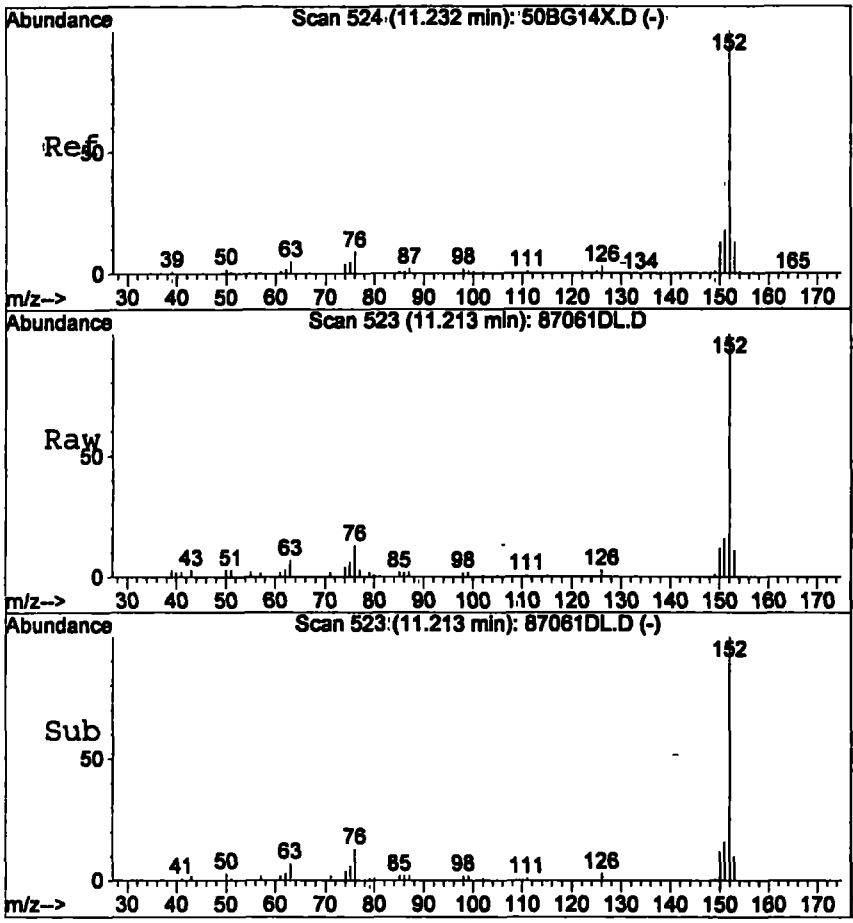

#34
2-Methylnaphthalene
Concen: 3.24 ng
RT: 9.49 min Scan# 421
Delta R.T. 0.01 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:142 Resp: 67761

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 83.0 | 63.0 | 94.4 |
| 0 | 0.0 | 0.0 | 0.0 |
| 0 | 0.0 | 0.0 | 0.0 |



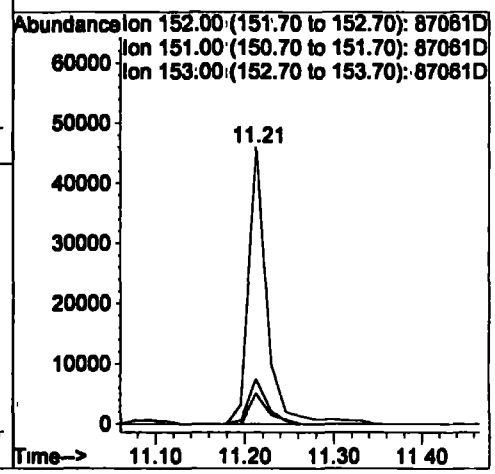

Sample: 1/10 Analyst: RBJ Instrument: 5971-024
87061DL.D BNAHSL.M Mon Jul 20 13:21:30 1998

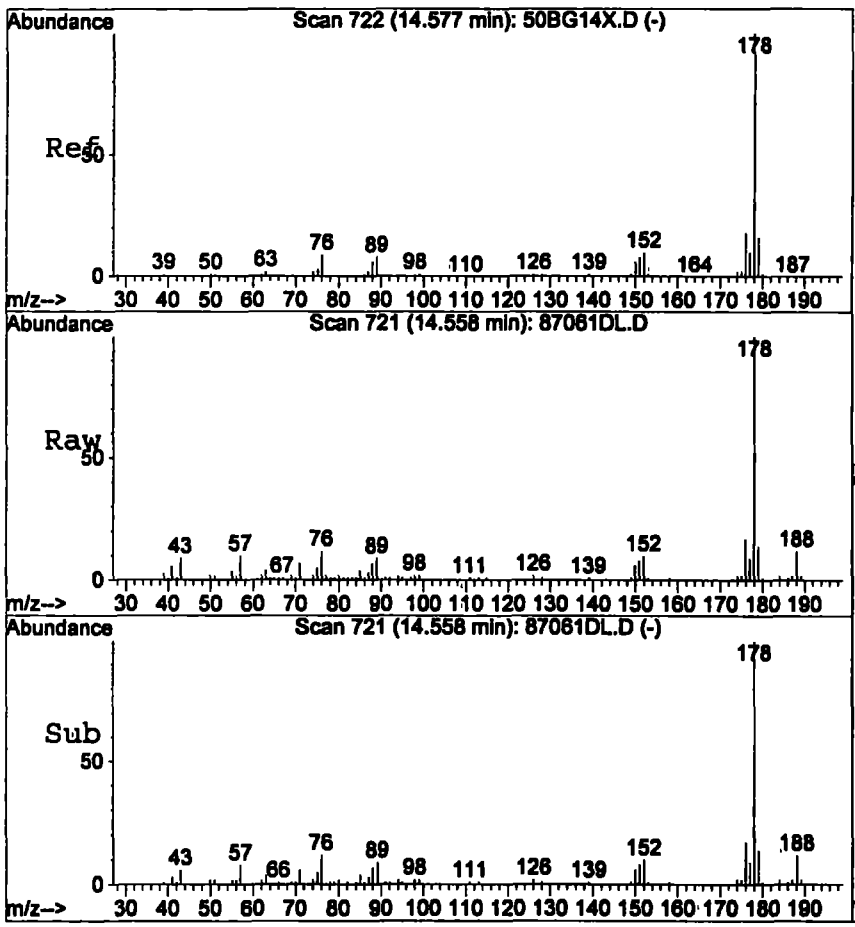



#43
Acenaphthylene
Concen: 2.42 ng
RT: 11.21 min Scan# 523
Delta R.T. 0.01 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:152 Resp: 66018

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 16.6 | 14.5 | 21.7 |
| 153 | 11.2 | 11.0 | 16.4 |
| 0 | 0.0 | 0.0 | 0.0 |

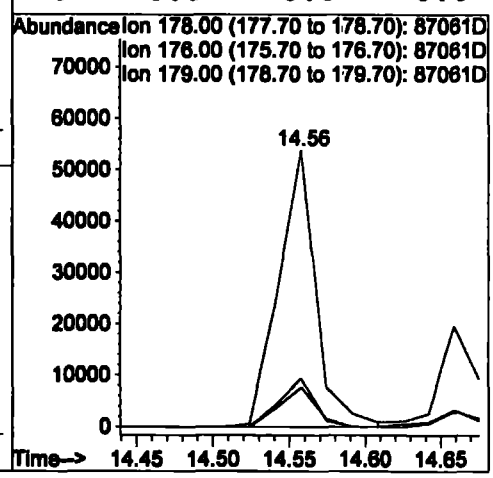


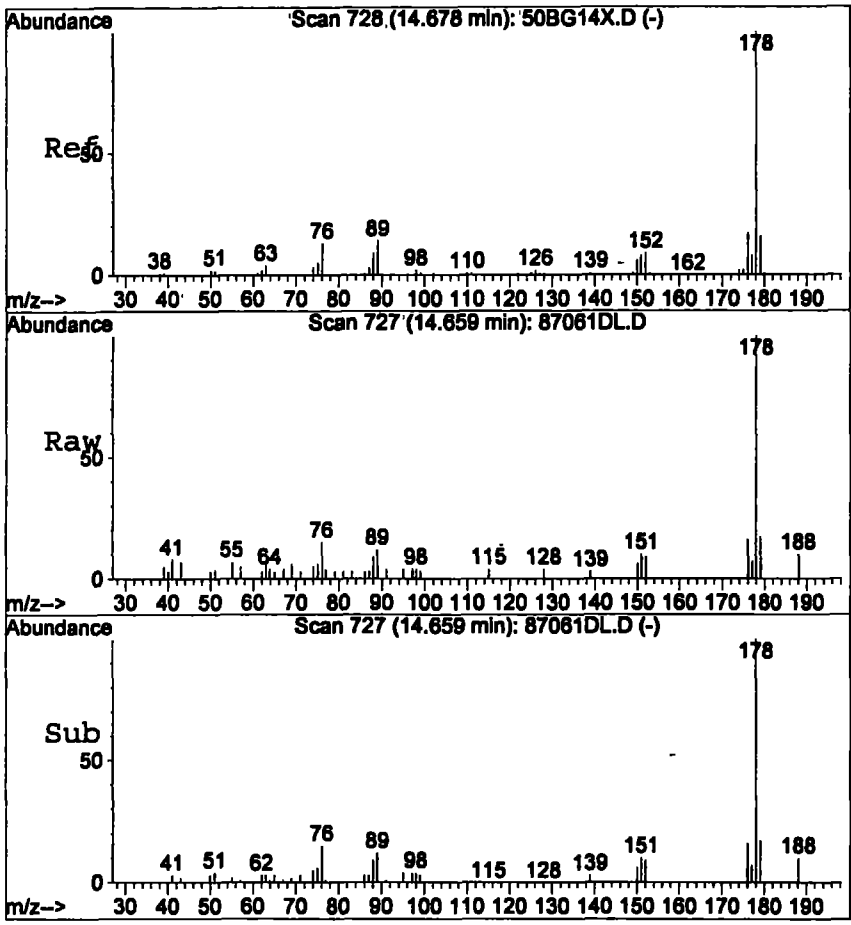




#64
Phenanthrene
Concen: 4.04 ng
RT: 14.56 min Scan# 721
Delta R.T. 0.01 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:178 Resp: 90897

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 176 | 16.5 | 14.2 | 21.4 |
| 179 | 14.2 | 12.7 | 19.1 |
| 0 | 0.0 | 0.0 | 0.0 |

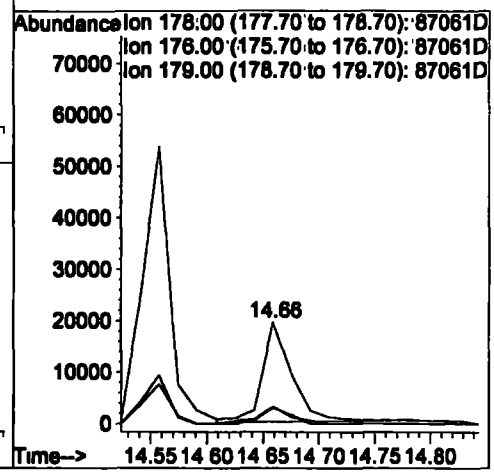


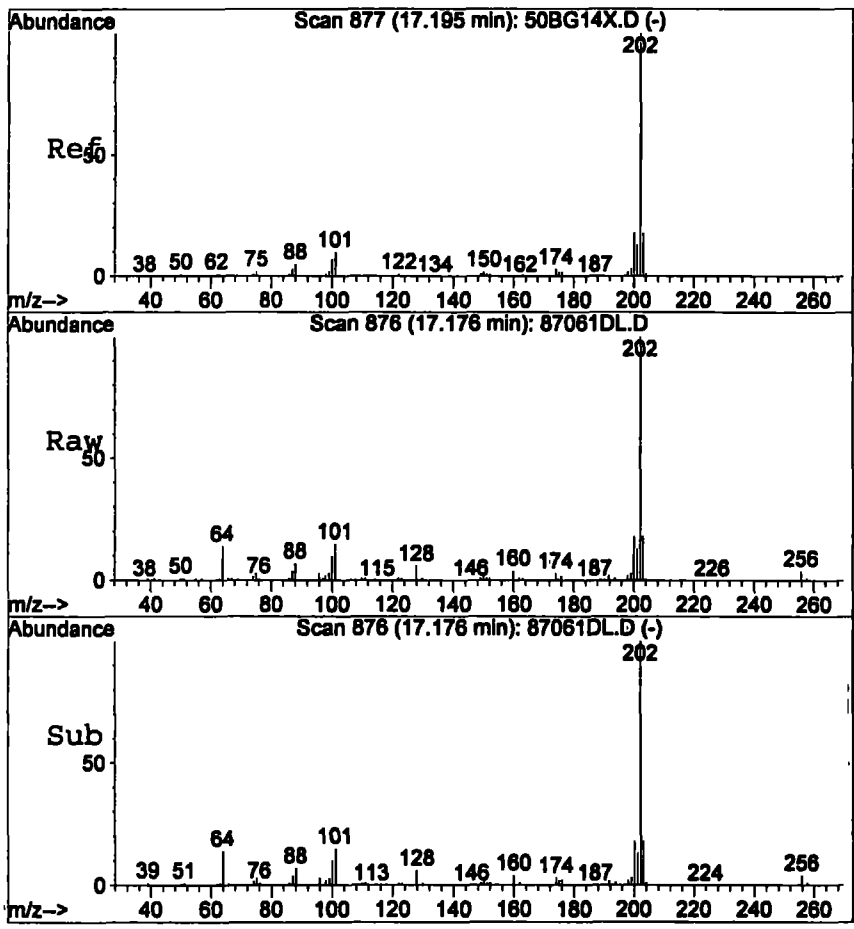



#65
Anthracene
Concen: 1.59 ng
RT: 14.66 min Scan# 727
Delta R.T. -0.00 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:178 Resp: 35325

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 176 | 15.4 | 13.8 | 20.8 |
| 179 | 18.9 | 12.9 | 19.3 |
| 0 | 0.0 | 0.0 | 0.0 |

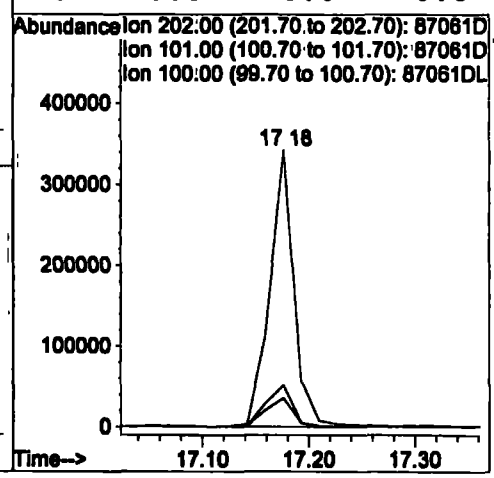


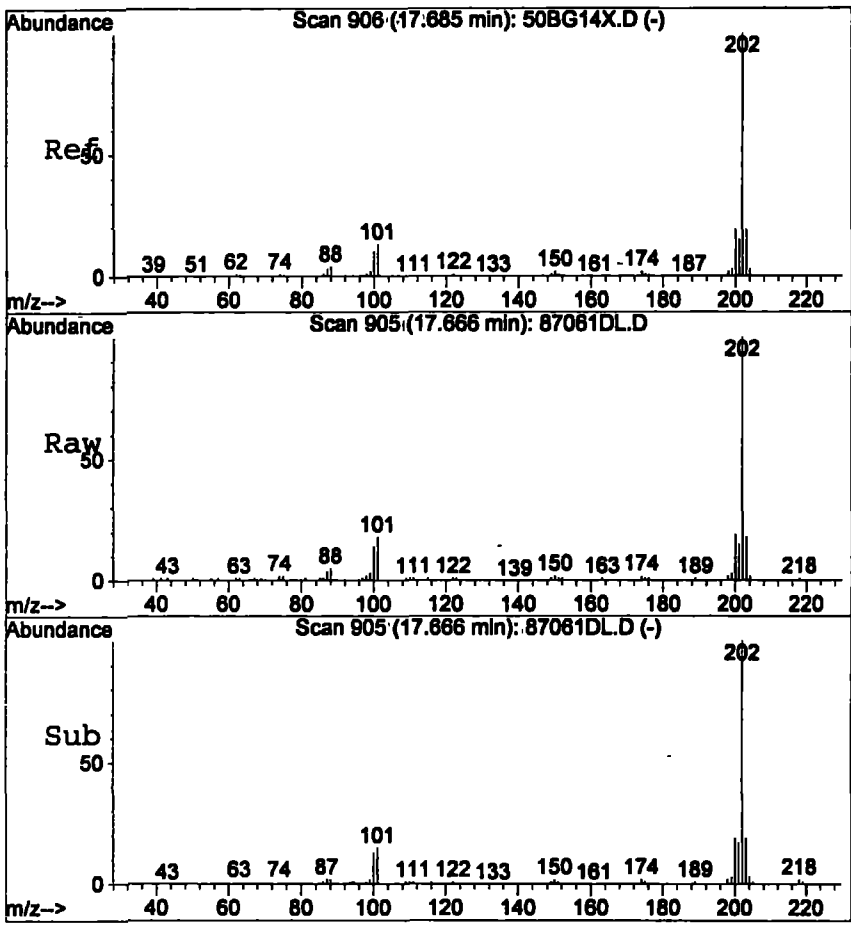

#68
Fluoranthene
Concen: 22.15 ng
RT: 17.18 min Scan# 876
Delta R.T. 0.01 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:202 Resp: 536774

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 16.4 | 15.1 | 22.7 |
| 100 | 11.6 | 11.5 | 17.3 |
| 0 | 0.0 | 0.0 | 0.0 |



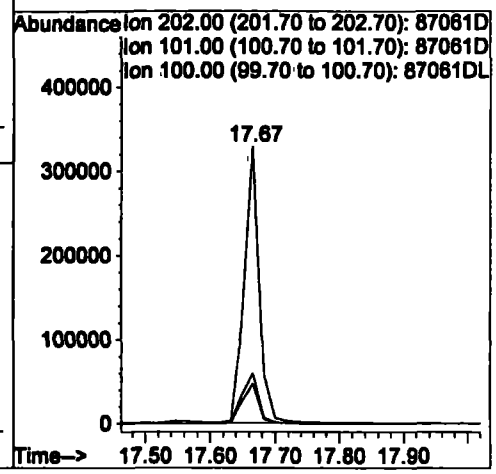

Sample: 1/10 Analyst: RBJ Instrument: 5971-024
87061DL.D BNAHSL.M Mon Jul 20 13:21:35 1998

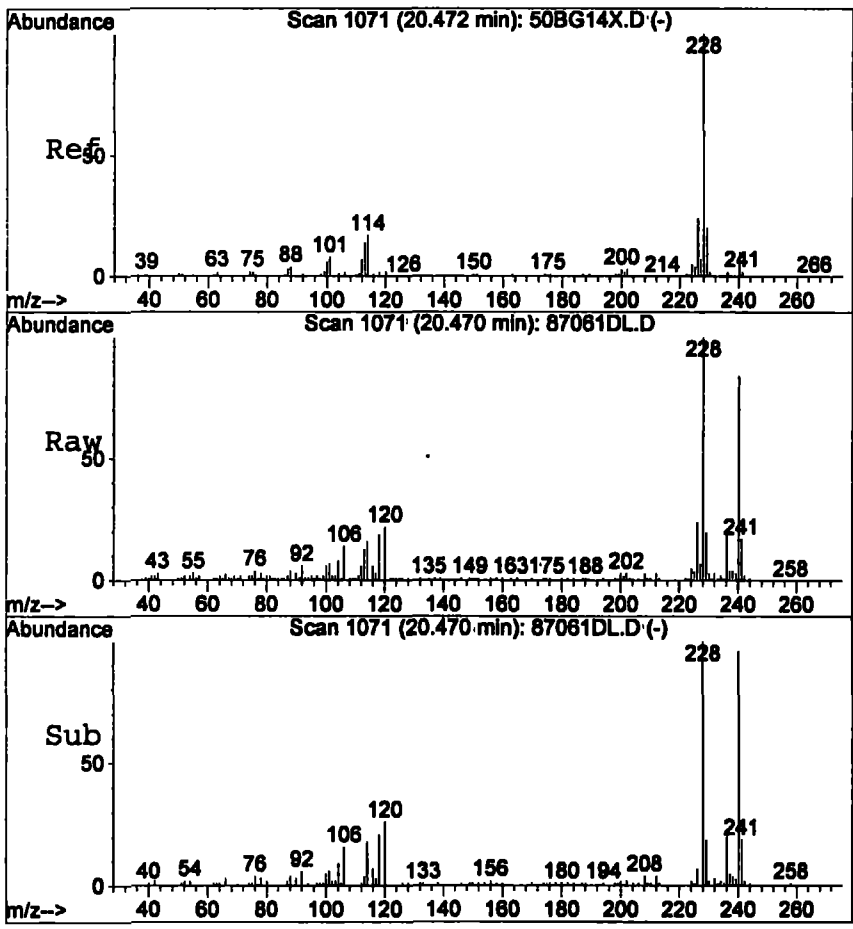



#71
Pyrene
Concen: 22.20 ng
RT: 17.67 min Scan# 905
Delta R.T. 0.01 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:202 Resp: 526822

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 20.4 | 17.8 | 26.6 |
| 100 | 15.7 | 14.4 | 21.6 |
| 0 | 0.0 | 0.0 | 0.0 |

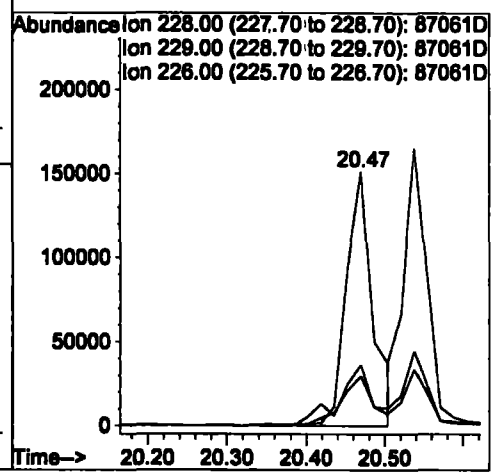


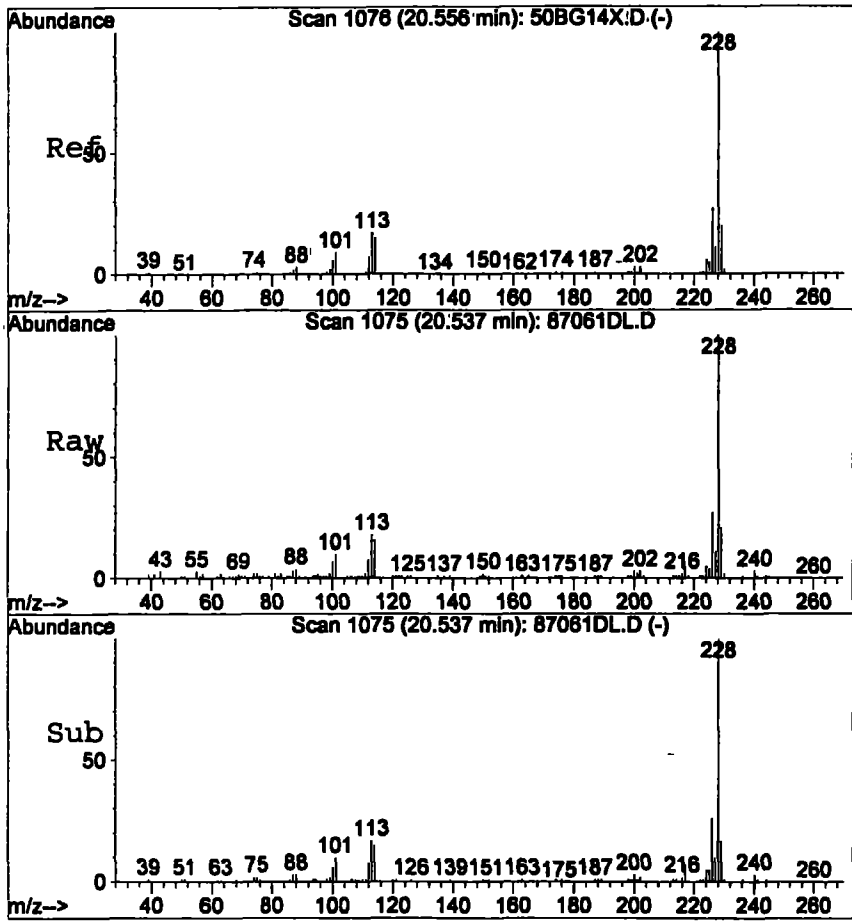

#74
Benzo(a) anthracene
Concen: 17.59 ng m
RT: 20.47 min Scan# 1071
Delta R.T. 0.01 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:228 Resp: 354856

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 19.6 | 16.3 | 24.5 |
| 226 | 24.0 | 19.8 | 29.6 |
| 0 | 0.0 | 0.0 | 0.0 |



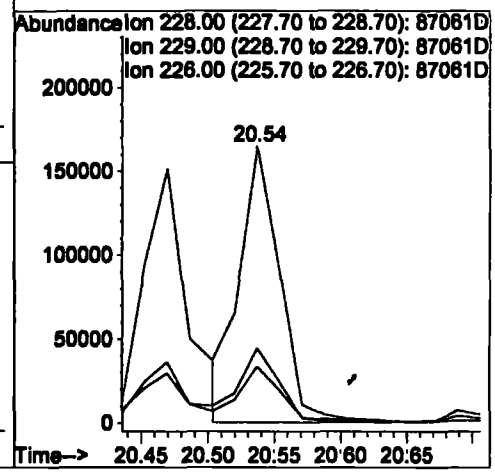

Sample: 1/10 Analyst: RBJ Instrument: 5971-024
87061DL.D BNAHSL.M Mon Jul 20 13:21:38 1998

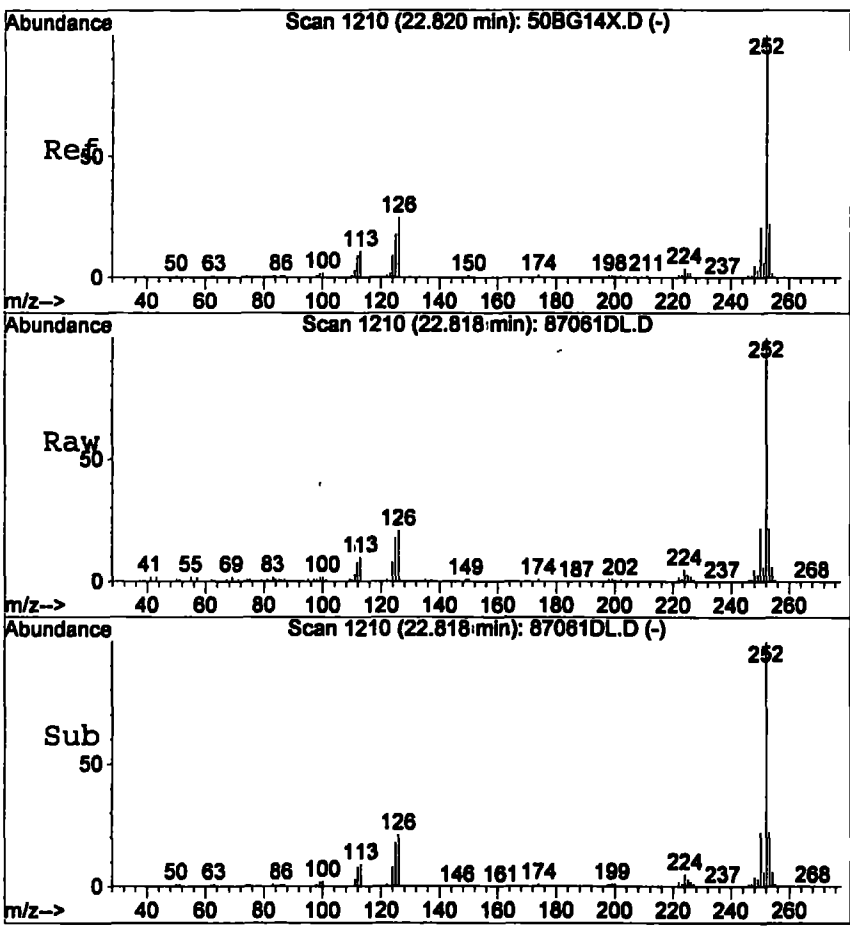



#75
Chrysene
Concen: 23.31 ng
RT: 20.54 min Scan# 1075
Delta R.T. -0.00 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:228 Resp: 344267

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 21.9 | 16.0 | 24.0 |
| 226 | 27.1 | 22.0 | 33.0 |
| 0 | 0.0 | 0.0 | 0.0 |

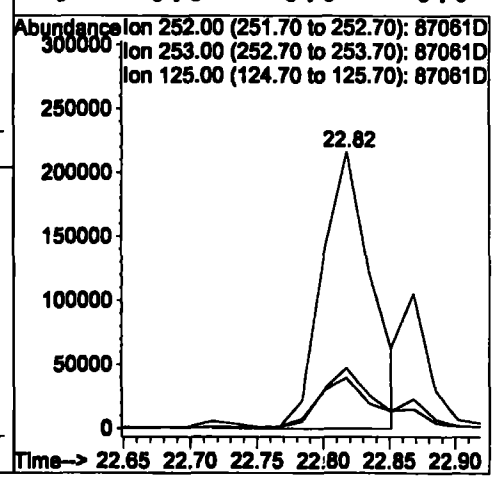


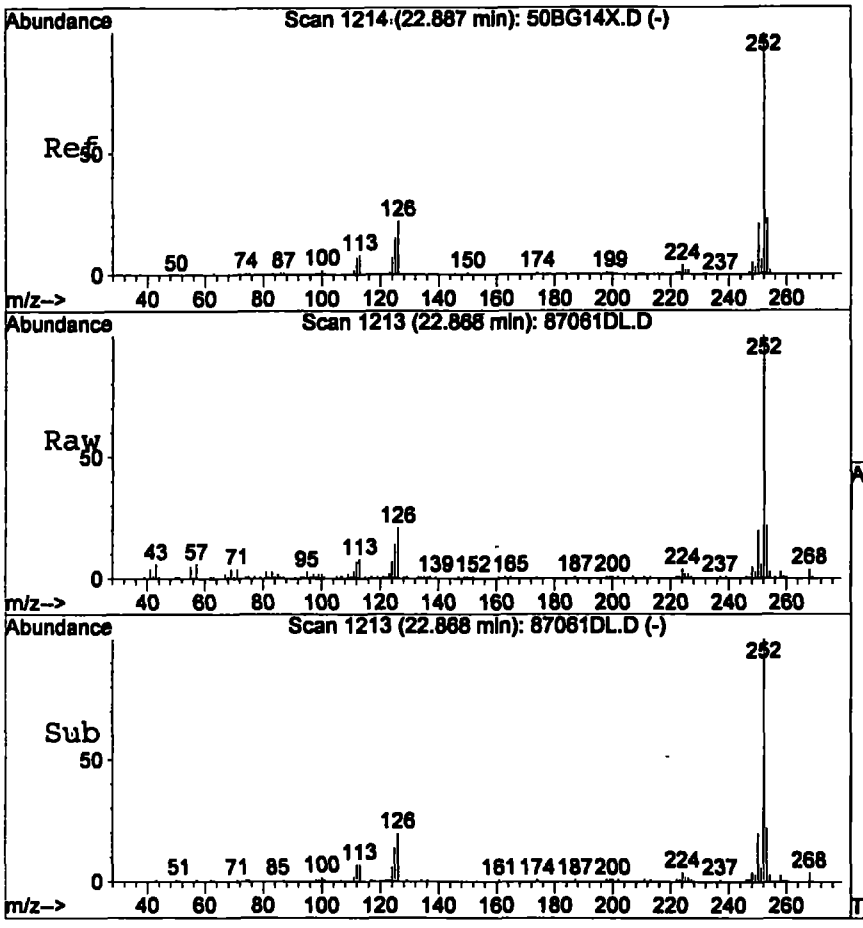

#80
Benzo(b) fluoranthene
Concen: 27.88 ng m
RT: 22.82 min Scan# 1210
Delta R.T. -0.00 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:252 Resp: 571319

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.9 | 17.8 | 26.6 |
| 125 | 18.3 | 12.2 | 18.2# |
| 0 | 0.0 | 0.0 | 0.0 |



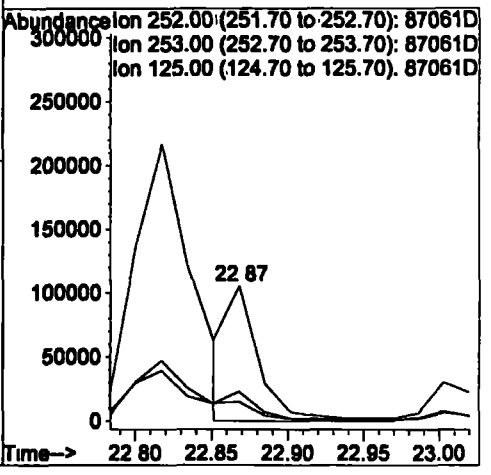

Sample: 1/10 Analyst: RBJ Instrument: 5971-024
87061DL.D BNAHSL.M Mon Jul 20 13:21:41 1998

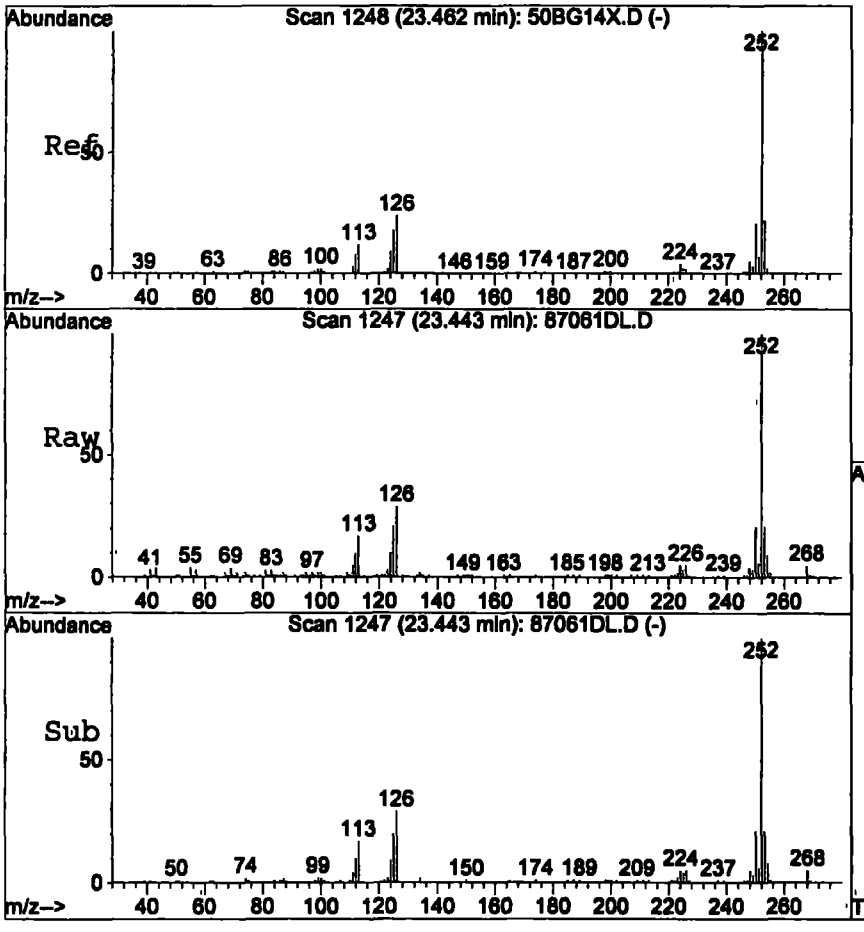



#81
Benzo(k) fluoranthene
Concen: 8.98 ng m
RT: 22.87 min Scan# 1213
Delta R.T. -0.00 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:252 Resp: 155428

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.9 | 17.8 | 26.6 |
| 125 | 14.5 | 10.9 | 16.3 |
| 0 | 0.0 | 0.0 | 0.0 |

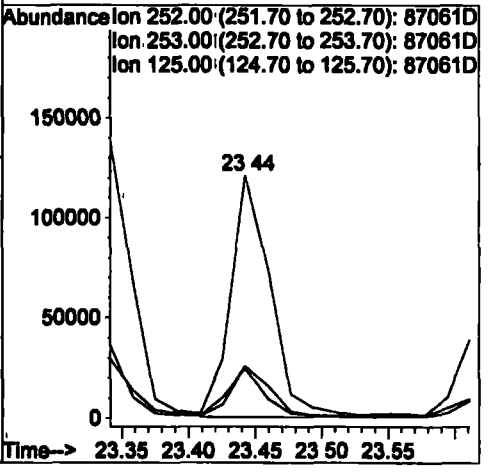


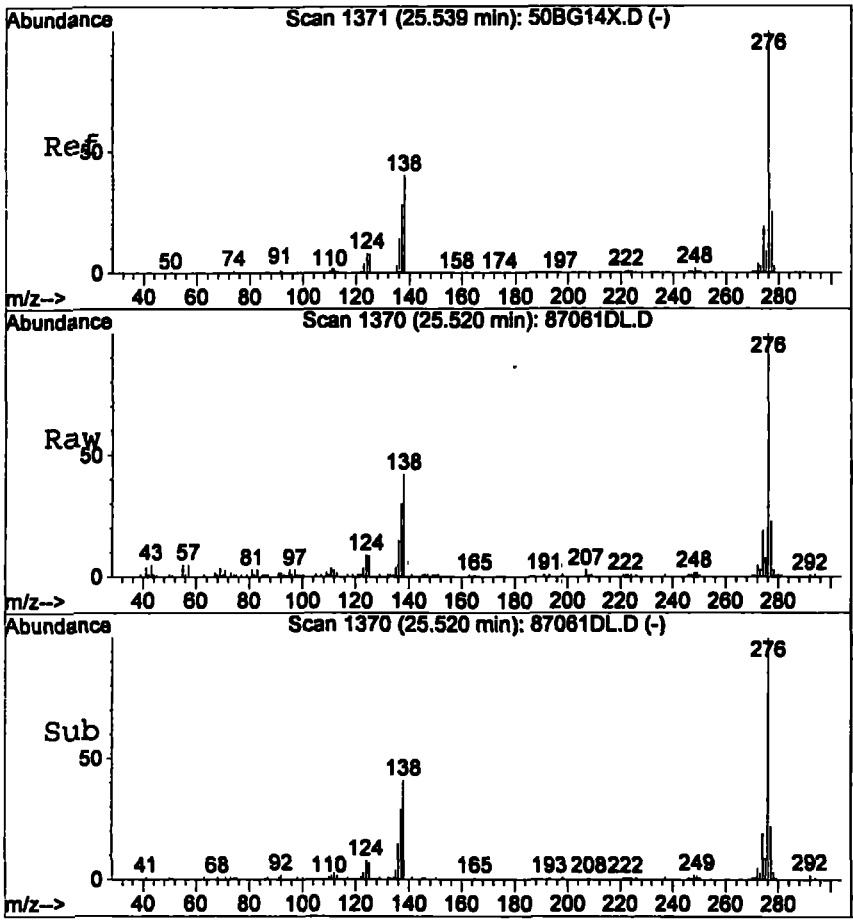

#82
Benzo(a) pyrene
Concen: 14.34 ng
RT: 23.44 min Scan# 1247
Delta R.T. -0.00 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:252 Resp: 248299

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.2 | 18.1 | 27.1 |
| 125 | 18.5 | 12.6 | 19.0 |
| 0 | 0.0 | 0.0 | 0.0 |



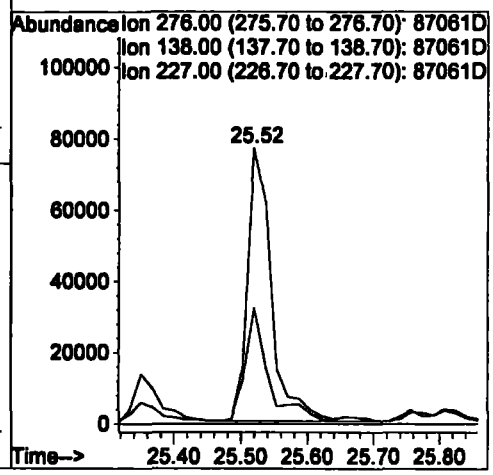

Sample: 1/10 Analyst: RBJ Instrument: 5971-024
87061DL.D BNAHSL.M Mon Jul 20 13:21:43 1998

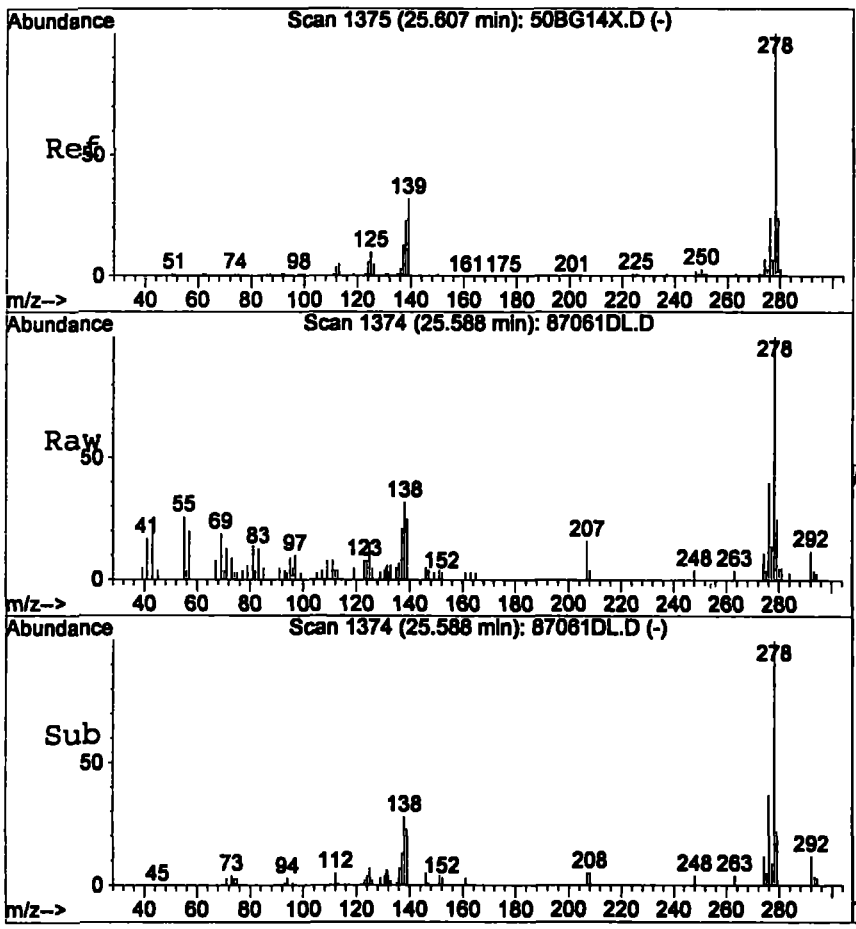



#83
Indeno (1,2,3-cd) pyrene
Concen: 11.61 ng
RT: 25.52 min Scan# 1370
Delta R.T. -0.00 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:276 Resp: 192039

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 39.4 | 16.9 | 25.3# |
| 227 | 0.0 | 0.0 | 0.0 |
| 0 | 0.0 | 0.0 | 0.0 |

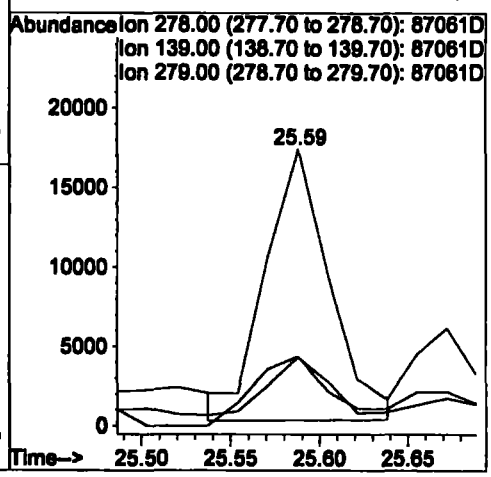


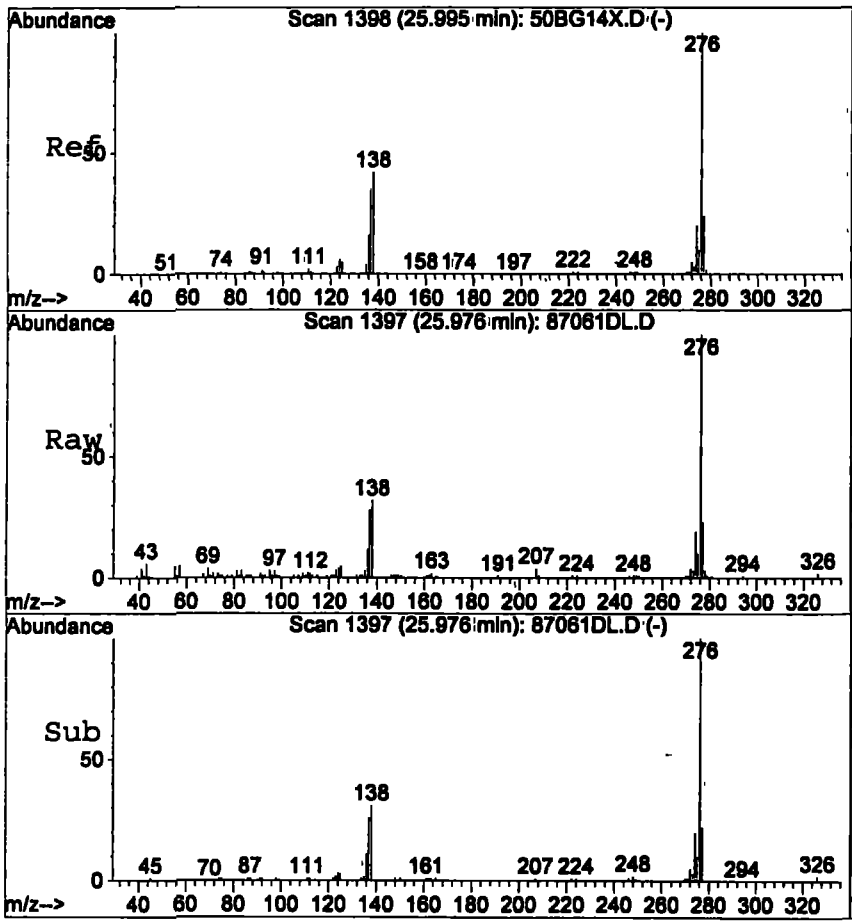

#84
Dibenz (ah) anthracene
Concen: 3.51 ng
RT: 25.59 min Scan# 1374
Delta R.T. -0.00 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:278 Resp: 42869

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 32.6 | 20.0 | 30.0# |
| 279 | 23.3 | 18.6 | 27.8 |
| 0 | 0.0 | 0.0 | 0.0 |



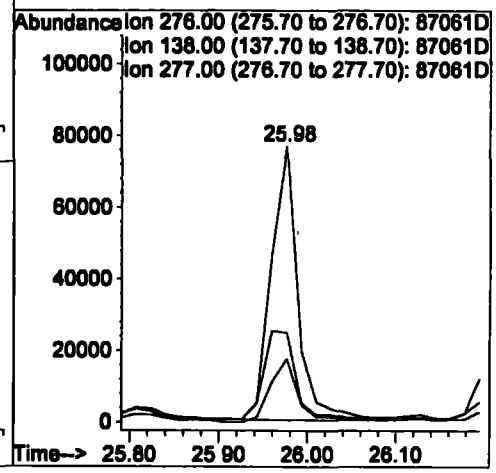

Sample: 1/10 Analyst: RBJ Instrument: 5971-024
87061DL.D BNAHSL.M Mon Jul 20 13:21:45 1998




#85
Benzo (ghi) perylene
Concen: 12.41 ng
RT: 25.98 min Scan# 1397
Delta R.T. -0.00 min
Lab File: 87061DL.D
Acq: 14 Jul 98 18:43

Tgt Ion:276 Resp: 161311

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 39.2 | 29.0 | 43.6 |
| 277 | 25.6 | 19.8 | 29.8 |
| 0 | 0.0 | 0.0 | 0.0 |



Quantitation Report (Not Reviewed)

Data File : D:\DATA\85609LCS.D
Acq On : 14 Jul 98 17:26
Sample : LCSG131A
Misc : 7-14-98
Quant Time: Jul 14 17:57 1998

Vial: 13
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

x1 EICPIS good

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.90 | 152 | 389291 | 40.00 ng | 0.03 |
| 21) d8-Naphthalene (I) | 8.13 | 136 | 1399535 | 40.00 ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.51 | 164 | 702674 | 40.00 ng | 0.03 |
| 56) d10-Phenanthrene (I) | 14.51 | 188 | 1098716 | 40.00 ng | 0.03 |
| 69) d12-Chrysene (I) | 20.51 | 240 | 830560 | 40.00 ng | 0.03 |
| 79) d12-Perylene (I) | 23.57 | 264 | 655550 | 40.00 ng | 0.03 |
| System Monitoring Compounds | | | | | |
| 3) 2-Fluorophenol (S) | 4.02 | 112 | 1270288 | 97.19 ng | 0.05 |
| Surrogate Spike 150.000 | | | Recovery | = 64.79% | |
| 5) d4-2-Chlorophenol (S) | 5.54 | 132 | 1460815 | 112.12 ng | 0.03 |
| Surrogate Spike 150.000 | | | Recovery | = 74.75% | |
| 8) d5-Phenol (S) | 5.37 | 99 | 1894266 | 121.17 ng | 0.02 |
| Surrogate Spike 150.000 | | | Recovery | = 80.78% | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.15 | 152 | 785614 | 81.78 ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery | = 81.78% | |
| 22) d5-Nitrobenzene (S) | 6.84 | 82 | 1239466 | 83.69 ng | 0.02 |
| Surrogate Spike 100.000 | | | Recovery | = 83.69% | |
| 40) 2-Fluorobiphenyl (S) | 10.26 | 172 | 1827403 | 84.77 ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery | = 84.77% | |
| 59) 2,4,6-Tribromophenol (S) | 13.09 | 330 | 455345 | 123.74 ng | 0.02 |
| Surrogate Spike 150.000 | | | Recovery | = 82.49% | |
| 72) d14-Terphenyl (S) | 18.19 | 244 | 1654182 | 86.53 ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery | = 86.53% | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 4) Aniline | 5.53 | 93 | 1129630 | 87.28 ng | # | 58 |
| 6) 2-Chlorophenol | 5.58 | 128 | 1058946 | 80.48 ng | # | 91 |
| 7) bis(2-Chloroethyl) ether | 5.53 | 93 | 1129630 | 80.52 ng | | 91 |
| 9) Phenol | 5.41 | 94 | 1172179 | 71.05 ng | # | 83 |
| 10) 1,3-Dichlorobenzene | 5.80 | 146 | 1139764 | 72.27 ng | | 97 |
| 11) 1,4-Dichlorobenzene | 5.93 | 146 | 1163483 | 75.62 ng | | 96 |
| 13) 1,2-Dichlorobenzene | 6.17 | 146 | 1095256 | 78.32 ng | | 96 |
| 14) Benzyl alcohol | 6.17 | 108 | 12458 | 1.90 ng | # | 19 |
| 15) bis(2-Chloroisopropyl) eth | 6.39 | 45 | 1375954 | 85.21 ng | # | 66 |
| 17) Hexachloroethane | 6.72 | 117 | 507349 | 82.00 ng | | 89 |
| 18) n-Nitroso-di-n-propylamine | 6.62 | 70 | 773577 | 87.27 ng | | 91 |
| 23) Nitrobenzene | 6.89 | 77 | 1164374 | 78.73 ng | | 99 |
| 24) Isophorone | 7.33 | 82 | 2301901 | 84.14 ng | | 97 |
| 25) 2-Nitrophenol | 7.45 | 139 | 661824 | 76.74 ng | | 93 |
| 26) 2,4-Dimethylphenol | 7.60 | 107 | 864712 | 81.22 ng | | 89 |
| 27) bis(2-chloroethoxy) methan | 7.77 | 93 | 1214531 | 76.66 ng | | 100 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : D:\DATA\85609LCS.D
Acq On : 14 Jul 98 17:26
Sample : LCSG131A
Misc : 7-14-98
Quant Time: Jul 14 17:57 1998

Vial: 13
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 28) | 2,4-Dichlorophenol | 7.91 | 162 | 833216 | 82.63 ng | | 95 |
| 29) | 1,2,4-Trichlorobenzene | 8.04 | 180 | 824675 | 76.94 ng | | 99 |
| 30) | Naphthalene | 8.18 | 128 | 2815653 | 82.39 ng | | 99 |
| 32) | 4-Chloroaniline | 8.18 | 127 | 327566 | 24.15 ng | # | 1 |
| 33) | Hexachlorobutadiene | 8.43 | 225 | 536047 | 86.58 ng | | 100 |
| 34) | 2-Methylnaphthalene | 9.31 | 142 | 830218 | 35.38 ng | # | 20 |
| 35) | 4-Chloro-3-methylphenol | 9.29 | 107 | 813825 | 76.96 ng | | 88 |
| 37) | Hexachlorocyclopentadiene | 9.80 | 237 | 351725 | 79.93 ng | | 98 |
| 38) | 2,4,6-Trichlorophenol | 10.07 | 196 | 540297 | 81.15 ng | | 100 |
| 39) | 2,4,5-Trichlorophenol | 10.07 | 196 | 540297 | 75.48 ng | | 98 |
| 41) | 2-Chloronapthalene | 10.42 | 162 | 1635095 | 80.19 ng | # | 93 |
| 43) | Acenaphthylene | 11.24 | 152 | 2649189 | 80.35 ng | | 99 |
| 44) | Dimethylphthalate | 11.12 | 163 | 1990893 | 81.53 ng | | 99 |
| 45) | 2,6-Dinitrotoluene | 11.20 | 165 | 447363 | 77.43 ng | | 97 |
| 46) | Acenaphthene | 11.57 | 153 | 1570258 | 80.55 ng | | 98 |
| 48) | 2,4-Dinitrophenol | 11.72 | 184 | 34003 | 11.90 ng | # | 63 |
| 50) | 2,4-Dinitrotoluene | 11.98 | 165 | 580768 | 81.55 ng | # | 68 |
| 51) | 4-Nitrophenol | 11.93 | 109 | 197486 | 70.05 ng | # | 11 |
| 52) | Fluorene | 12.60 | 166 | 1762350 | 80.17 ng | | 98 |
| 53) | 4-Chlorophenyl phenyl ethe | 12.67 | 204 | 887074 | 89.27 ng | | 99 |
| 54) | Diethylphthalate | 12.54 | 149 | 2381418 | 89.42 ng | | 96 |
| 57) | 4,6-Dinitro-2-methylphenol | 12.77 | 198 | 183507 | 41.99 ng | # | 88 |
| 58) | n-Nitrosodiphenylamine | 12.92 | 169 | 1247204 | 81.44 ng | | 99 |
| 61) | 4-Bromophenyl phenyl ether | 13.65 | 248 | 501798 | 73.16 ng | | 97 |
| 62) | Hexachlorobenzene | 13.70 | 284 | 539884 | 93.31 ng | # | 92 |
| 63) | Pentachlorophenol | 14.16 | 266 | 233686 | 51.03 ng | | 99 |
| 64) | Phenanthrene | 14.58 | 178 | 2289057 | 78.14 ng | | 100 |
| 65) | Anthracene | 14.68 | 178 | 2249299 | 77.90 ng | | 99 |
| 67) | Di-n-butyl phthalate | 16.03 | 149 | 3667777 | 76.85 ng | | 99 |
| 68) | Fluoranthene | 17.20 | 202 | 2517828 | 79.81 ng | | 93 |
| 70) | Benzidine | 17.62 | 184 | 89825 | 722.32 ng | # | 24 |
| 71) | Pyrene | 17.69 | 202 | 2480154 | 82.60 ng | | 93 |
| 73) | Butyl benzyl phthalate | 19.44 | 149 | 1665924 | 84.97 ng | | 90 |
| 74) | Benzo(a) anthracene | 20.47 | 228 | 2022491 | 79.24 ng | | 99 |
| 75) | Chrysene | 20.56 | 228 | 1912194 | 102.34 ng | | 99 |
| 76) | 3,3'-Dichlorobenzidine | 20.53 | 252 | 479308 | 89.74 ng | | 98 |
| 77) | bis(2-Ethylhexyl) phthalat | 20.90 | 149 | 2196794 | 84.64 ng | | 92 |
| 78) | Di-n-octyl phthalate | 22.37 | 149 | 3652617 | 86.90 ng | | 100 |
| 80) | Benzo(b) fluoranthene | 22.82 | 252 | 1967813 | 72.43 ng | | 98 |
| 81) | Benzo(k) fluoranthene | 22.89 | 252 | 1671343 | 72.83 ng | | 97 |
| 82) | Benzo(a) pyrene | 23.46 | 252 | 1736833 | 75.65 ng | | 96 |
| 83) | Indeno (1,2,3-cd) pyrene | 25.56 | 276 | 1703660 | 77.70 ng | # | 59 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : D:\DATA\85609LCS.D
Acq On : 14 Jul 98 17:26
Sample : LCSG131A
Misc : 7-14-98
Quant Time: Jul 14 17:57 1998

Vial: 13
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|
| 84) Dibenz (ah) anthracene | 25.61 | 278 | 1528144 | 94.49 ng | 97 |
| 85) Benzo (ghi) perylene | 26.02 | 276 | 1709203 | 99.21 ng | 98 |

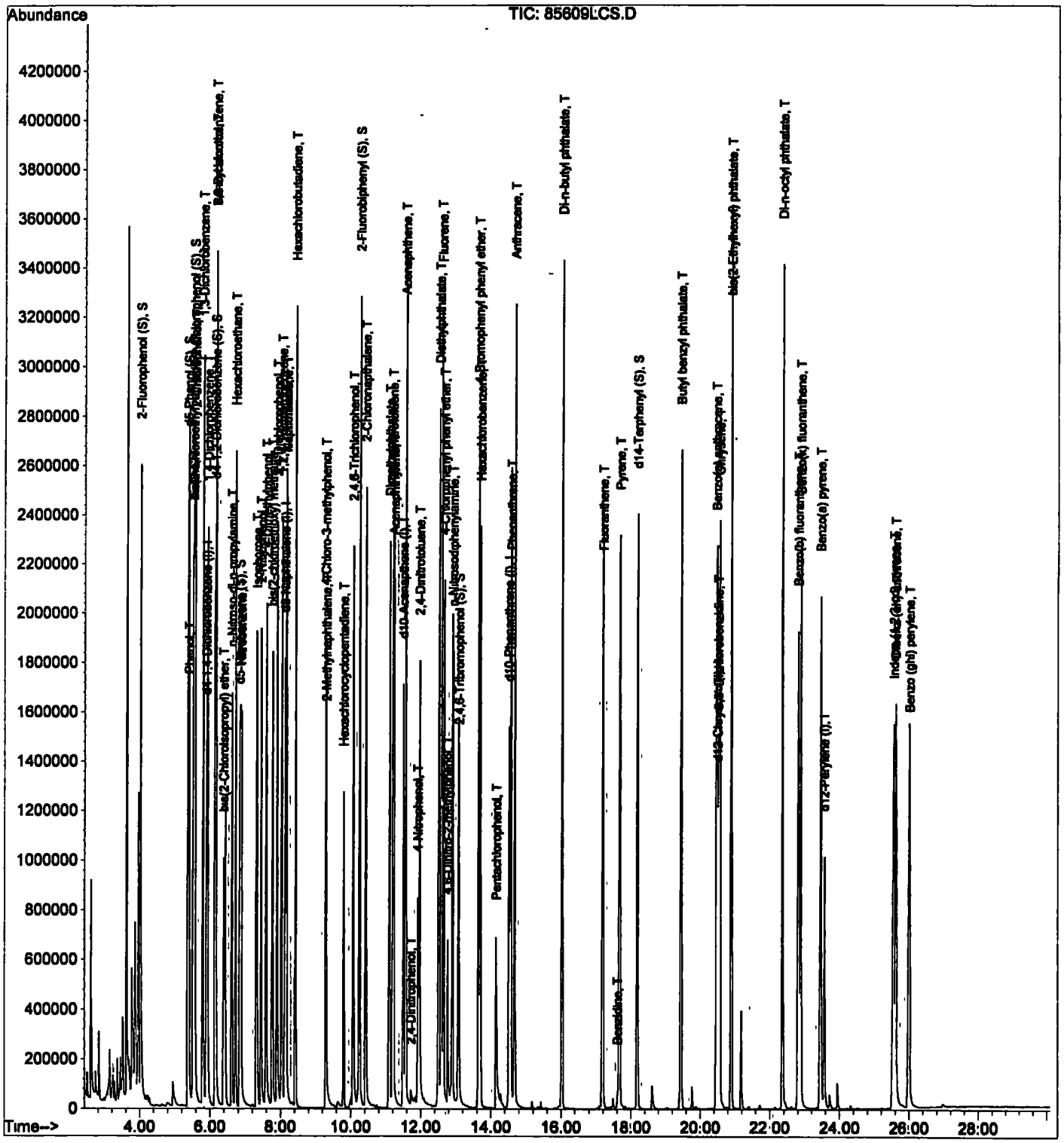
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\DATA\85609LCS.D
Acq On : 14 Jul 98 17:26
Sample : LCSG131A
Misc : 7-14-98
Quant Time: Jul 14 17:57 1998

Vial: 13
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Mon Jul 20 13:16:00 1998
Response via : Multiple Level Calibration



# Laidlaw Environmental Services / Encotec
## GC/MS Semivolatile Analysis

**Standard ID's:** MB073D-078D
**Reference Std :** 50BG15X.D
**Instrument ID:** 5971-024
**GC Column :** DB-5MS CAP 30 M, 0.25 mm, 0.25u

**Run ID :** 7-14-98
**Date :** 7/15/1998
**Tape Number :** 1-98-X
**Operator :** RBJ
**Multiplier :** 2176

| | Client | Batch | Time | File Name | Type | Matrix | Dilution | Factor | Rerun | Sample ID |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ENCOTEC | 10000 | 12:26 | DFTG15X | TUNE | N/A | N/A | N/A | | Breakdown = 5.1% |
| 2 | ENCOTEC | 10000 | 13:05 | 50BG15X | STD | N/A | N/A | N/A | | |
| 3 | ENCOTEC | 10000 | 13:43 | 50IXG15 | STD | N/A | N/A | N/A | | |
| 4 | EEI | 12497 | 14:21 | 87061DL1 | SAMPLE | SOIL | 125 ul Sample + 375 ul + 5 uL IS | 1/4 | | |
| 5 | EEI | 12497 | 14:59 | 87061BM | MS | SOIL | 125 ul Sample + 375 ul + 5 uL IS | 1/4 | | |
| 6 | EEI | 12497 | 15:38 | 87061BD | MSD | SOIL | 125 ul Sample + 375 ul + 5 uL IS | 1/4 | | |
| 7 | LBR | 12473 | 16:16 | 86981B | SAMPLE | WATER | 500 ul Sample + 5 uL IS | 1/1 | | |
| 8 | LBR | 12473 | 16:54 | 86984B | SAMPLE | WATER | 500 ul Sample + 5 uL IS | 1/1 | | |
| 9 | EQC | 12519 | 17:58 | 87169B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 10 | EQC | 12519 | 18:36 | 87170DL | SAMPLE | SOIL | 50 ul Sample + 450 ul + 5 uL IS | 1/10 | | |
| 11 | EQC | 12519 | 19:15 | 87171DL | SAMPLE | SOIL | 50 ul Sample + 450 ul + 5 uL IS | 1/10 | | |
| 12 | EQC | 12519 | 19:53 | 87172B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 13 | EQC | 12519 | 20:31 | 87173DL | SAMPLE | SOIL | 50 ul Sample + 450 ul + 5 uL IS | 1/10 | | |
| 14 | EQC | 12519 | 21:09 | 87174B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 15 | EQC | 12519 | 21:47 | 87175B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 16 | EQC | 12519 | 22:25 | 87176DL | SAMPLE | SOIL | 50 ul Sample + 450 ul + 5 uL IS | 1/10 | | |
| 17 | EQC | 12519 | 23:04 | 87177B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 18 | EQC | 12519 | 23:42 | 87178B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | |
| 19 | EQC | 12519 | 00:20 | 87179DL | SAMPLE | SOIL | 50 ul Sample + 450 ul + 5 uL IS | 1/10 | | |
| 20 | EQC | 12519 | 00:58 | 87180B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | Out of 12 hours |
| 21 | EQC | 12519 | 01:36 | 87181B | SAMPLE | SOIL | 500 ul Sample + 5 uL IS | 1/1 | | Out of 12 hours |

| | IS1 | RT | IS2 | RT | IS3 | RT | IS4 | RT | IS5 | RT | IS6 | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Upper Limit | 670138 | 6.39 | 2305652 | 8.62 | 1196188 | 12.02 | 1771874 | 15.01 | 1310056 | 20 99 | 903642 | 24.06 |
| Lower Limit | 167535 | 5.39 | 576413 | 7.62 | 299047 | 11.02 | 442969 | 14.01 | 327514 | 19.99 | 225911 | 23.06 |

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*Re- Analysis Codes: A) Surrogates B) EICP's C) Dilution D) Carry-Over*

*Generated 7/17/98 11:37:53*

*Laidlaw Environmental Services / Encotec*

*GC/MS Semivolatile Analysis*

## *Internal Standard Area and Retention Time Summary*

***Reference Std.*** 50BG15X.D ***Date / Time Analyzed:*** 7/15/1998 13:05:00

***SDG No.***

***GC Column :*** DB-5MS CAP 30 M. 0.25 mm. 0.25u

***Instrument ID:*** 5971-024

| | *d4-1,4-Dichlorobenzene* | | | | *d8-Naphthalene* | | | | *d10-Acenapthene* | | | | *d10-Phenanthrene* | | | | *d12-Chrysene* | | | | *d12-Perylene* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area | # | Time | # | Area | # | Time | # | Area | # | Time | # | Area | # | Time | # | Area | # | Time | # | Area | # | Time | # |
| ***12 Hour Std.*** | 335069 | | 5.89 | | 1152826 | | 8.12 | | 598094 | | 11.52 | | 885937 | | 14.51 | | 655028 | | 20.49 | | 451821 | | 23.56 | |
| ***Upper Limit*** | 670138 | | 6.39 | | 2305652 | | 8.62 | | 1196188 | | 12.02 | | 1771874 | | 15.01 | | 1310056 | | 20.99 | | 903642 | | 24.06 | |
| ***Lower Limit*** | 167535 | | 5.39 | | 576413 | | 7.62 | | 299047 | | 11.02 | | 442969 | | 14.01 | | 327514 | | 19.99 | | 225911 | | 23.06 | |
| **Sample ID** | | | | | | | | | | | | | | | | | | | | | | | | |
| *200087061* | 394878 | | 5.89 | | 1458179 | | 8.12 | | 687760 | | 11.50 | | 1046160 | | 14.51 | | 879359 | | 20.50 | | 692942 | | 23.59 | |
| *200087061MS* | 275788 | | 5.88 | | 1090593 | | 8.13 | | 486690 | | 11.50 | | 728822 | | 14.51 | | 533208 | | 20.51 | | 429147 | | 23.60 | |
| *200087061MSD* | 322299 | | 5.89 | | 1200226 | | 8.12 | | 565005 | | 11.50 | | 850841 | | 14.53 | | 712459 | | 20.52 | | 548202 | | 23.61 | |

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# = Value outside of surrogate recovery limits
Recovery : 0 out of 36 outside QC windows

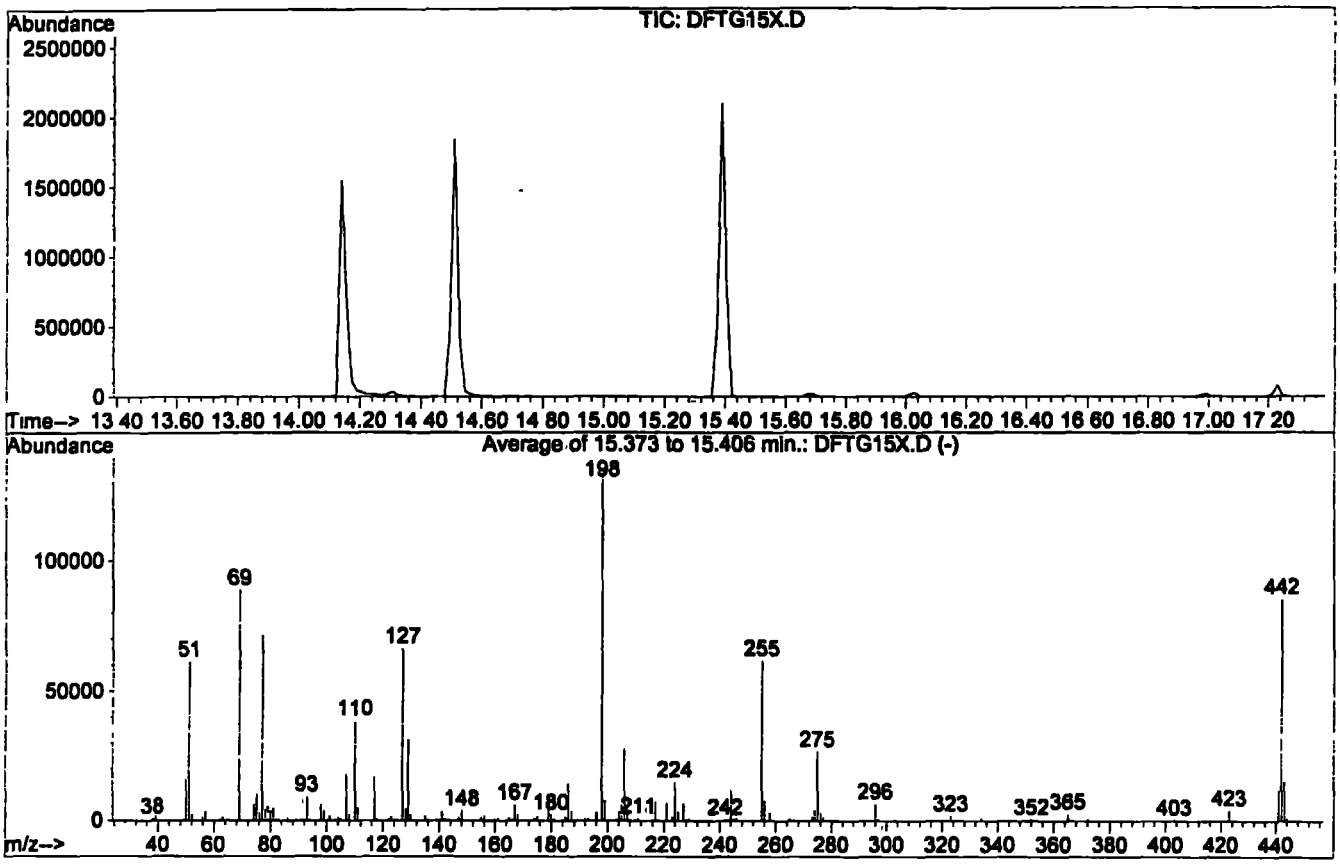
AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

# DFTPP - EPA TUNE

Data File : D:\DATA\DFTG15X.D
Acq On : 15 Jul 98 12:26
Sample :
Misc : 7-14-98

Vial: 1
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :




AutoFind: Scans 769, 770, 771; Background Corrected with Scan 765

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 46.0 | 61383 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 66.7 | 88928 | PASS |
| 70 | 69 | 0.00 | 2 | 0.2 | 191 | PASS |
| 127 | 198 | 40 | 60 | 49.8 | 66459 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 133339 | PASS |
| 199 | 198 | 5 | 9 | 6.1 | 8153 | PASS |
| 275 | 198 | 10 | 30 | 20.1 | 26834 | PASS |
| 365 | 198 | 1 | 100 | 2.1 | 2754 | PASS |
| 441 | 443 | 0.01 | 100 | 78.4 | 12134 | PASS |
| 442 | 198 | 40 | 100 | 64.2 | 85635 | PASS |
| 443 | 442 | 17 | 23 | 18.1 | 15480 | PASS |

DFTG15X.D BNAHSL.M Wed Jul 15 13:15:16 1998

Average of 15.373 to 15.406 min.: DFTG15X.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.00 | 188 | 60.95 | 687 | 77.05 | 71656 | 92.00 | 1174 |
| 38.00 | 877 | 62.00 | 707 | 78.05 | 4434 | 93.00 | 9417 |
| 39.00 | 5350 | 63.00 | 2114 | 78.95 | 5666 | 93.90 | 555 |
| 40.00 | 182 | 64.00 | 198 | 79.95 | 3968 | 96.00 | 241 |
| 49.10 | 502 | 65.00 | 823 | 80.95 | 5157 | 97.90 | 6472 |
| 50.05 | 16349 | 68.90 | 88928 | 81.95 | 990 | 98.95 | 4171 |
| 51.05 | 61383 | 70.00 | 191 | 82.95 | 991 | 100.05 | 203 |
| 52.05 | 2670 | 73.05 | 360 | 84.95 | 570 | 100.95 | 2258 |
| 54.95 | 197 | 74.05 | 6599 | 86.00 | 1302 | 102.95 | 517 |
| 55.95 | 1607 | 75.00 | 10522 | 87.00 | 336 | 103.95 | 1364 |
| 56.95 | 4153 | 76.05 | 3152 | 91.00 | 1033 | 104.95 | 1147 |

Average of 15.373 to 15.406 min.: DFTG15X.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 105.95 | 337 | 122.90 | 1920 | 136.95 | 734 | 153.95 | 555 |
| 106.95 | 17943 | 123.95 | 688 | 141.00 | 3549 | 154.95 | 1721 |
| 107.95 | 2608 | 124.90 | 554 | 142.00 | 1041 | 156.05 | 2197 |
| 109.95 | 38797 | 126.95 | 66459 | 143.00 | 556 | 156.95 | 345 |
| 110.95 | 5256 | 128.05 | 4862 | 145.90 | 399 | 157.95 | 388 |
| 111.95 | 380 | 128.95 | 31711 | 146.90 | 1713 | 158.95 | 180 |
| 112.90 | 181 | 129.95 | 2543 | 148.00 | 4022 | 159.95 | 779 |
| 116.00 | 255 | 130.95 | 354 | 149.00 | 494 | 160.95 | 1297 |
| 117.00 | 17468 | 133.95 | 521 | 151.00 | 297 | 161.95 | 231 |
| 117.90 | 936 | 134.95 | 2164 | 151.60 | 168 | 164.95 | 1278 |
| 122.00 | 1102 | 135.95 | 568 | 152.90 | 539 | 165.95 | 631 |

Average of 15.373 to 15.406 min.: DFTG15X.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 167.00 | 6314 | 179.90 | 2528 | 196.00 | 3369 | 210.95 | 1052 |
| 168.00 | 2716 | 181.05 | 1042 | 197.90 | 133339 | 214.95 | 168 |
| 169.00 | 281 | 183.95 | 209 | 198.90 | 8153 | 215.95 | 321 |
| 172.00 | 286 | 184.95 | 1694 | 200.00 | 361 | 216.95 | 7566 |
| 172.90 | 330 | 185.95 | 14375 | 201.50 | 521 | 217.95 | 710 |
| 174.00 | 929 | 186.95 | 4029 | 202.95 | 603 | 220.95 | 6946 |
| 175.00 | 1801 | 188.05 | 559 | 204.00 | 3661 | 221.90 | 231 |
| 176.00 | 490 | 188.95 | 756 | 205.00 | 6299 | 223.00 | 1635 |
| 176.90 | 633 | 190.85 | 252 | 206.00 | 27985 | 224.00 | 15130 |
| 177.90 | 203 | 191.95 | 1022 | 207.00 | 3605 | 225.00 | 3571 |
| 178.90 | 4166 | 192.95 | 1114 | 207.95 | 705 | 226.00 | 258 |

Average of 15.373 to 15.406 min.: DFTG15X.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 226.90 | 6917 | 245.00 | 1572 | 273.95 | 4352 | 323.05 | 2075 |
| 228.00 | 799 | 245.95 | 2275 | 274.95 | 26834 | 324.00 | 415 |
| 228.95 | 1029 | 246.95 | 211 | 276.00 | 3406 | 326.90 | 424 |
| 231.00 | 343 | 249.00 | 207 | 277.00 | 1747 | 334.00 | 1348 |
| 233.90 | 227 | 255.00 | 61843 | 292.95 | 210 | 345.95 | 182 |
| 234.95 | 224 | 256.00 | 8134 | 295.95 | 6765 | 352.00 | 733 |
| 236.95 | 236 | 256.95 | 556 | 297.00 | 919 | 352.95 | 465 |
| 240.95 | 169 | 257.95 | 3258 | 303.00 | 669 | 353.95 | 575 |
| 241.95 | 700 | 259.00 | 324 | 314.00 | 342 | 364.95 | 2754 |
| 242.95 | 720 | 264.95 | 1124 | 314.95 | 582 | 365.90 | 174 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 243.95 | 11931 | 272.95 | 1427 | 316.00 | 237 | 372.05 | 1041 |

Average of 15.373 to 15.406 min.: DFTG15X.D

Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 401.95 | 390 | | | | | | |
| 403.00 | 610 | | | | | | |
| 421.00 | 280 | | | | | | |
| 422.00 | 504 | | | | | | |
| 423.00 | 4246 | | | | | | |
| 424.00 | 794 | | | | | | |
| 441.00 | 12134 | | | | | | |
| 442.00 | 85635 | | | | | | |
| 443.00 | 15480 | | | | | | |
| 444.00 | 1211 | | | | | | |

Quantitation Report (Not Reviewed)

Data File : D:\DATA\DFTG15X.D
Acq On : 15 Jul 98 12:26
Sample :
Misc : 7-14-98
Quant Time: Jul 15 13:12 1998

Vial: 1
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: DFTPP.RES

Quant Method : C:\HPCHEM\1\METHODS\DFTPP.M
Title :
Last Update : Mon Feb 23 20:23:22 1998
Response via : Continuing Cal File: D:\DATA\50BG07IX.D
DataAcq Meth : BNAHSL

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.88 | 152 | 484485 | 40.00 ng | -0.11 |
| 2) d8-Naphthalene (I) | 8.13 | 136 | 1738534 | 40.00 ng | -0.09 |
| 3) d10-Acenaphthene (I) | 11.50 | 164 | 785772 | 40.00 ng | -0.09 |
| 5) d10-Phenanthrene (I) | 14.51 | 188 | 1108433 | 40.00 ng | -0.09 |
| 10) d12-Chrysene (I) | 20.49 | 240 | 1019235 | 40.00 ng | -0.08 |
| 11) d12-Perylene (I) | 23.56 | 264 | 749768 | 40.00 ng | -0.08 |

System Monitoring Compounds

| Target Compounds | | | | | Qvalue |
|---|---|---|---|---|---|
| 4) Pentachlorophenol | 14.14 | 266 | 322831 | 52.23 ng | 99 |
| 6) Benzidine | 17.62 | 184 | 1055606 | 46.87 ng | 94 |
| 7) 4,4'-DDE | 18.08 | 246 | 6833 | 72.18 ng | 100 |
| 8) 4,4'-DDD | 18.85 | 235 | 36325 | 100.64 ng | 100 |
| 9) 4,4'-DDT | 19.54 | 235 | 811359 | 73.17 ng | 100 |

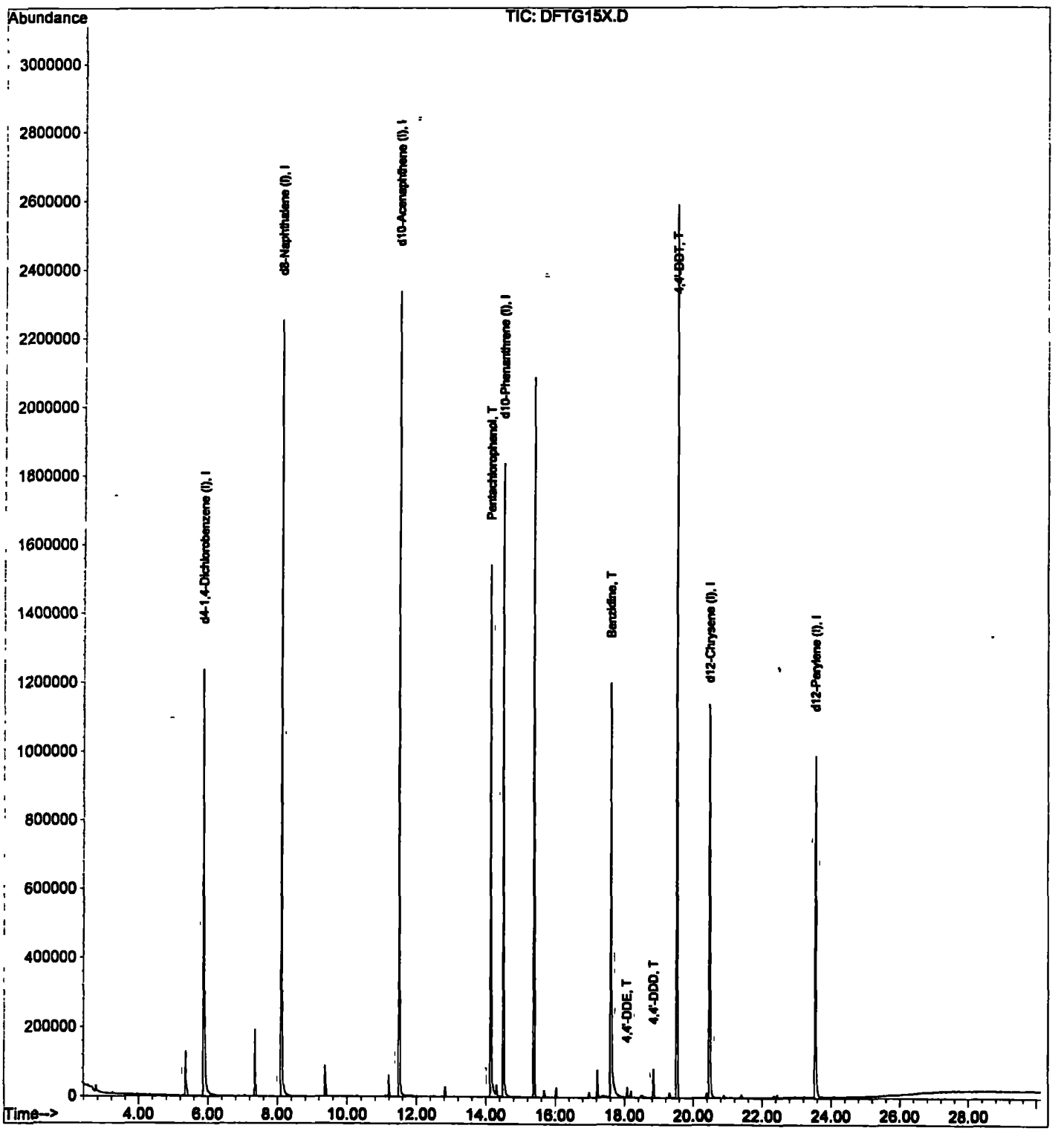
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\DATA\DFTG15X.D
Acq On : 15 Jul 98 12:26
Sample :
Misc : 7-14-98
Quant Time: Jul 15 13:12 1998

Vial: 1
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: DFTPP.RES

Method : C:\HPCHEM\1\METHODS\DFTPP.M
Title :
Last Update : Mon Feb 23 20:23:22 1998
Response via : Single Level Calibration



**ENCOTEC** GC/MS SEMIVOLATILE 5 WAY CALIBRATION

Instrument ID: 5971-024
Initial Calibration Date: 7/8/98
Continuing Calibration Date: 7/15/98
Continuing File Name: 50BG15X.D

| STD | FILE: | STD | FILE: | STD | FILE: |
|---|---|---|---|---|---|
| 160 | 160BXG08.D | 80 | 80BXG08.D | 10 | 10BXG08.D |
| 120 | 120BXG08.D | 50 | 50BXG08.D | | |

| Compound | 10 | 50 | 80 | 120 | 160 | RF avg. | % RSD | RF Cont | Cont Rec | % Drift | CCC/SPCC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Phenol | 1.974 | 1.794 | 1.744 | 1.469 | 1.495 | 1.695 | 13 | | 51.60 | 3.2 | * |
| 1,4-Dichlorobenzene | 1.736 | 1.704 | 1.541 | 1.482 | 1.441 | 1.581 | 8.4 | | 52.99 | 6.0 | * |
| n-Nitroso-di-n-propylamine | 1.075 | 0.959 | 0.967 | 0.791 | 0.761 | 0.911 | | 0.874 | | | ** |
| 2-Nitrophenol | 0.240 | 0.234 | 0.256 | 0.236 | 0.267 | 0.246 | 5.8 | | 48.61 | 2.8 | * |
| 2,4-Dichlorophenol | 0.305 | 0.298 | 0.299 | 0.272 | 0.266 | 0.288 | 6.2 | | 50.73 | 1.5 | * |
| Hexachlorobutadiene | 0.186 | 0.193 | 0.178 | 0.172 | 0.155 | 0.177 | 8.2 | | 54.04 | 8.1 | * |
| 4-Chloro-3-methylphenol | 0.306 | 0.297 | 0.314 | 0.298 | 0.295 | 0.302 | 2.6 | | 49.61 | 0.78 | * |
| Hexachlorocyclopentadiene | 0.128 | 0.195 | 0.273 | 0.312 | 0.345 | 0.250 | | 0.161 | | | ** |
| 2,4,6-Trichlorophenol | 0.359 | 0.413 | 0.384 | 0.368 | 0.371 | 0.379 | 5.5 | | 50.45 | 0.89 | * |
| Acenaphthene | 1.209 | 1.196 | 1.099 | 0.994 | 1.052 | 1.110 | 8.3 | | 51.61 | 3.2 | * |
| 2,4-Dinitrophenol | -------- | 0.122 | 0.170 | 0.160 | 0.199 | 0.163 | | 0.082 | | | ** |
| 4-Nitrophenol | -------- | 0.141 | 0.165 | 0.152 | 0.183 | 0.160 | | 0.134 | | | ** |
| n-Nitrosodiphenylamine | 0.610 | 0.581 | 0.583 | 0.564 | 0.451 | 0.558 | 11 | | 50.42 | 0.85 | * |
| Pentachlorophenol | -------- | 0.151 | 0.178 | 0.164 | 0.173 | 0.167 | 7.1 | | 45.11 | 9.8 | * |
| Fluoranthene | 1.246 | 1.142 | 1.195 | 1.147 | 1.012 | 1.148 | 7.6 | | 51.17 | 2.3 | * |
| Di-n-octyl phthalate | 1.974 | 2.063 | 2.147 | 2.124 | 1.813 | 2.024 | 6.7 | | 49.90 | 0.19 | * |
| Benzo(a) pyrene | 1.420 | 1.469 | 1.462 | 1.348 | 1.306 | 1.401 | 5.1 | | 55.33 | 11 | * |

* = CCC - Calibration Check Compound: %RSD < 30 for initial calibration; % Diff. < 20.0 for continuing calibration.

** = SPCC - System Performance Check Compound: Minimum avg. RF > .050 for initial calibration, RF > 0.050 for continuing calibration

% RSD = Relative Standard Deviation

% Drift = (Cont. Cal. Std Conc. - Recovery Conc.) / Cont. Cal. Std. Conc. Rec. x 100

EICPS:

| IS1 | RT1 | IS2 | RT2 | IS3 | RT3 | IS4 | RT4 | IS5 | RT5 | IS6 | RT6 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 670138 | 6.39 | 2305652 | 8.62 | 1196188 | 12.02 | 1771874 | 15.01 | 1310056 | 20.99 | 903642 | 24.06 |
| 167535 | 5.39 | 576413 | 7.62 | 299047 | 11.02 | 442969 | 14.01 | 327514 | 19.99 | 225911 | 23.06 |

# Evaluate Continuing Calibration Report

Data File : D:\DATA\50BG15X.D
Acq On : 15 Jul 98 13:05
Sample :
Misc : 7-14-98

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | d4-1,4-Dichlorobenzene (I) | 1.000 | 1.000 | 0.0 | 77 | 0.03 |
| 2 | T | Pyridine | 1.277 | 1.338 | -4.8 | 78 | 0.01 |
| 3 | S | 2-Fluorophenol (S) | 1.343 | 1.275 | 5.1 | 68 | 0.00 |
| 4 | T | Aniline | 1.467 | 1.373 | 6.4 | 74 | 0.01 |
| 5 | S | d4-2-Chlorophenol (S) | 1.339 | 1.393 | -4.0 | 76 | 0.01 |
| 6 | T | 2-Chlorophenol | 1.352 | 1.372 | -1.5 | 77 | 0.01 |
| 7 | T | bis(2-Chloroethyl) ether | 1.441 | 1.464 | -1.6 | 71 | 0.00 |
| 8 | S | d5-Phenol (S) | 1.606 | 1.589 | 1.1 | 72 | 0.00 |
| 9 | T | Phenol | 1.695 | 1.750 | -3.2 | 75 | -0.02 |
| 10 | T | 1,3-Dichlorobenzene | 1.620 | 1.702 | -5.1 | 77 | 0.03 |
| 11 | T | 1,4-Dichlorobenzene | 1.581 | 1.675 | -5.9 | 76 | 0.01 |
| 12 | S | d4-1,2-Dichlorobenzene (S) | 0.987 | 1.009 | -2.2 | 74 | 0.01 |
| 13 | T | 1,2-Dichlorobenzene | 1.437 | 1.563 | -8.8 | 81 | 0.03 |
| 14 | T | Benzyl alcohol | 0.675 | 0.651 | 3.6 | 72 | 0.00 |
| 15 | T | bis(2-Chloroisopropyl) ethe | 1.659 | 1.619 | 2.4 | 72 | 0.03 |
| 16 | T | 2-Methylphenol | 1.052 | 1.036 | 1.5 | 75 | 0.01 |
| 17 | T | Hexachloroethane | 0.636 | 0.665 | -4.6 | 76 | 0.03 |
| 18 | T | n-Nitroso-di-n-propylamine | 0.911 | 0.874 | 4.1 | 70 | 0.00 |
| 19 | T | 3-Methylphenol | 2.100 | 2.042 | 2.8 | 73 | -0.02 |
| 20 | T | 4-Methylphenol | 2.100 | 2.042 | 2.8 | 73 | -0.02 |
| 21 | I | d8-Naphthalene (I) | 1.000 | 1.000 | 0.0 | 76 | 0.03 |
| 22 | S | d5-Nitrobenzene (S) | 0.423 | 0.425 | -0.5 | 73 | 0.03 |
| 23 | T | Nitrobenzene | 0.423 | 0.397 | 6.1 | 69 | 0.01 |
| 24 | T | Isophorone | 0.782 | 0.847 | -8.3 | 80 | 0.00 |
| 25 | T | 2-Nitrophenol | 0.246 | 0.240 | 2.4 | 77 | 0.01 |
| 26 | T | 2,4-Dimethylphenol | 0.279 | 0.255 | 8.6 | 71 | 0.01 |
| 27 | T | bis(2-chloroethoxy) methane | 0.453 | 0.450 | 0.7 | 68 | 0.01 |
| 28 | T | 2,4-Dichlorophenol | 0.288 | 0.292 | -1.4 | 74 | 0.01 |
| 29 | T | 1,2,4-Trichlorobenzene | 0.306 | 0.318 | -3.9 | 77 | 0.03 |
| 30 | T | Naphthalene | 0.977 | 1.108 | -13.4 | 83 | 0.03 |
| 31 | T | Benzoic acid | 0.152 | 0.100 | 34.2# | 78 | -0.17 |
| 32 | T | 4-Chloroaniline | 0.388 | 0.380 | 2.1 | 70 | 0.03 |
| 33 | T | Hexachlorobutadiene | 0.177 | 0.191 | -7.9 | 75 | 0.04 |
| 34 | T | 2-Methylnaphthalene | 0.671 | 0.684 | -1.9 | 75 | 0.01 |
| 35 | T | 4-Chloro-3-methylphenol | 0.302 | 0.300 | 0.7 | 76 | 0.01 |
| 36 | I | d10-Acenapthene (I) | 1.000 | 1.000 | 0.0 | 80 | 0.04 |
| 37 | T | Hexachlorocyclopentadiene | 0.250 | 0.161 | 35.6# | 66 | 0.03 |
| 38 | T | 2,4,6-Trichlorophenol | 0.379 | 0.382 | -0.8 | 75 | 0.03 |
| 39 | T | 2,4,5-Trichlorophenol | 0.408 | 0.400 | 2.0 | 79 | 0.01 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : D:\DATA\50BG15X.D
Acq On : 15 Jul 98 13:05
Sample :
Misc : 7-14-98

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 40 | S | 2-Fluorobiphenyl (S) | 1.227 | 1.191 | 2.9 | 78 | 0.03 |
| 41 | T | 2-Chloronapthalene | 1.161 | 1.261 | -8.6 | 78 | 0.03 |
| 42 | T | 2-Nitroaniline | 0.412 | 0.384 | 6.8 | 71 | 0.00 |
| 43 | T | Acenaphthylene | 1.877 | 2.020 | -7.6 | 77 | 0.03 |
| 44 | T | Dimethylphthalate | 1.390 | 1.483 | -6.7 | 85 | 0.01 |
| 45 | T | 2,6-Dinitrotoluene | 0.329 | 0.317 | 3.6 | 76 | 0.00 |
| 46 | T | Acenaphthene | 1.110 | 1.145 | -3.2 | 77 | 0.01 |
| 47 | T | 3-Nitroaniline | 0.328 | 0.248 | 24.4 | 61 | 0.00 |
| 48 | T | 2,4-Dinitrophenol | 0.163 | 0.082 | 49.7# | 54 | 0.01 |
| 49 | T | Dibenzofuran | 1.577 | 1.583 | -0.4 | 79 | 0.03 |
| 50 | T | 2,4-Dinitrotoluene | 0.405 | 0.425 | -4.9 | 84 | 0.00 |
| 51 | T | 4-Nitrophenol | 0.160 | 0.134 | 16.3 | 76 | -0.02 |
| 52 | T | Fluorene | 1.251 | 1.276 | -2.0 | 79 | 0.03 |
| 53 | T | 4-Chlorophenyl phenyl ether | 0.566 | 0.609 | -7.6 | 78 | 0.03 |
| 54 | T | Diethylphthalate | 1.516 | 1.733 | -14.3 | 87 | 0.01 |
| 55 | T | 4-Nitroaniline | 0.272 | 0.196 | 27.9# | 58 | -0.04 |
| 56 | I | d10-Phenanthrene (I) | 1.000 | 1.000 | 0.0 | 80 | 0.03 |
| 57 | T | 4,6-Dinitro-2-methylphenol | 0.159 | 0.139 | 12.6 | 80 | -0.02 |
| 58 | T | n-Nitrosodiphenylamine | 0.558 | 0.562 | -0.7 | 77 | 0.01 |
| 59 | S | 2,4,6-Tribromophenol (S) | 0.134 | 0.133 | 0.7 | 78 | 0.01 |
| 60 | T | Octachlorocyclopentene | 0.092 | 0.080 | 13.0 | 72 | 0.03 |
| 61 | T | 4-Bromophenyl phenyl ether | 0.250 | 0.244 | 2.4 | 79 | 0.03 |
| 62 | T | Hexachlorobenzene | 0.211 | 0.214 | -1.4 | 76 | 0.03 |
| 63 | T | Pentachlorophenol | 0.167 | 0.150 | 10.2 | 79 | 0.03 |
| 64 | T | Phenanthrene | 1.067 | 1.093 | -2.4 | 84 | 0.01 |
| 65 | T | Anthracene | 1.051 | 1.061 | -1.0 | 76 | 0.01 |
| 66 | T | Carbazole | 0.690 | 0.495 | 28.3# | 58 | 0.03 |
| 67 | T | Di-n-butyl phthalate | 1.737 | 1.890 | -8.8 | 88 | 0.01 |
| 68 | T | Fluoranthene | 1.148 | 1.175 | -2.4 | 82 | 0.01 |
| 69 | I | d12-Chrysene (I) | 1.000 | 1.000 | 0.0 | 76 | 0.01 |
| 70 | T | Benzidine | 0.006 | 0.000 | 100.0# | 0# | -17.56# |
| 71 | T | Pyrene | 1.446 | 1.546 | -6.9 | 81 | 0.01 |
| 72 | S | d14-Terphenyl (S) | 0.921 | 1.033 | -12.2 | 85 | 0.03 |
| 73 | T | Butyl benzyl phthalate | 0.944 | 0.968 | -2.5 | 79 | 0.01 |
| 74 | T | Benzo(a) anthracene | 1.229 | 1.256 | -2.2 | 79 | 0.01 |
| 75 | T | Chrysene | 0.900 | 1.001 | -11.2 | 86 | 0.01 |
| 76 | T | 3,3'-Dichlorobenzidine | 0.257 | 0.217 | 15.6 | 73 | 0.01 |
| 77 | T | bis(2-Ethylhexyl) phthalate | 1.250 | 1.286 | -2.9 | 78 | 0.03 |
| 78 | T | Di-n-octyl phthalate | 2.024 | 2.020 | 0.2 | 75 | 0.03 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : D:\DATA\50BG15X.D
Acq On : 15 Jul 98 13:05
Sample :
Misc : 7-14-98

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 79 | I | d12-Perylene (I) | 1.000 | 1.000 | 0.0 | 83 | 0.03 |
| 80 | T | Benzo(b) fluoranthene | 1.658 | 1.618 | 2.4 | 80 | 0.00 |
| 81 | T | Benzo(k) fluoranthene | 1.400 | 1.582 | -13.0 | 83 | 0.00 |
| 82 | T | Benzo(a) pyrene | 1.401 | 1.550 | -10.6 | 88 | 0.00 |
| 83 | T | Indeno (1,2,3-cd) pyrene | 1.338 | 1.703 | -27.3# | 101 | 0.01 |
| 84 | T | Dibenz (ah) anthracene | 0.987 | 1.245 | -26.1# | 100 | 0.01 |
| 85 | T | Benzo (ghi) perylene | 1.051 | 1.396 | -32.8# | 106 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\DATA\50BG15X.D
Acq On : 15 Jul 98 13:05
Sample :
Misc : 7-14-98
Quant Time: Jul 15 13:56 1998

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.89 | 152 | 335069 | 40.00 | ng | 0.03 |
| 21) d8-Naphthalene (I) | 8.12 | 136 | 1152826 | 40.00 | ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.52 | 164 | 598094 | 40.00 | ng | 0.04 |
| 56) d10-Phenanthrene (I) | 14.51 | 188 | 885937 | 40.00 | ng | 0.03 |
| 69) d12-Chrysene (I) | 20.49 | 240 | 655028 | 40.00 | ng | 0.01 |
| 79) d12-Perylene (I) | 23.56 | 264 | 451821 | 40.00 | ng | 0.03 |
| System Monitoring Compounds | | | | | | |
| 3) 2-Fluorophenol (S) | 3.97 | 112 | 534015 | 47.47 | ng | 0.00 |
| Surrogate Spike 150.000 | | | Recovery = 31.65% | | | |
| 5) d4-2-Chlorophenol (S) | 5.52 | 132 | 583284 | 52.01 | ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = 34.67% | | | |
| 8) d5-Phenol (S) | 5.35 | 99 | 665409 | 49.45 | ng | 0.00 |
| Surrogate Spike 150.000 | | | Recovery = 32.97% | | | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.13 | 152 | 422404 | 51.09 | ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = 51.09% | | | |
| 22) d5-Nitrobenzene (S) | 6.85 | 82 | 612843 | 50.23 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 50.23% | | | |
| 40) 2-Fluorobiphenyl (S) | 10.25 | 172 | 890694 | 48.54 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 48.54% | | | |
| 59) 2,4,6-Tribromophenol (S) | 13.09 | 330 | 147260 | 49.63 | ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = 33.09% | | | |
| 72) d14-Terphenyl (S) | 18.19 | 244 | 846041 | 56.12 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 56.12% | | | |

| Target Compounds | | | | | | | Qvalue |
|---|---|---|---|---|---|---|---|
| 2) Pyridine | 2.56 | 79 | 560209 | 52.39 | ng | | 92 |
| 4) Aniline | 5.38 | 93 | 575000 | 47.93 | ng | | 95 |
| 6) 2-Chlorophenol | 5.55 | 128 | 574558 | 50.73 | ng | | 94 |
| 7) bis(2-Chloroethyl) ether | 5.50 | 93 | 613227 | 50.79 | ng | # | 76 |
| 9) Phenol | 5.37 | 94 | 732828 | 51.60 | ng | # | 86 |
| 10) 1,3-Dichlorobenzene | 5.79 | 146 | 712918 | 52.52 | ng | | 97 |
| 11) 1,4-Dichlorobenzene | 5.91 | 146 | 701682 | 52.99 | ng | | 95 |
| 13) 1,2-Dichlorobenzene | 6.16 | 146 | 654791 | 54.40 | ng | | 97 |
| 14) Benzyl alcohol | 6.16 | 108 | 272833 | 48.24 | ng | # | 84 |
| 15) bis(2-Chloroisopropyl) eth | 6.40 | 45 | 678204 | 48.80 | ng | # | 66 |
| 16) 2-Methylphenol | 6.36 | 108 | 433852 | 49.21 | ng | | 94 |
| 17) Hexachloroethane | 6.72 | 117 | 278590 | 52.31 | ng | | 91 |
| 18) n-Nitroso-di-n-propylamine | 6.62 | 70 | 365951 | 47.97 | ng | # | 93 |
| 19) 3-Methylphenol | 6.63 | 108 | 427674 | 24.32 | ng | | 99 |
| 20) 4-Methylphenol | 6.63 | 108 | 427674 | 24.32 | ng | | 99 |
| 23) Nitrobenzene | 6.89 | 77 | 571742 | 46.93 | ng | | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\50BG15X.D
Acq On : 15 Jul 98 13:05
Sample :
Misc : 7-14-98
Quant Time: Jul 15 13:56 1998

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|
| 24) Isophorone | 7.33 | 82 | 1220469 | 54.16 ng | | 98 |
| 25) 2-Nitrophenol | 7.45 | 139 | 345338 | 48.61 ng | | 90 |
| 26) 2,4-Dimethylphenol | 7.60 | 107 | 367885 | 44.52 ng | | 93 |
| 27) bis(2-chloroethoxy) methan | 7.77 | 93 | 648711 | 49.71 ng | | 99 |
| 28) 2,4-Dichlorophenol | 7.90 | 162 | 421345 | 50.73 ng | | 95 |
| 29) 1,2,4-Trichlorobenzene | 8.04 | 180 | 458437 | 51.92 ng | | 97 |
| 30) Naphthalene | 8.17 | 128 | 1597187 | 56.74 ng | | 98 |
| 31) Benzoic acid | 7.87 | 122 | 143653m | 32.71 ng | | 0 |
| 32) 4-Chloroaniline | 8.32 | 127 | 547055 | 48.97 ng | | 95 |
| 33) Hexachlorobutadiene | 8.44 | 225 | 275588 | 54.04 ng | | 100 |
| 34) 2-Methylnaphthalene | 9.49 | 142 | 985180 | 50.96 ng | | 98 |
| 35) 4-Chloro-3-methylphenol | 9.30 | 107 | 432131 | 49.61 ng | | 90 |
| 37) Hexachlorocyclopentadiene | 9.81 | 237 | 120194 | 32.09 ng | # | 97 |
| 38) 2,4,6-Trichlorophenol | 10.08 | 196 | 285885 | 50.45 ng | | 99 |
| 39) 2,4,5-Trichlorophenol | 10.13 | 196 | 298889 | 49.05 ng | | 98 |
| 41) 2-Chloronapthalene | 10.44 | 162 | 942503 | 54.30 ng | # | 93 |
| 42) 2-Nitroaniline | 10.67 | 65 | 286752 | 46.50 ng | | 89 |
| 43) Acenaphthylene | 11.23 | 152 | 1509874 | 53.80 ng | | 99 |
| 44) Dimethylphthalate | 11.11 | 163 | 1108515 | 53.33 ng | | 99 |
| 45) 2,6-Dinitrotoluene | 11.20 | 165 | 237289 | 48.25 ng | | 97 |
| 46) Acenaphthene | 11.57 | 153 | 856382 | 51.61 ng | | 98 |
| 47) 3-Nitroaniline | 11.50 | 138 | 185491 | 37.77 ng | # | 82 |
| 48) 2,4-Dinitrophenol | 11.72 | 184 | 61068 | 25.12 ng | | 97 |
| 49) Dibenzofuran | 11.92 | 168 | 1183281 | 50.19 ng | | 90 |
| 50) 2,4-Dinitrotoluene | 11.97 | 165 | 317965 | 52.45 ng | # | 87 |
| 51) 4-Nitrophenol | 11.92 | 109 | 99873 | 41.62 ng | # | 55 |
| 52) Fluorene | 12.60 | 166 | 953938 | 50.98 ng | | 98 |
| 53) 4-Chlorophenyl phenyl ethe | 12.66 | 204 | 455643 | 53.87 ng | | 98 |
| 54) Diethylphthalate | 12.53 | 149 | 1295416 | 57.15 ng | | 97 |
| 55) 4-Nitroaniline | 12.72 | 138 | 146316 | 35.99 ng | # | 84 |
| 57) 4,6-Dinitro-2-methylphenol | 12.77 | 198 | 153637 | 43.60 ng | # | 47 |
| 58) n-Nitrosodiphenylamine | 12.92 | 169 | 622677 | 50.42 ng | | 99 |
| 60) Octachlorocyclopentene | 13.09 | 307 | 88661 | 43.30 ng | | 97 |
| 61) 4-Bromophenyl phenyl ether | 13.64 | 248 | 269682 | 48.76 ng | | 99 |
| 62) Hexachlorobenzene | 13.70 | 284 | 237146 | 50.83 ng | # | 91 |
| 63) Pentachlorophenol | 14.15 | 266 | 166577 | 45.11 ng | | 98 |
| 64) Phenanthrene | 14.56 | 178 | 1210290 | 51.24 ng | | 99 |
| 65) Anthracene | 14.67 | 178 | 1174873 | 50.46 ng | | 100 |
| 66) Carbazole | 15.08 | 167 | 548374 | 35.86 ng | | 98 |
| 67) Di-n-butyl phthalate | 16.03 | 149 | 2092596 | 54.38 ng | | 98 |
| 68) Fluoranthene | 17.17 | 202 | 1301656 | 51.17 ng | | 92 |
| 71) Pyrene | 17.66 | 202 | 1266135 | 53.47 ng | | 92 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\DATA\50BG15X.D
Acq On : 15 Jul 98 13:05
Sample :
Misc : 7-14-98
Quant Time: Jul 15 13:56 1998

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|
| 73) Butyl benzyl phthalate | 19.44 | 149 | 792347 | 51.24 ng | | 92 |
| 74) Benzo(a) anthracene | 20.47 | 228 | 1028078 | 51.07 ng | | 98 |
| 75) Chrysene | 20.55 | 228 | 819907 | 55.64 ng | | 98 |
| 76) 3,3'-Dichlorobenzidine | 20.52 | 252 | 177702 | 42.19 ng | | 99 |
| 77) bis(2-Ethylhexyl) phthalat | 20.89 | 149 | 1053198 | 51.45 ng | | 93 |
| 78) Di-n-octyl phthalate | 22.36 | 149 | 1654191 | 49.90 ng | | 99 |
| 80) Benzo(b) fluoranthene | 22.82 | 252 | 913645m | 48.79 ng | | 99 |
| 81) Benzo(k) fluoranthene | 22.87 | 252 | 893506 | 56.49 ng | | 97 |
| 82) Benzo(a) pyrene | 23.44 | 252 | 875505 | 55.33 ng | | 97 |
| 83) Indeno (1,2,3-cd) pyrene | 25.54 | 276 | 962050 | 63.66 ng | # | 80 |
| 84) Dibenz (ah) anthracene | 25.60 | 278 | 703137 | 63.08 ng | | 96 |
| 85) Benzo (ghi) perylene | 25.98 | 276 | 788307 | 66.39 ng | | 97 |

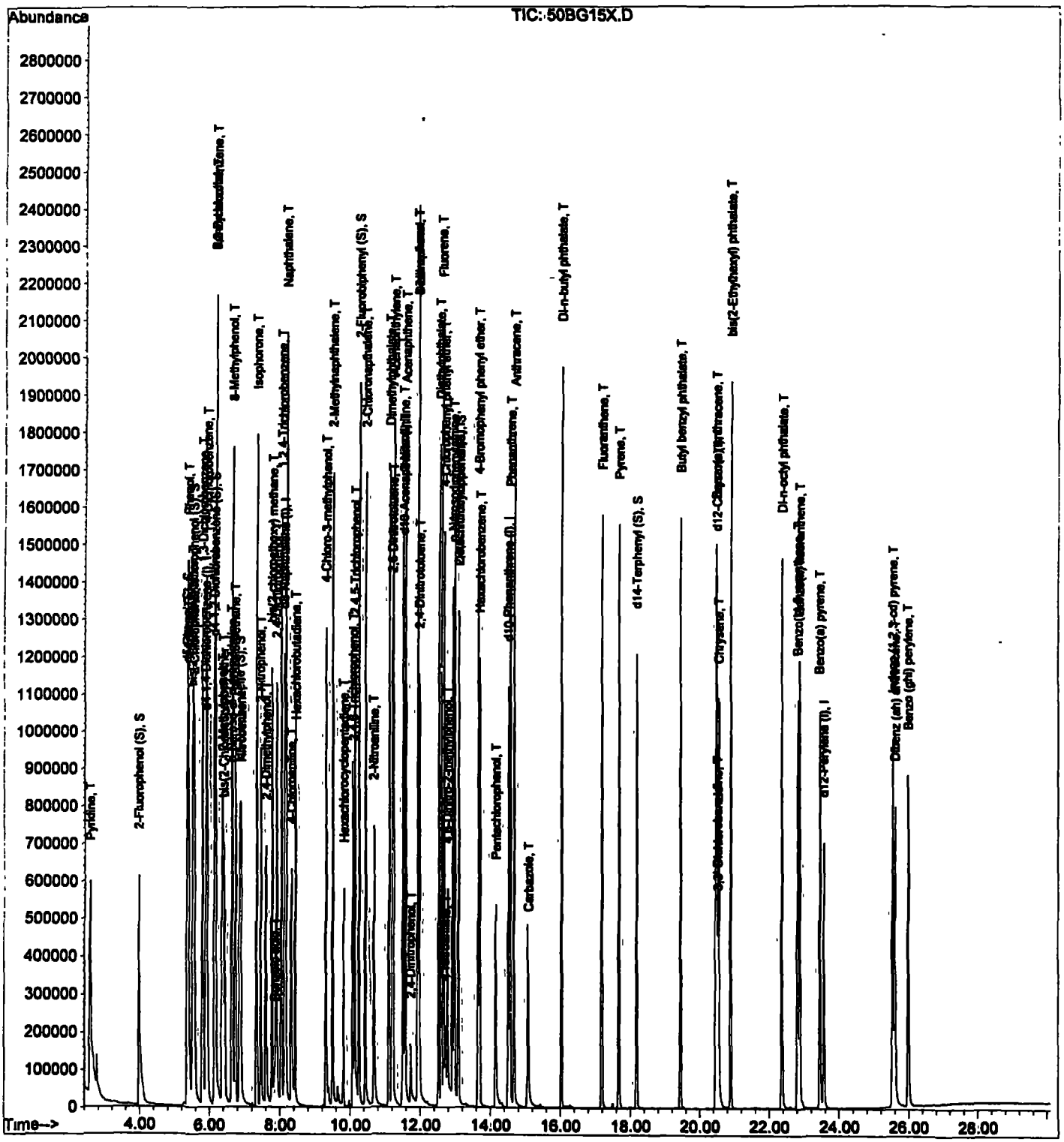
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\DATA\50BG15X.D
Acq On : 15 Jul 98 13:05
Sample :
Misc : 7-14-98
Quant Time: Jul 15 13:56 1998

Vial: 2
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Multiple Level Calibration



Quantitation Report (Not Reviewed)

Data File : D:\DATA\87061DL1.D
Acq On : 15 Jul 98 14:21
Sample : 1/4
Misc : 7-14-98
Quant Time: Jul 15 16:23 1998

Vial: 4
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

x4 EICP's good

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.89 | 152 | 394878 | 40.00 ng | 0.03 |
| 21) d8-Naphthalene (I) | 8.12 | 136 | 1458179 | 40.00 ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.50 | 164 | 687760 | 40.00 ng | 0.03 |
| 56) d10-Phenanthrene (I) | 14.51 | 188 | 1046160 | 40.00 ng | 0.03 |
| 69) d12-Chrysene (I) | 20.50 | 240 | 879359 | 40.00 ng | 0.03 |
| 79) d12-Perylene (I) | 23.59 | 264 | 692942 | 40.00 ng | 0.06 |
| **System Monitoring Compounds** | | | | | |
| 3) 2-Fluorophenol (S) | 4.00 | 112 | 366156 | 27.62 ng | 0.03 |
| Surrogate Spike 150.000 | | | Recovery = | 18.41% | |
| 5) d4-2-Chlorophenol (S) | 5.52 | 132 | 417428 | 31.59 ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = | 21.06% | |
| 8) d5-Phenol (S) | 5.35 | 99 | 488788 | 30.82 ng | 0.00 |
| Surrogate Spike 150.000 | | | Recovery = | 20.55% | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.13 | 152 | 199659 | 20.49 ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = | 20.49% | |
| 22) d5-Nitrobenzene (S) | 6.84 | 82 | 323318 | 20.95 ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = | 20.95% | |
| 40) 2-Fluorobiphenyl (S) | 10.25 | 172 | 482777 | 22.88 ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = | 22.88% | |
| 59) 2,4,6-Tribromophenol (S) | 13.09 | 330 | 115772 | 33.04 ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = | 22.03% | |
| 72) d14-Terphenyl (S) | 18.19 | 244 | 394817 | 19.51 ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = | 19.51% | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 26) 2,4-Dimethylphenol | 7.60 | 107 | 748 | 5.38 ng | # | 72 |
| 30) Naphthalene | 8.16 | 128 | 269093 | 7.56 ng | | 96 |
| 34) 2-Methylnaphthalene | 9.49 | 142 | 222135 | 9.08 ng | | 98 |
| 43) Acenaphthylene | 11.21 | 152 | 214671 | 6.65 ng | | 97 |
| 45) 2,6-Dinitrotoluene | 11.50 | 165 | 89718 | 15.87 ng | # | 40 |
| 49) Dibenzofuran | 11.92 | 168 | 69391 | 2.56 ng | # | 85 |
| 64) Phenanthrene | 14.56 | 178 | 329369 | 11.81 ng | | 99 |
| 65) Anthracene | 14.68 | 178 | 121215 | 4.41 ng | | 95 |
| 66) Carbazole | 15.08 | 167 | 44605 | 2.47 ng | # | 92 |
| 68) Fluoranthene | 17.19 | 202 | 1501702 | 50.00 ng | | 96 |
| 71) Pyrene | 17.68 | 202 | 1511403 | 47.54 ng | | 95 |
| 74) Benzo(a) anthracene | 20.49 | 228 | 1225019m | 45.33 ng | | 95 |
| 75) Chrysene | 20.57 | 228 | 1214565 | 61.40 ng | | 98 |
| 80) Benzo(b) fluoranthene | 22.85 | 252 | 2046261m | 71.25 ng | | 97 |
| 81) Benzo(k) fluoranthene | 22.90 | 252 | 535807m | 22.09 ng | | 96 |
| 82) Benzo(a) pyrene | 23.48 | 252 | 888270 | 36.60 ng | | 98 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : D:\DATA\87061DL1.D
Acq On : 15 Jul 98 14:21
Sample : 1/4
Misc : 7-14-98
Quant Time: Jul 15 16:23 1998

Vial: 4
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|
| 83) Indeno (1,2,3-cd) pyrene | 25.55 | 276 | 697732 | 30.11 ng | # | 63 |
| 84) Dibenz (ah) anthracene | 25.60 | 278 | 212280m | 12.42 ng | | 93 |
| 85) Benzo (ghi) perylene | 26.01 | 276 | 594964 | 32.67 ng | | 96 |

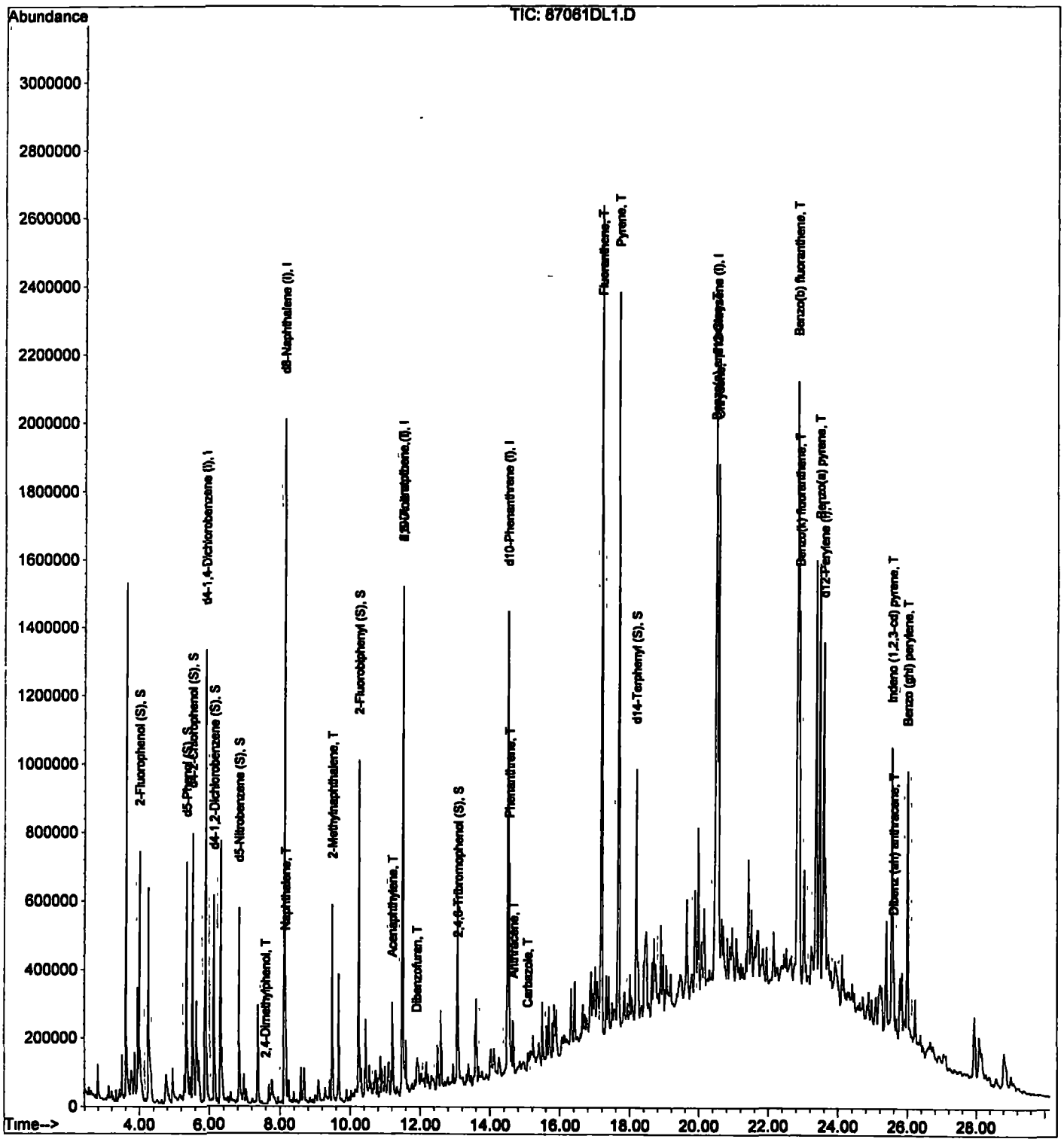
(#) = qualifier out of range (m) = manual integration

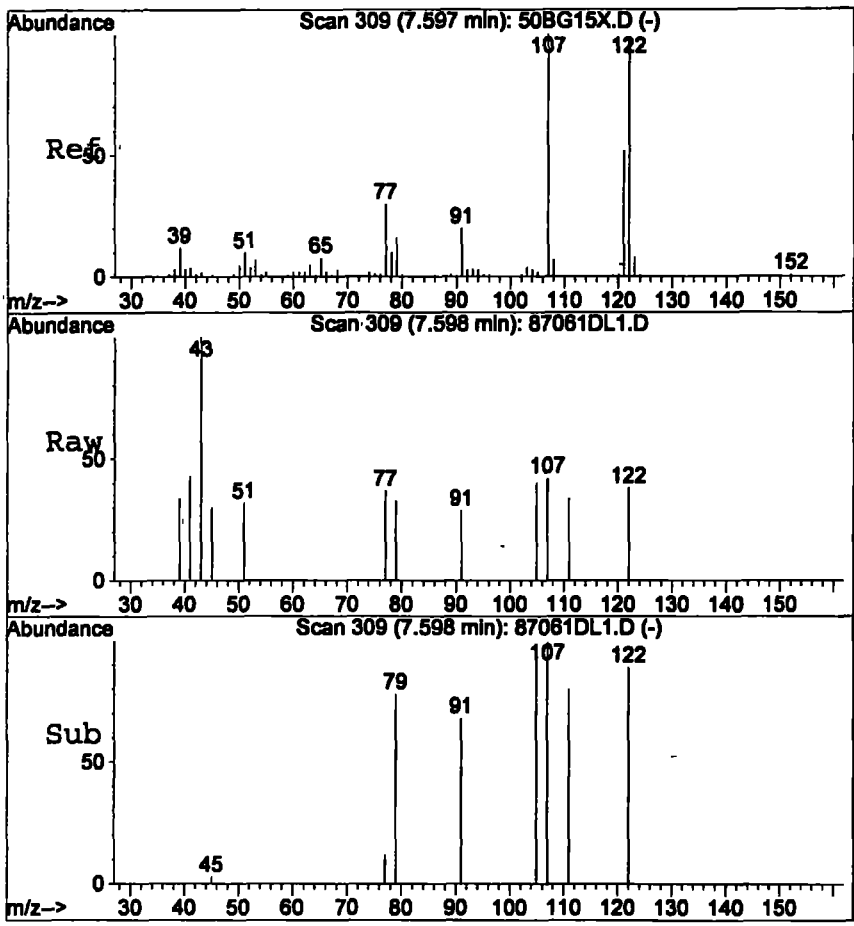
# Quantitation Report

Data File : D:\DATA\87061DL1.D
Acq On : 15 Jul 98 14:21
Sample : 1/4
Misc : 7-14-98
Quant Time: Jul 15 16:23 1998

Vial: 4
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Mon Jul 20 13:50:34 1998
Response via : Multiple Level Calibration

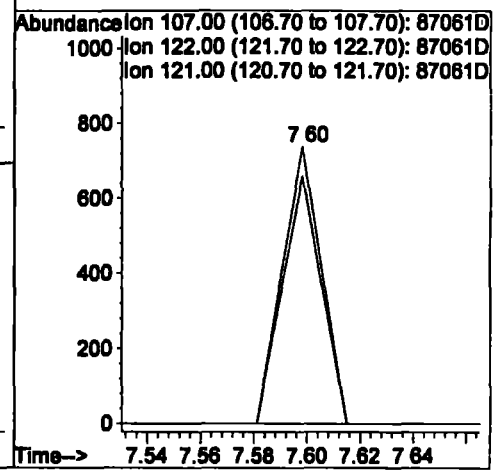


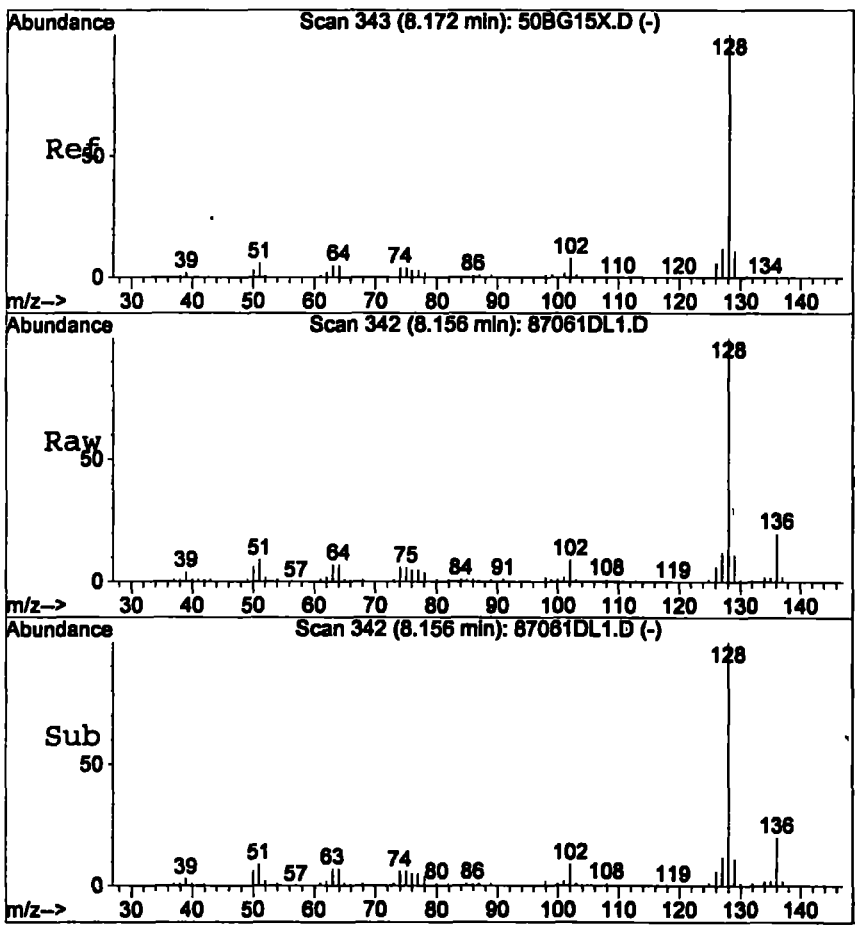



#26
2,4-Dimethylphenol
Concen: 5.38 ng
RT: 7.60 min Scan# 309
Delta R.T. 0.01 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:107 Resp: 748

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 122 | 89.4 | 67.0 | 100.4 |
| 121 | 0.0 | 36.2 | 54.4# |
| 0 | 0.0 | 0.0 | 0.0 |

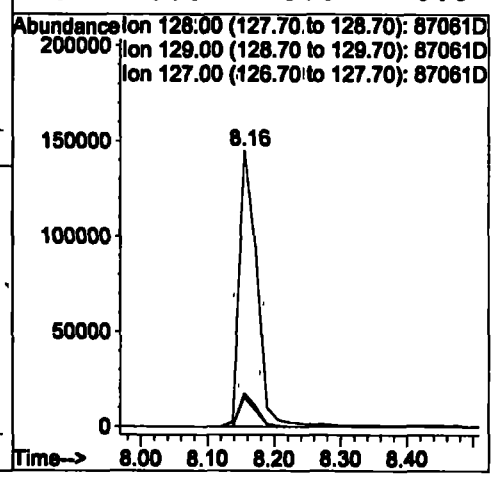


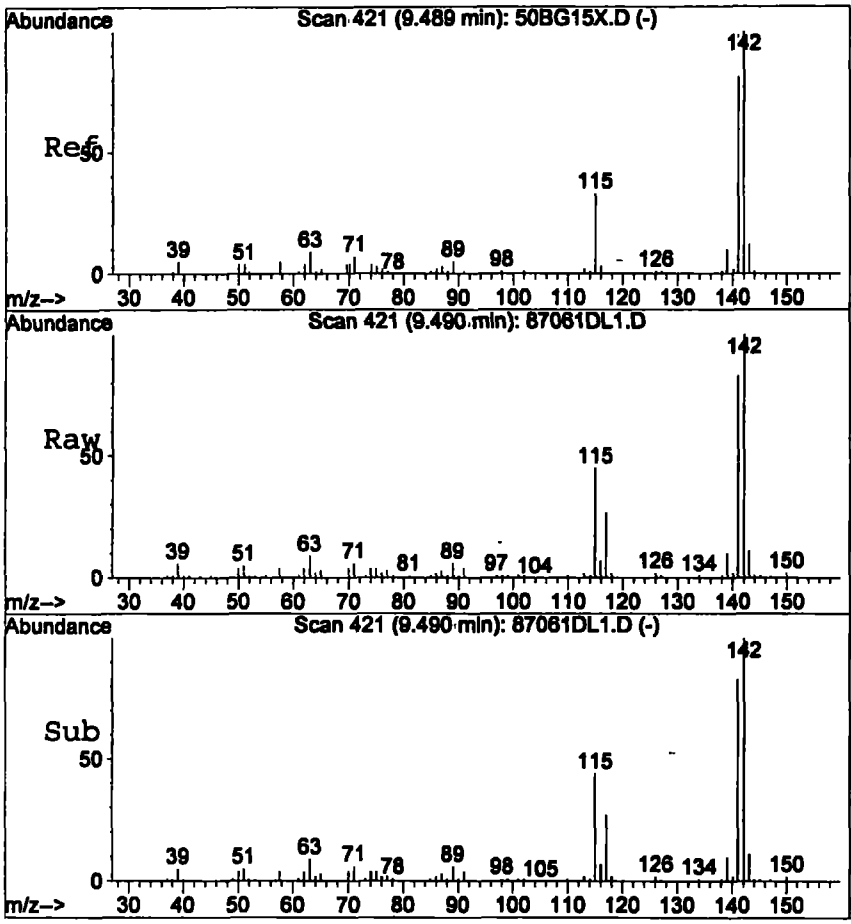

#30
Naphthalene
Concen: 7.56 ng
RT: 8.16 min Scan# 342
Delta R.T. 0.01 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:128 Resp: 269093

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 9.9 | 9.5 | 14.3 |
| 127 | 11.1 | 9.8 | 14.8 |
| 0 | 0.0 | 0.0 | 0.0 |



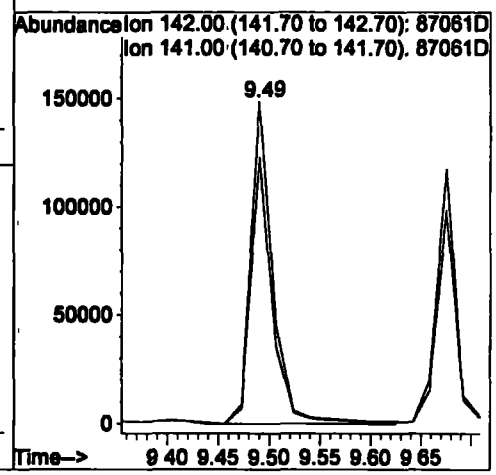

Sample: 1/4 Analyst: RBJ Instrument: 5971-024
87061DL1.D BNAHSL.M Mon Jul 20 13:52:50 1998

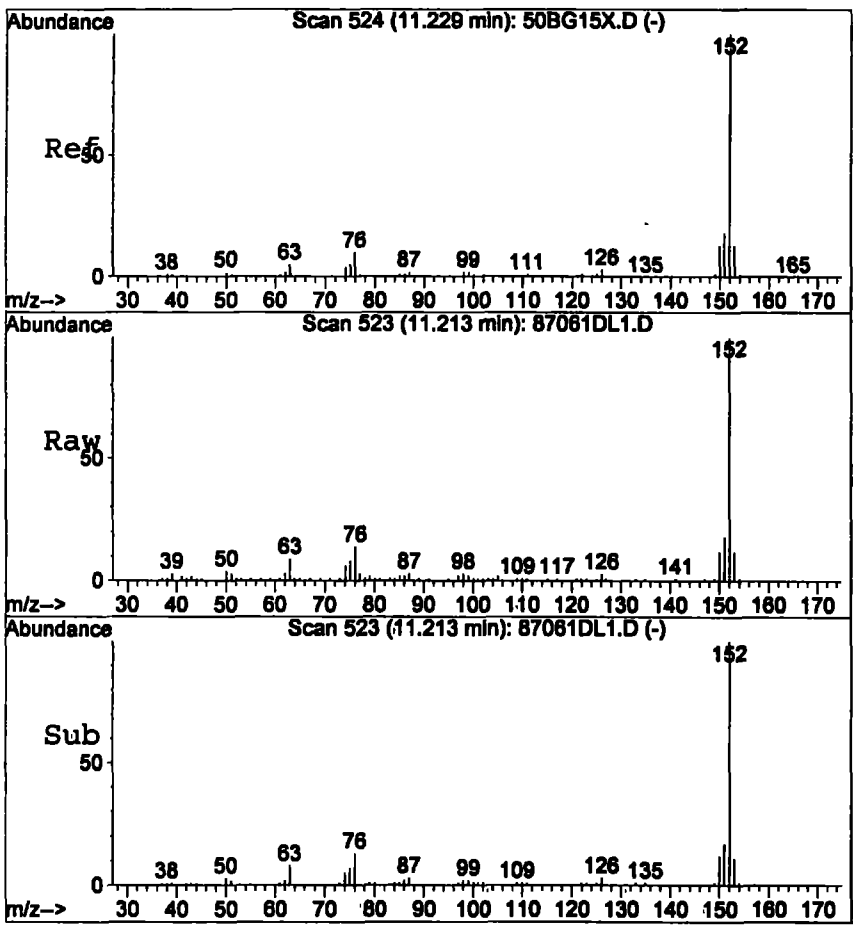



#34
2-Methylnaphthalene
Concen: 9.08 ng
RT: 9.49 min Scan# 421
Delta R.T. 0.01 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:142 Resp: 222135

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 80.4 | 63.0 | 94.4 |
| 0 | 0.0 | 0.0 | 0.0 |
| 0 | 0.0 | 0.0 | 0.0 |

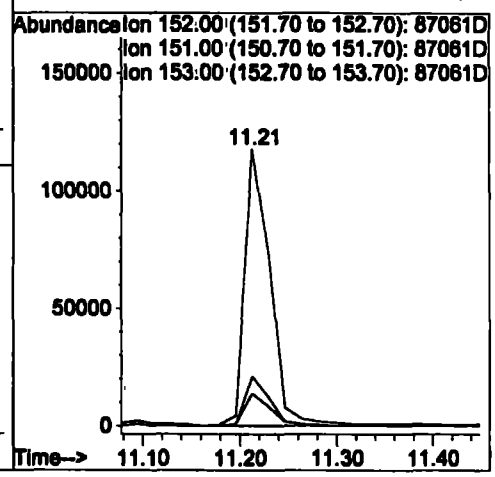


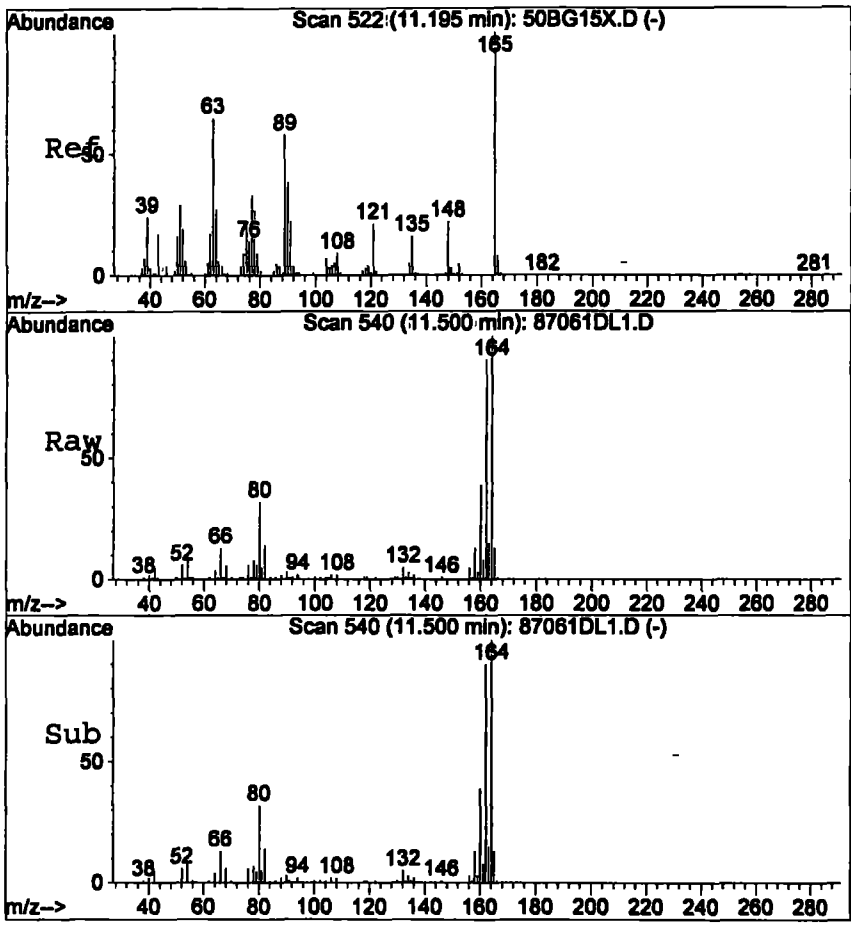

#43
Acenaphthylene
Concen: 6.65 ng
RT: 11.21 min Scan# 523
Delta R.T. 0.01 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:152 Resp: 214671

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 17.1 | 14.5 | 21.7 |
| 153 | 12.3 | 11.0 | 16.4 |
| 0 | 0.0 | 0.0 | 0.0 |



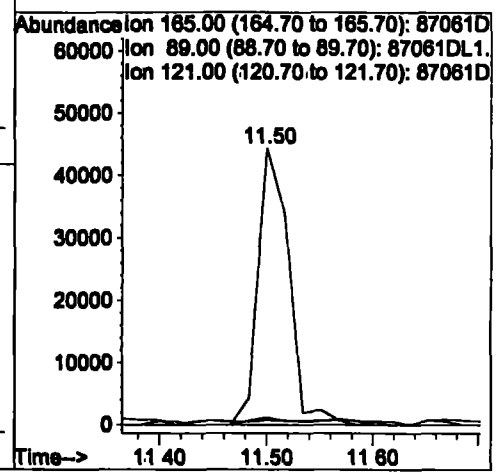

Sample: 1/4 Analyst: RBJ Instrument: 5971-024
87061DL1.D BNAHSL.M Mon Jul 20 13:52:53 1998

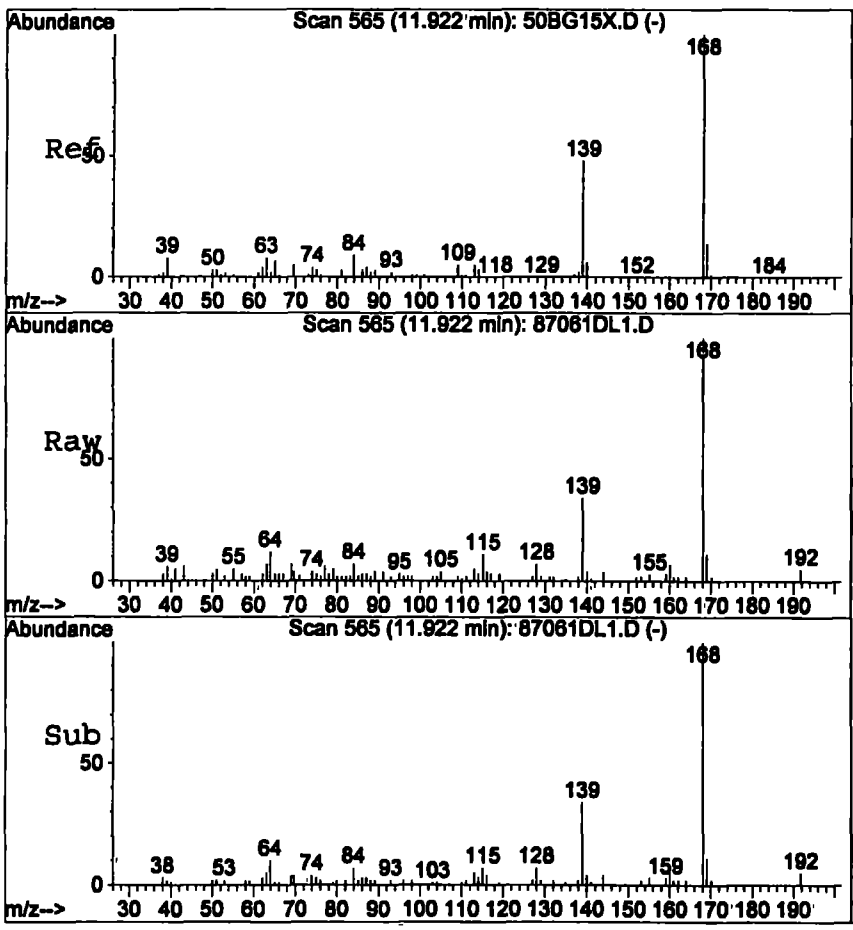



#45
2,6-Dinitrotoluene
Concen: 15.87 ng
RT: 11.50 min Scan# 540
Delta R.T. 0.30 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:165 Resp: 89718

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 165 | 100 | | |
| 89 | 5.9 | 44.4 | 66.6# |
| 121 | 2.3 | 14.2 | 21.2# |
| 0 | 0.0 | 0.0 | 0.0 |

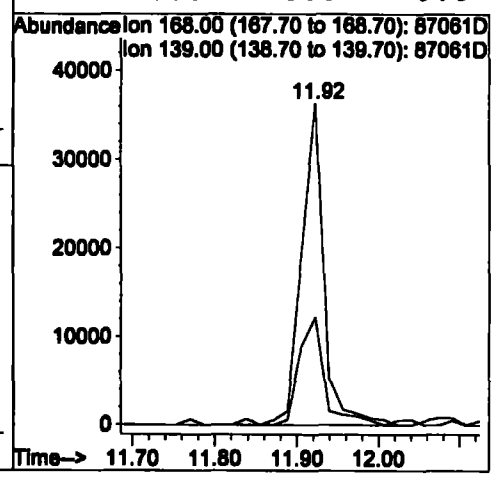


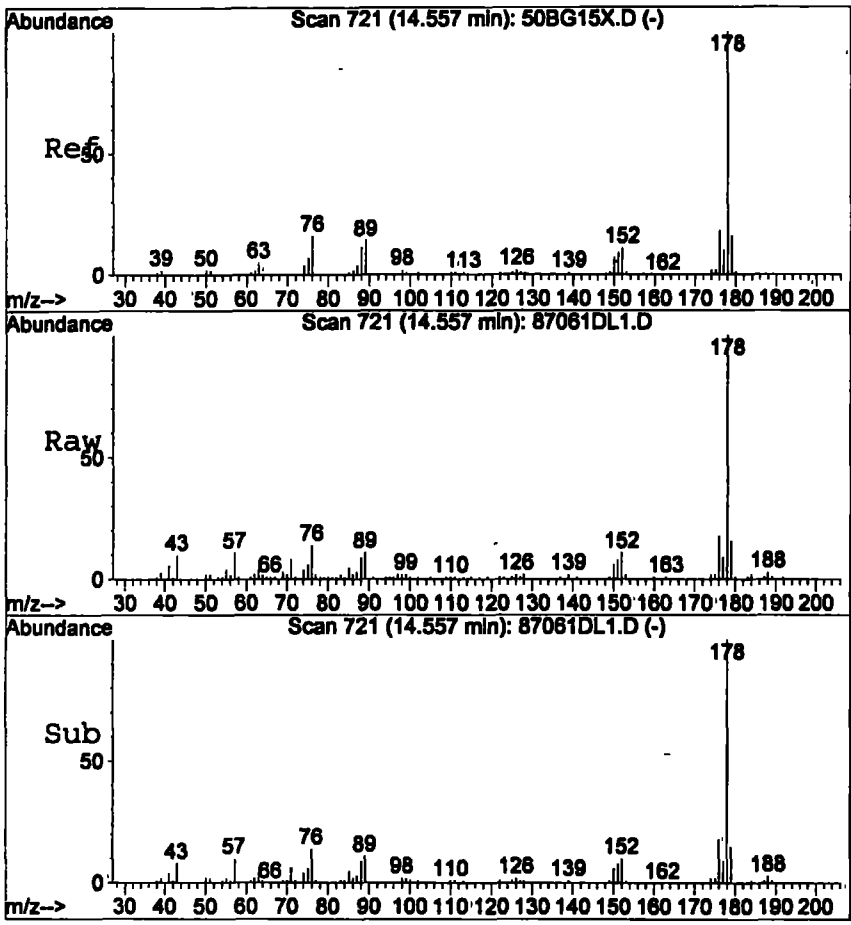

#49
Dibenzofuran
Concen: 2.56 ng
RT: 11.92 min Scan# 565
Delta R.T. 0.03 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:168 Resp: 69391

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 38.1 | 38.6 | 58.0# |
| 0 | 0.0 | 0.0 | 0.0 |
| 0 | 0.0 | 0.0 | 0.0 |



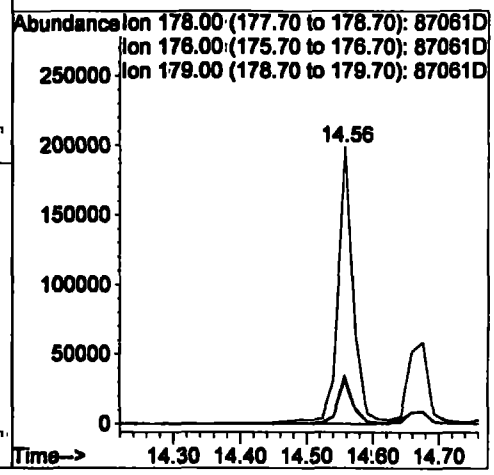

Sample: 1/4 Analyst: RBJ Instrument: 5971-024
87061DL1.D BNAHSL.M Mon Jul 20 13:52:55 1998

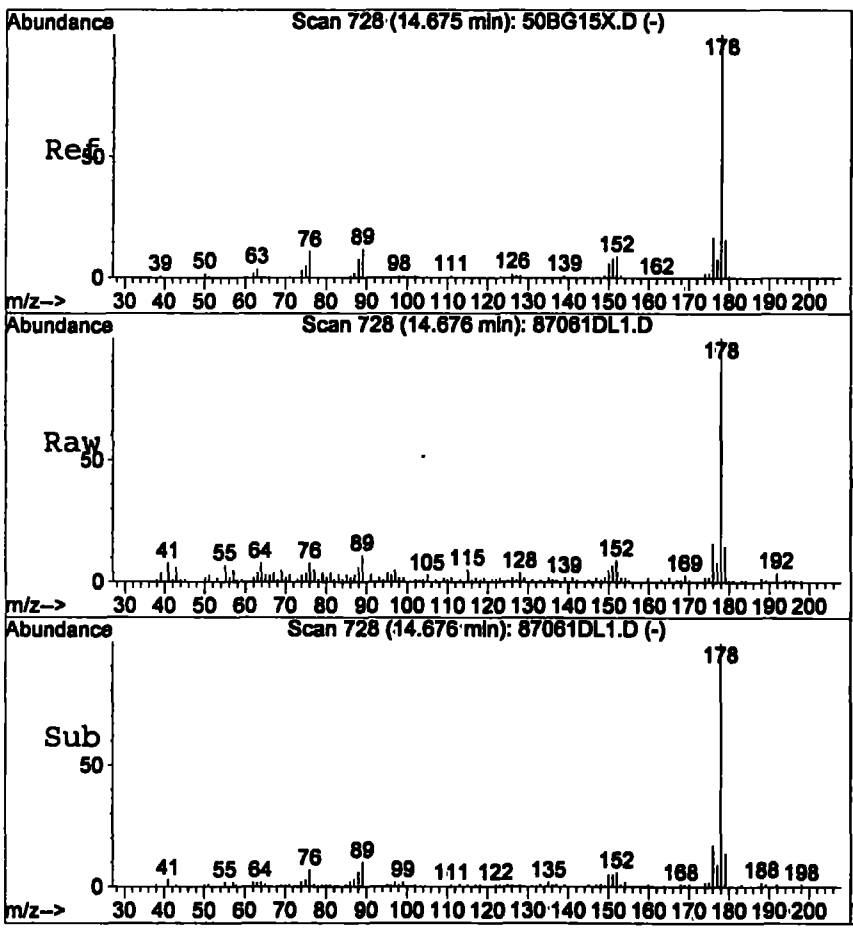



#64
Phenanthrene
Concen: 11.81 ng
RT: 14.56 min Scan# 721
Delta R.T. 0.01 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:178 Resp: 329369

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 176 | 17.6 | 14.2 | 21.4 |
| 179 | 16.5 | 12.7 | 19.1 |
| 0 | 0.0 | 0.0 | 0.0 |

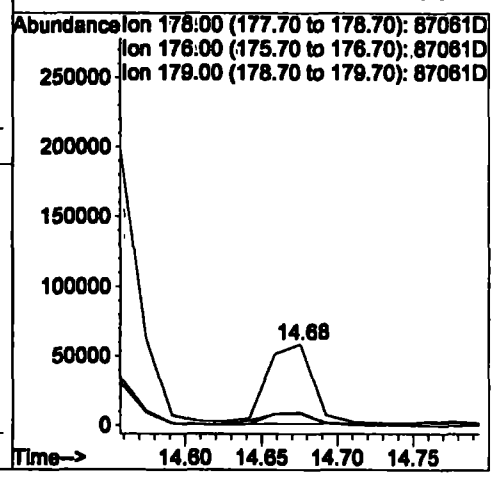


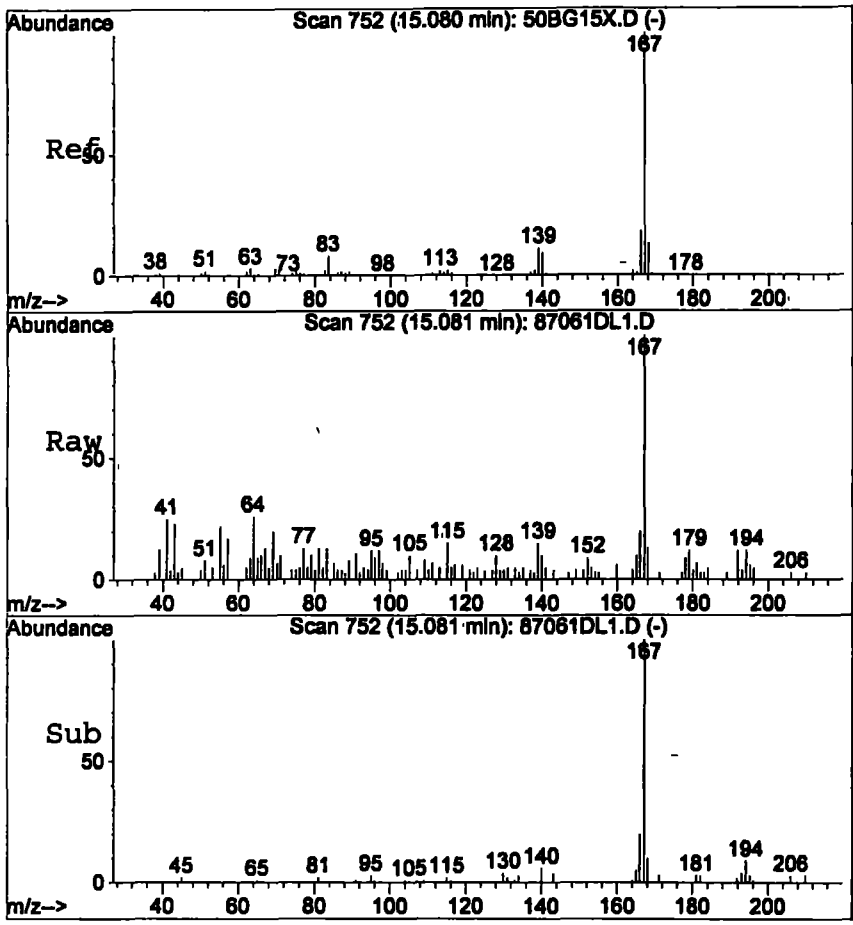

#65
Anthracene
Concen: 4.41 ng
RT: 14.68 min Scan# 728
Delta R.T. 0.01 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:178 Resp: 121215

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 176 | 19.4 | 13.8 | 20.8 |
| 179 | 18.5 | 12.9 | 19.3 |
| 0 | 0.0 | 0.0 | 0.0 |



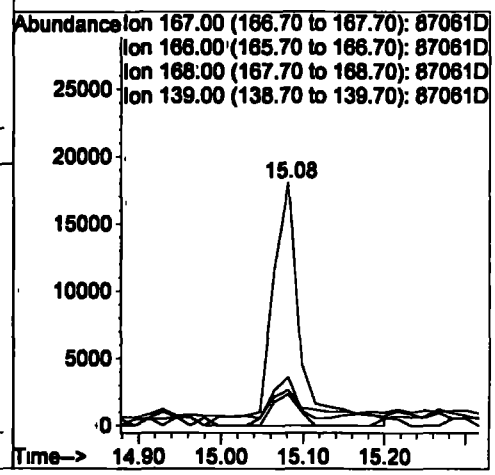

Sample: 1/4 Analyst: RBJ Instrument: 5971-024
87061DL1.D BNAHSL.M Mon Jul 20 13:52:58 1998

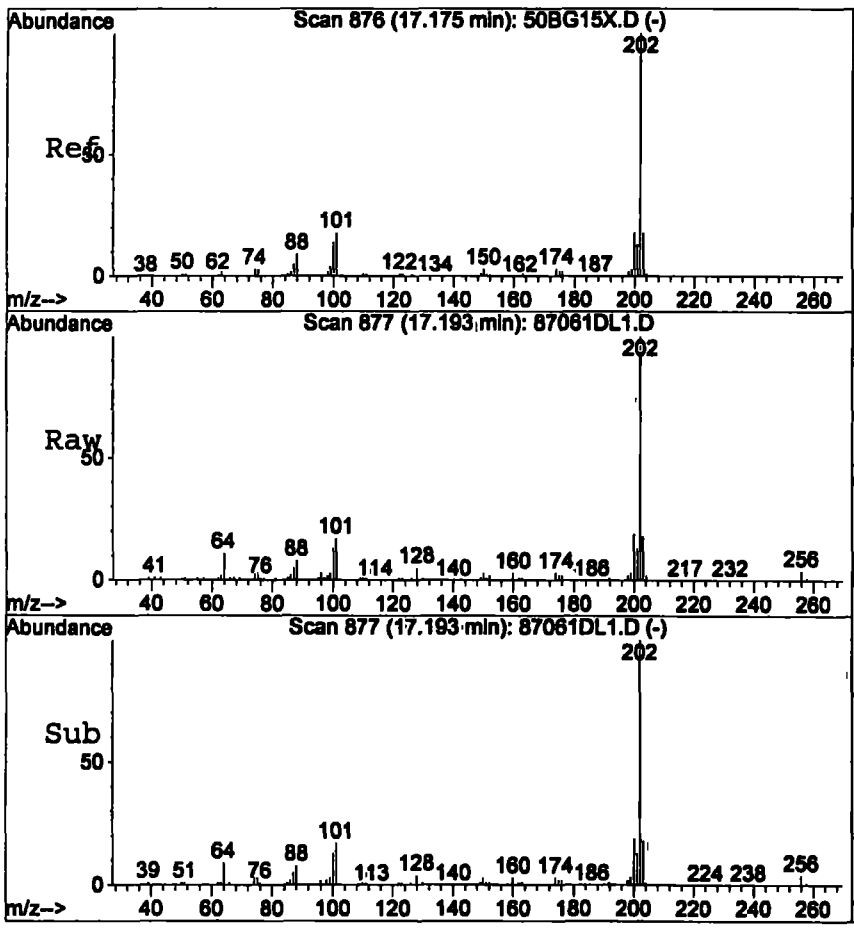



#66
Carbazole
Concen: 2.47 ng
RT: 15.08 min Scan# 752
Delta R.T. 0.03 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:167 Resp: 44605

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 20.5 | 14.8 | 22.2 |
| 168 | 11.6 | 10.6 | 16.0 |
| 139 | 18.8 | 9.4 | 14.2# |

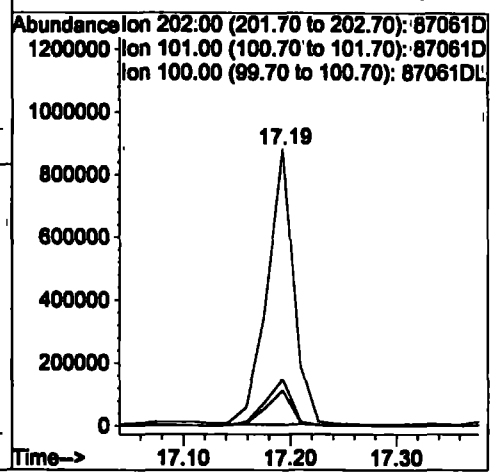


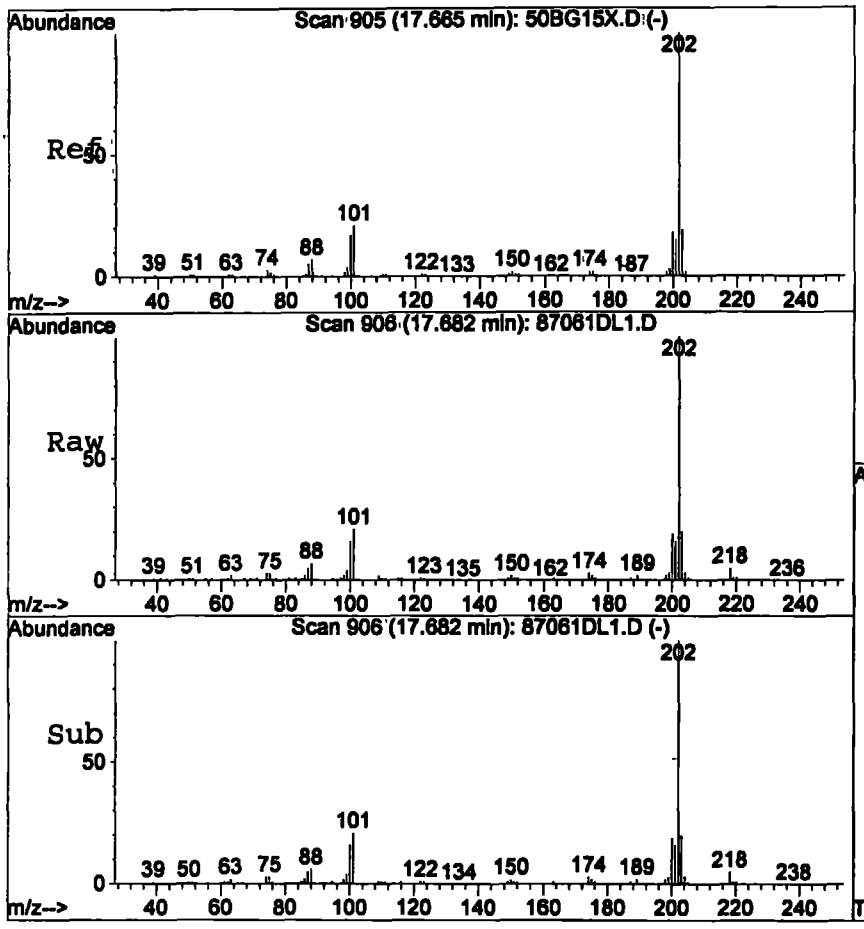

#68
Fluoranthene
Concen: 50.00 ng
RT: 17.19 min Scan# 877
Delta R.T. 0.03 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:202 Resp: 1501702

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 16.8 | 15.1 | 22.7 |
| 100 | 12.7 | 11.5 | 17.3 |
| 0 | 0.0 | 0.0 | 0.0 |



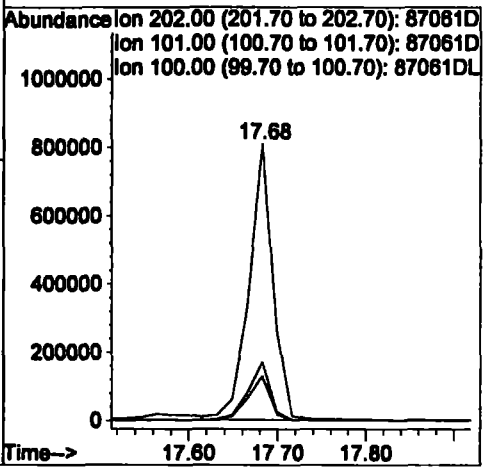

Sample: 1/4 Analyst: RBJ Instrument: 5971-024
87061DL1.D BNAHSL.M Mon Jul 20 13:53:00 1998

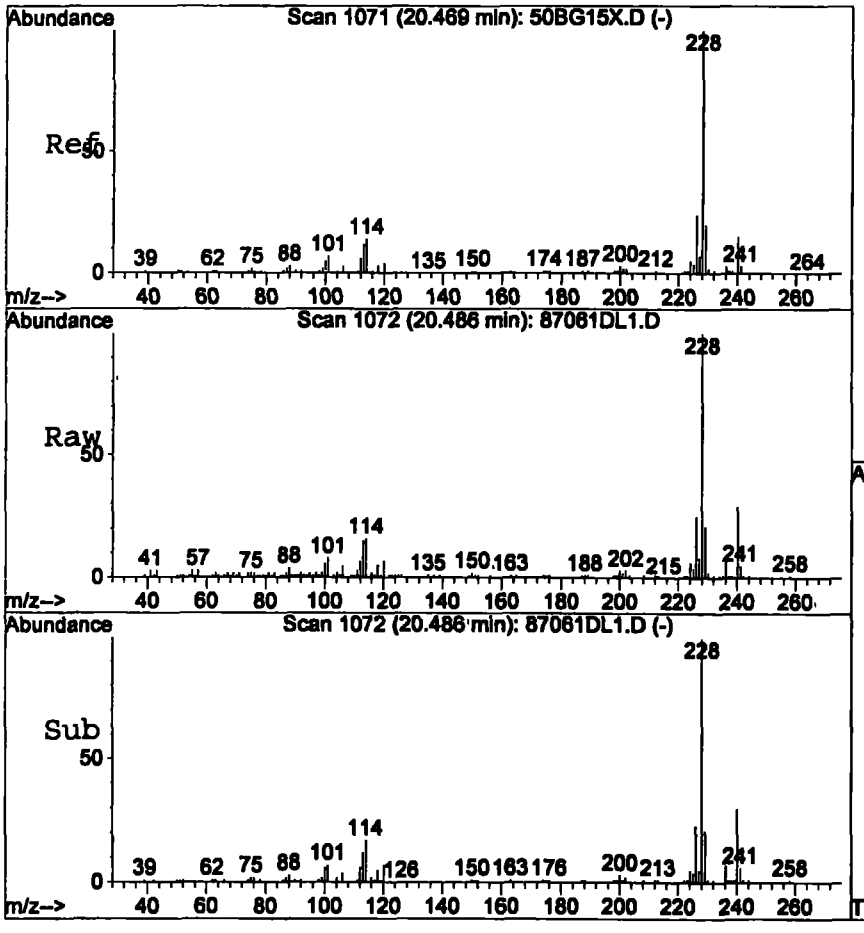



#71
Pyrene
Concen: 47.54 ng
RT: 17.68 min Scan# 906
Delta R.T. 0.03 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:202 Resp: 1511403

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 20.2 | 17.8 | 26.6 |
| 100 | 15.4 | 14.4 | 21.6 |
| 0 | 0.0 | 0.0 | 0.0 |

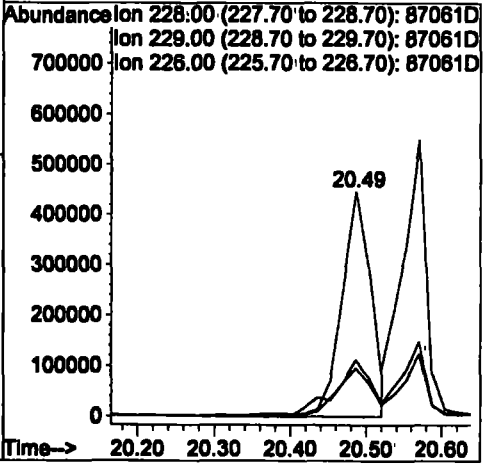


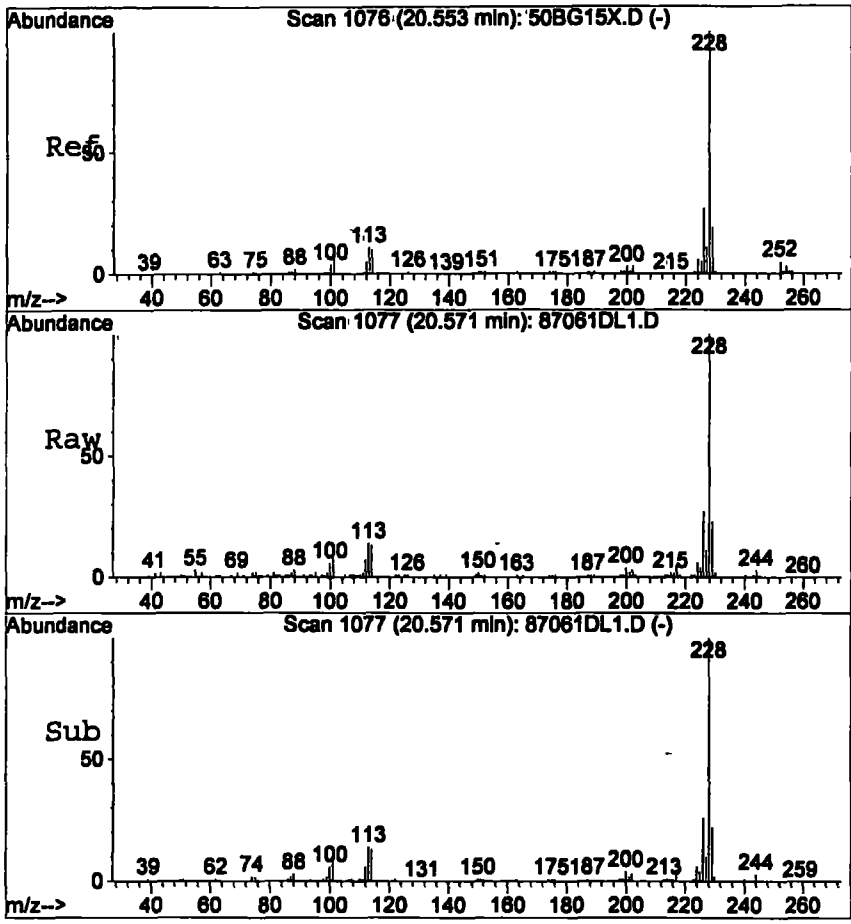

#74
Benzo(a) anthracene
Concen: 45.33 ng m
RT: 20.49 min Scan# 1072
Delta R.T. 0.03 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:228 Resp: 1225019

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 21.3 | 16.3 | 24.5 |
| 226 | 25.1 | 19.8 | 29.6 |
| 0 | 0.0 | 0.0 | 0.0 |



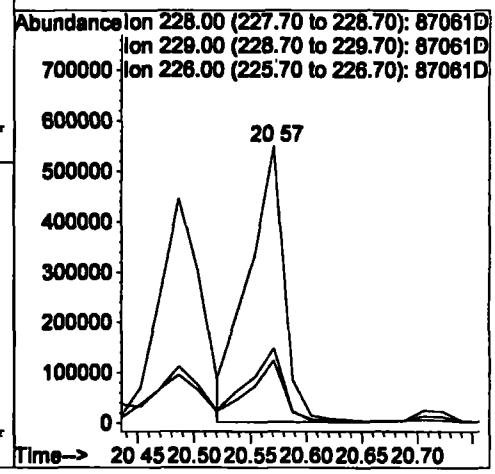

Sample: 1/4 Analyst: RBJ Instrument: 5971-024
87061DL1.D BNAHSL.M Mon Jul 20 13:53:03 1998

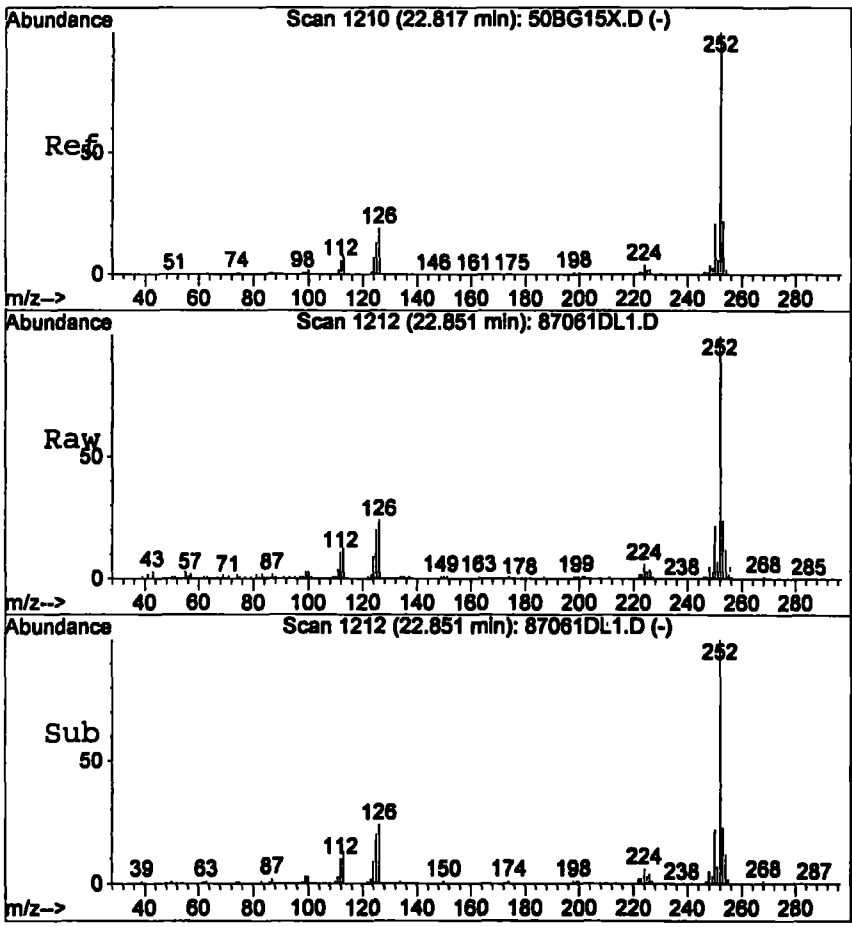



#75
Chrysene
Concen: 61.40 ng
RT: 20.57 min Scan# 1077
Delta R.T. 0.03 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:228 Resp: 1214565

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 22.1 | 16.0 | 24.0 |
| 226 | 27.8 | 22.0 | 33.0 |
| 0 | 0.0 | 0.0 | 0.0 |

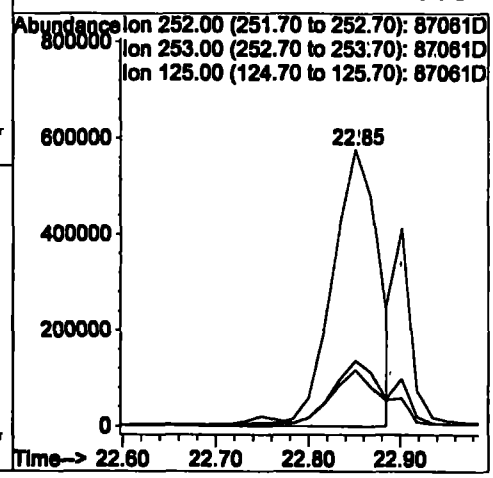


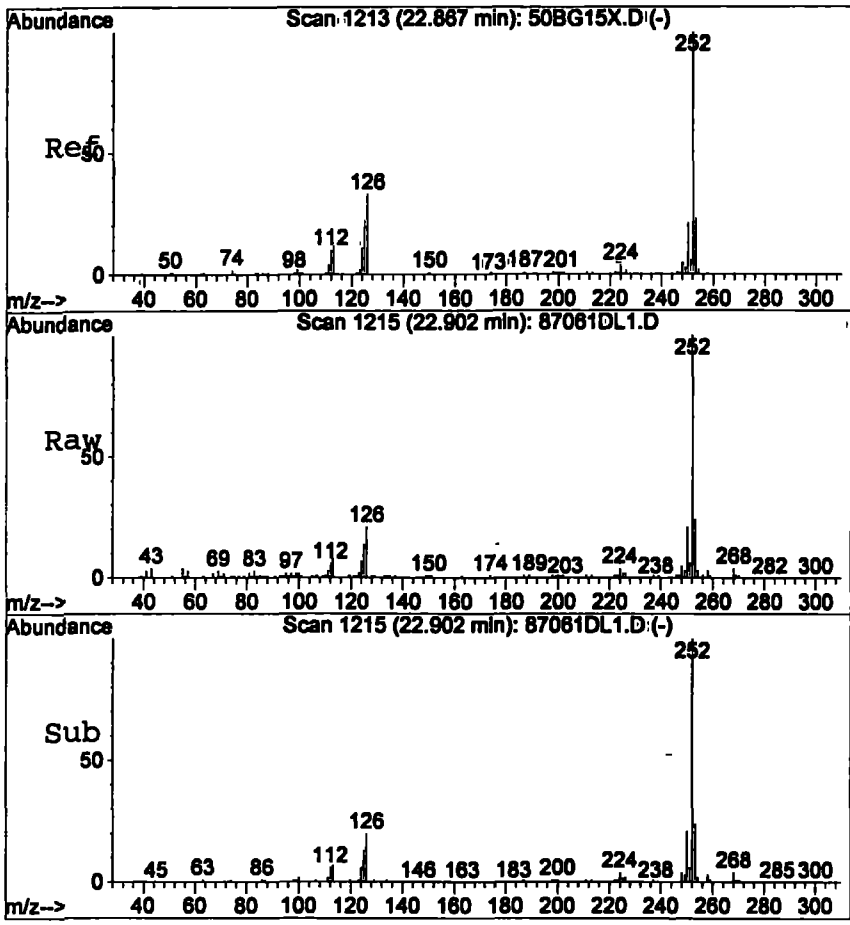

#80
Benzo(b) fluoranthene
Concen: 71.25 ng m
RT: 22.85 min Scan# 1212
Delta R.T. 0.03 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:252 Resp: 2046261

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.5 | 17.8 | 26.6 |
| 125 | 20.2 | 12.2 | 18.2# |
| 0 | 0.0 | 0.0 | 0.0 |



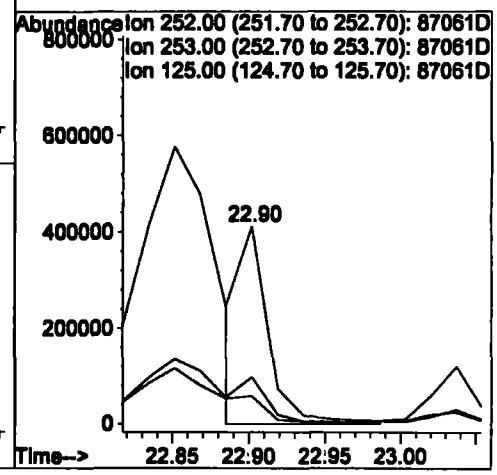

Sample: 1/4 Analyst: RBJ Instrument: 5971-024
87061DL1.D BNAHSL.M Mon Jul 20 13:53:05 1998

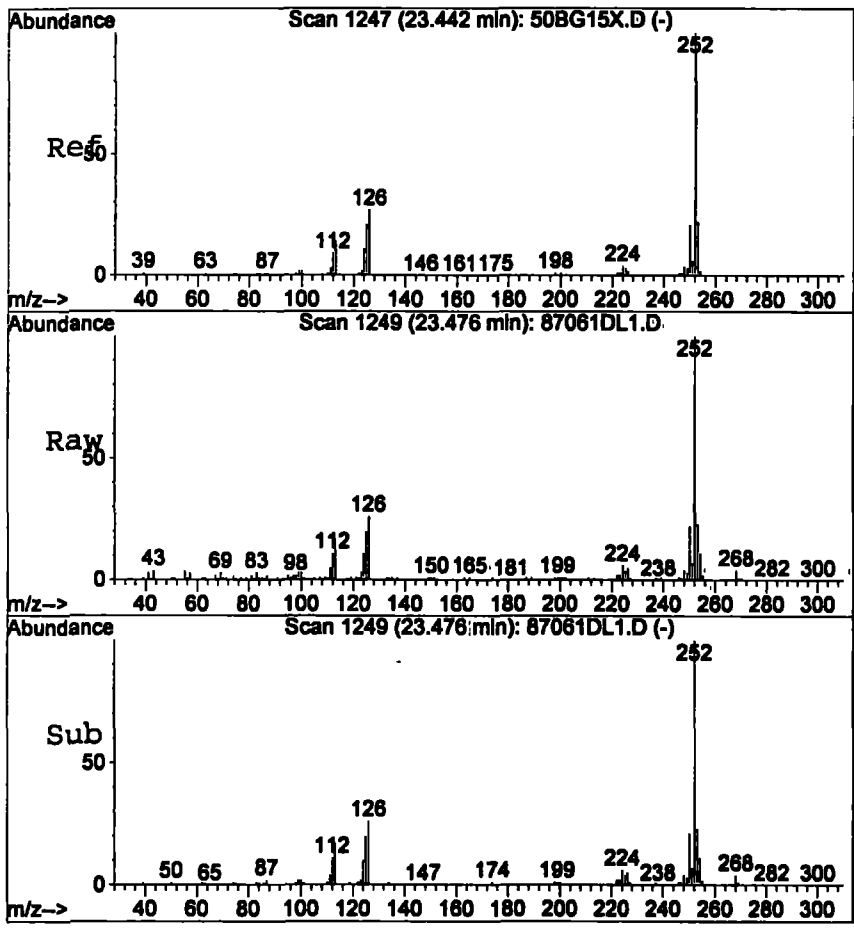



#81
Benzo(k) fluoranthene
Concen: 22.09 ng m
RT: 22.90 min Scan# 1215
Delta R.T. 0.03 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:252 Resp: 535807

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.8 | 17.8 | 26.6 |
| 125 | 14.1 | 10.9 | 16.3 |
| 0 | 0.0 | 0.0 | 0.0 |

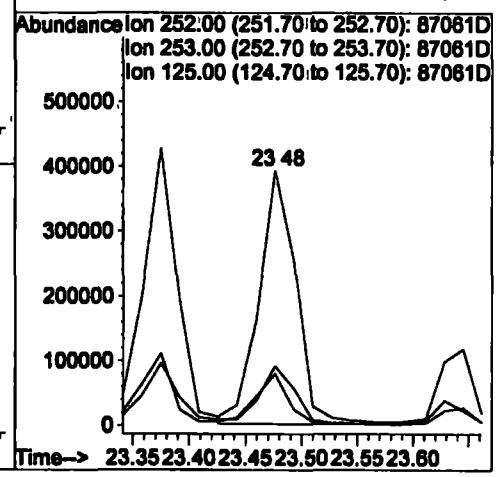


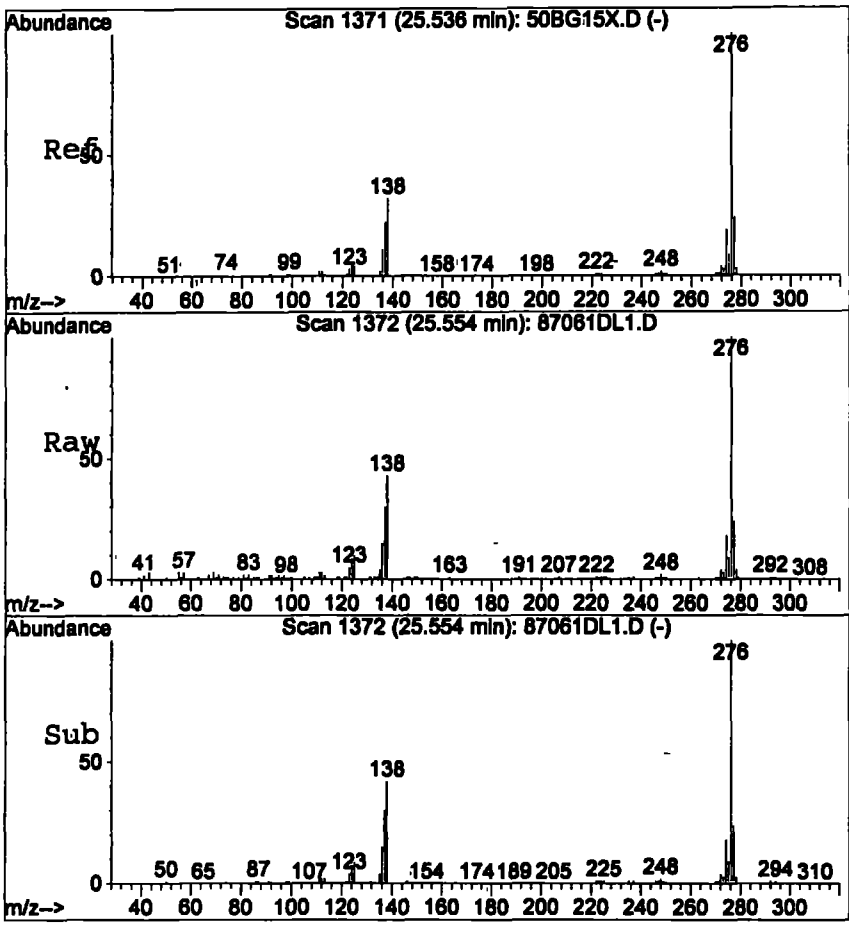

#82
Benzo(a) pyrene
Concen: 36.60 ng
RT: 23.48 min Scan# 1249
Delta R.T. 0.03 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:252 Resp: 888270

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.8 | 18.1 | 27.1 |
| 125 | 17.9 | 12.6 | 19.0 |
| 0 | 0.0 | 0.0 | 0.0 |



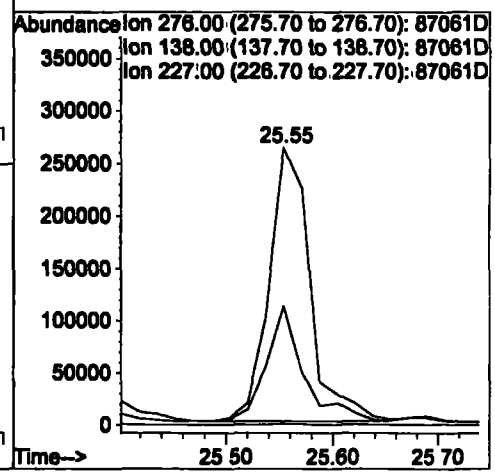

Sample: 1/4 Analyst: RBJ Instrument: 5971-024
87061DL1.D BNAHSL.M Mon Jul 20 13:53:08 1998

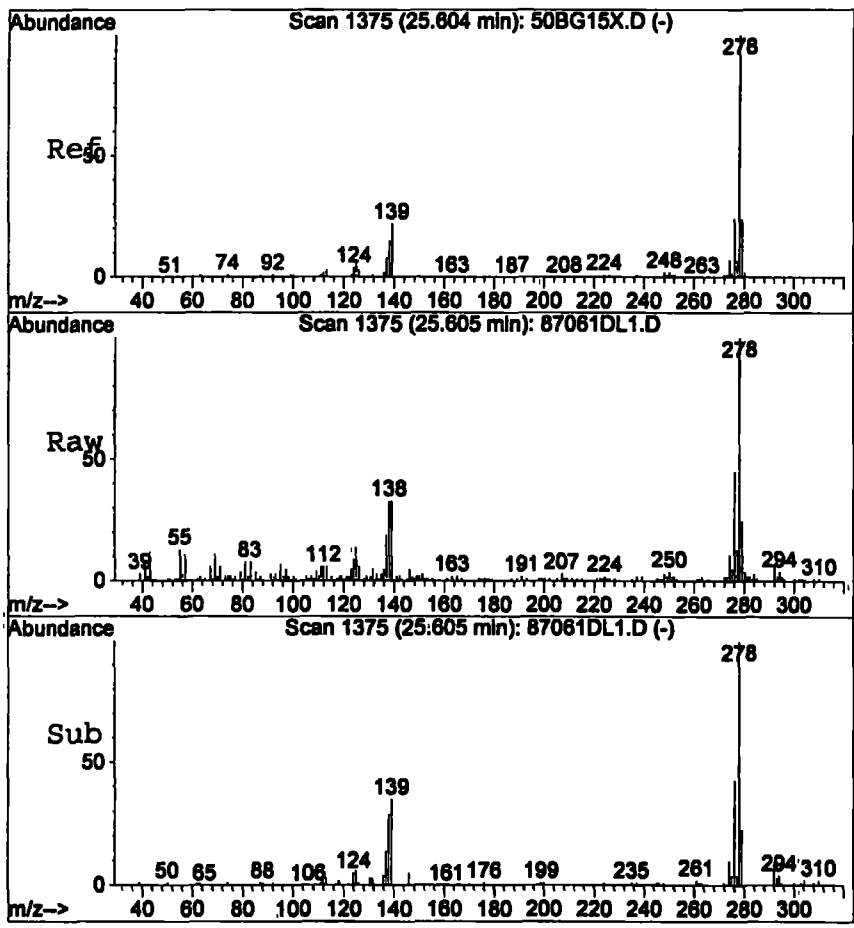



#83
Indeno (1,2,3-cd) pyrene
Concen: 30.11 ng
RT: 25.55 min Scan# 1372
Delta R.T. 0.03 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:276 Resp: 697732

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 38.6 | 16.9 | 25.3# |
| 227 | 0.2 | 0.0 | 0.0# |
| 0 | 0.0 | 0.0 | 0.0 |

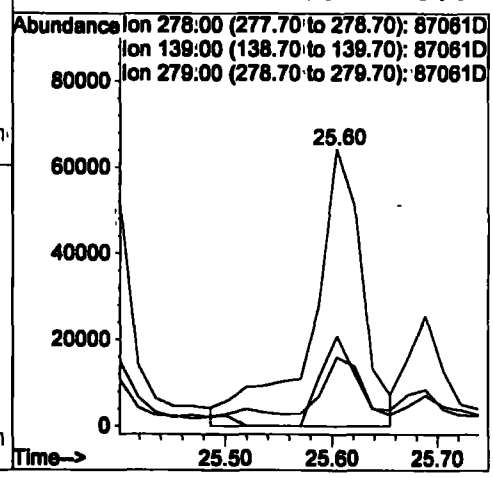


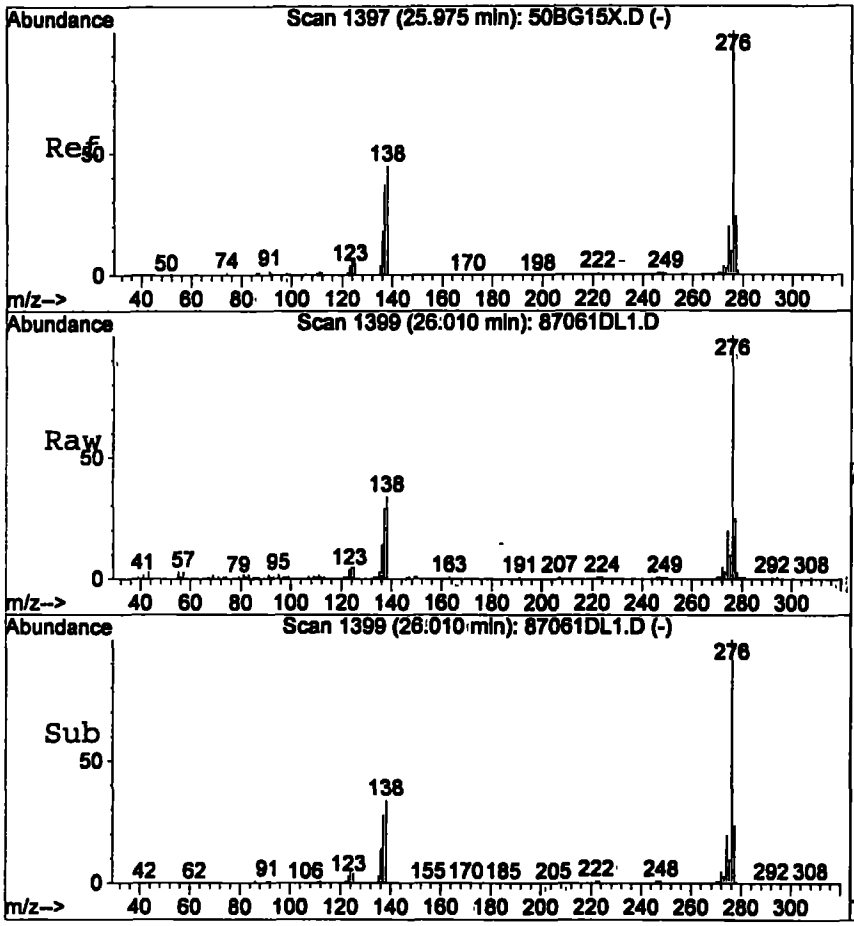




#84
Dibenz (ah) anthracene
Concen: 12.42 ng m
RT: 25.60 min Scan# 1375
Delta R.T. 0.01 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:278 Resp: 212280

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 32.6 | 20.0 | 30.0# |
| 279 | 24.9 | 18.6 | 27.8 |
| 0 | 0.0 | 0.0 | 0.0 |

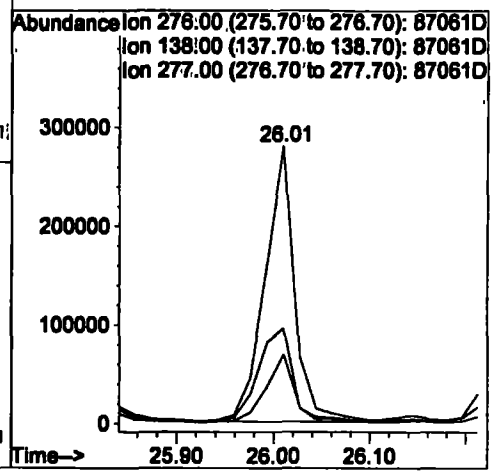





#85
Benzo (ghi) perylene
Concen: 32.67 ng
RT: 26.01 min Scan# 1399
Delta R.T. 0.03 min
Lab File: 87061DL1.D
Acq: 15 Jul 98 14:21

Tgt Ion:276 Resp: 594964

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 40.0 | 29.0 | 43.6 |
| 277 | 24.3 | 19.8 | 29.8 |
| 0 | 0.0 | 0.0 | 0.0 |



Quantitation Report (Not Reviewed)

Data File : D:\DATA\87061BM.D
Acq On : 15 Jul 98 14:59
Sample : 1/4
Misc : 7-14-98
Quant Time: Jul 15 15:31 1998

Vial: 5
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

(xH) EICPx good

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.88 | 152 | 275788 | 40.00 | ng | 0.02 |
| 21) d8-Naphthalene (I) | 8.13 | 136 | 1090593 | 40.00 | ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.50 | 164 | 486690 | 40.00 | ng | 0.03 |
| 56) d10-Phenanthrene (I) | 14.51 | 188 | 728822 | 40.00 | ng | 0.03 |
| 69) d12-Chrysene (I) | 20.51 | 240 | 533208 | 40.00 | ng | 0.03 |
| 79) d12-Perylene (I) | 23.60 | 264 | 429147 | 40.00 | ng | 0.07 |
| System Monitoring Compounds | | | | | | |
| 3) 2-Fluorophenol (S) | 3.99 | 112 | 320845 | 34.65 | ng | 0.02 |
| Surrogate Spike 150.000 | | | Recovery = 23.10% | | | |
| 5) d4-2-Chlorophenol (S) | 5.53 | 132 | 339539 | 36.79 | ng | 0.02 |
| Surrogate Spike 150.000 | | | Recovery = 24.53% | | | |
| 8) d5-Phenol (S) | 5.36 | 99 | 393296 | 35.51 | ng | 0.00 |
| Surrogate Spike 150.000 | | | Recovery = 23.67% | | | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.13 | 152 | 173208 | 25.45 | ng | 0.02 |
| Surrogate Spike 100.000 | | | Recovery = 25.45% | | | |
| 22) d5-Nitrobenzene (S) | 6.84 | 82 | 260641 | 22.58 | ng | 0.02 |
| Surrogate Spike 100.000 | | | Recovery = 22.58% | | | |
| 40) 2-Fluorobiphenyl (S) | 10.25 | 172 | 381352 | 25.54 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 25.54% | | | |
| 59) 2,4,6-Tribromophenol (S) | 13.08 | 330 | 90232 | 36.96 | ng | 0.00 |
| Surrogate Spike 150.000 | | | Recovery = 24.64% | | | |
| 72) d14-Terphenyl (S) | 18.19 | 244 | 293424 | 23.91 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 23.91% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Pyridine | 2.57 | 79 | 21971 | 2.50 | ng # | 39 |
| 4) Aniline | 5.37 | 93 | 7569 | -8.11 | ng # | 1 |
| 6) 2-Chlorophenol | 5.54 | 128 | 352112 | 37.77 | ng # | 91 |
| 9) Phenol | 5.37 | 94 | 424778 | 36.34 | ng # | 82 |
| 10) 1,3-Dichlorobenzene | 5.91 | 146 | 268899 | 24.07 | ng | 94 |
| 11) 1,4-Dichlorobenzene | 5.91 | 146 | 268899 | 24.67 | ng | 93 |
| 18) n-Nitroso-di-n-propylamine | 6.61 | 70 | 164430 | 26.19 | ng # | 93 |
| 26) 2,4-Dimethylphenol | 7.59 | 107 | 2345 | 5.58 | ng # | 86 |
| 29) 1,2,4-Trichlorobenzene | 8.04 | 180 | 188666 | 22.59 | ng | 98 |
| 30) Naphthalene | 8.16 | 128 | 467975 | 17.57 | ng | 98 |
| 32) 4-Chloroaniline | 8.16 | 127 | 53968 | 5.11 | ng # | 1 |
| 34) 2-Methylnaphthalene | 9.49 | 142 | 383153 | 20.95 | ng | 95 |
| 35) 4-Chloro-3-methylphenol | 9.29 | 107 | 256632 | 31.14 | ng | 87 |
| 42) 2-Nitroaniline | 10.68 | 65 | 5540 | 1.10 | ng # | 25 |
| 43) Acenaphthylene | 11.22 | 152 | 348674 | 15.27 | ng | 100 |
| 45) 2,6-Dinitrotoluene | 11.50 | 165 | 66866 | 16.71 | ng # | 32 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : D:\DATA\87061BM.D
Acq On : 15 Jul 98 14:59
Sample : 1/4
Misc : 7-14-98
Quant Time: Jul 15 15:31 1998

Vial: 5
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| | Compound | R.T. | QIon | Response | Conc | Unit | | Qvalue |
|---|---|---|---|---|---|---|---|---|
| 46) | Acenaphthene | 11.57 | 153 | 312921 | 23.18 | ng | | 97 |
| 49) | Dibenzofuran | 11.91 | 168 | 135255 | 7.05 | ng | # | 1 |
| 50) | 2,4-Dinitrotoluene | 11.96 | 165 | 101893 | 20.66 | ng | # | 46 |
| 51) | 4-Nitrophenol | 11.93 | 109 | 54566 | 27.94 | ng | # | 37 |
| 52) | Fluorene | 12.59 | 166 | 70442 | 4.63 | ng | # | 81 |
| 58) | n-Nitrosodiphenylamine | 12.89 | 169 | 16806 | 1.65 | ng | # | 28 |
| 63) | Pentachlorophenol | 14.16 | 266 | 102406 | 33.71 | ng | | 98 |
| 64) | Phenanthrene | 14.56 | 178 | 891660 | 45.88 | ng | | 99 |
| 65) | Anthracene | 14.66 | 178 | 287824 | 15.03 | ng | | 97 |
| 66) | Carbazole | 15.07 | 167 | 58828 | 4.68 | ng | # | 90 |
| 68) | Fluoranthene | 17.20 | 202 | 2463968 | 117.75 | ng | # | 91 |
| 70) | Benzidine | 17.62 | 184 | 1127 | 14.12 | ng | # | 17 |
| 71) | Pyrene | 17.70 | 202 | 2628203 | 136.34 | ng | | 94 |
| 74) | Benzo(a) anthracene | 20.58 | 228 | 1474702 | 90.00 | ng | | 95 |
| 75) | Chrysene | 20.58 | 228 | 1474451 | 122.92 | ng | | 97 |
| 77) | bis(2-Ethylhexyl) phthalat | 20.90 | 149 | 37776 | 2.27 | ng | | 92 |
| 80) | Benzo(b) fluoranthene | 22.87 | 252 | 3209367 | 180.45 | ng | | 95 |
| 81) | Benzo(k) fluoranthene | 22.87 | 252 | 3209367 | 213.63 | ng | # | 93 |
| 82) | Benzo(a) pyrene | 23.50 | 252 | 1189642 | 79.15 | ng | # | 96 |
| 83) | Indeno (1,2,3-cd) pyrene | 25.58 | 276 | 946955 | 65.98 | ng | # | 61 |
| 84) | Dibenz (ah) anthracene | 25.80 | 278 | 150733 | 14.24 | ng | | 96 |
| 85) | Benzo (ghi) perylene | 26.03 | 276 | 810523 | 71.87 | ng | | 97 |

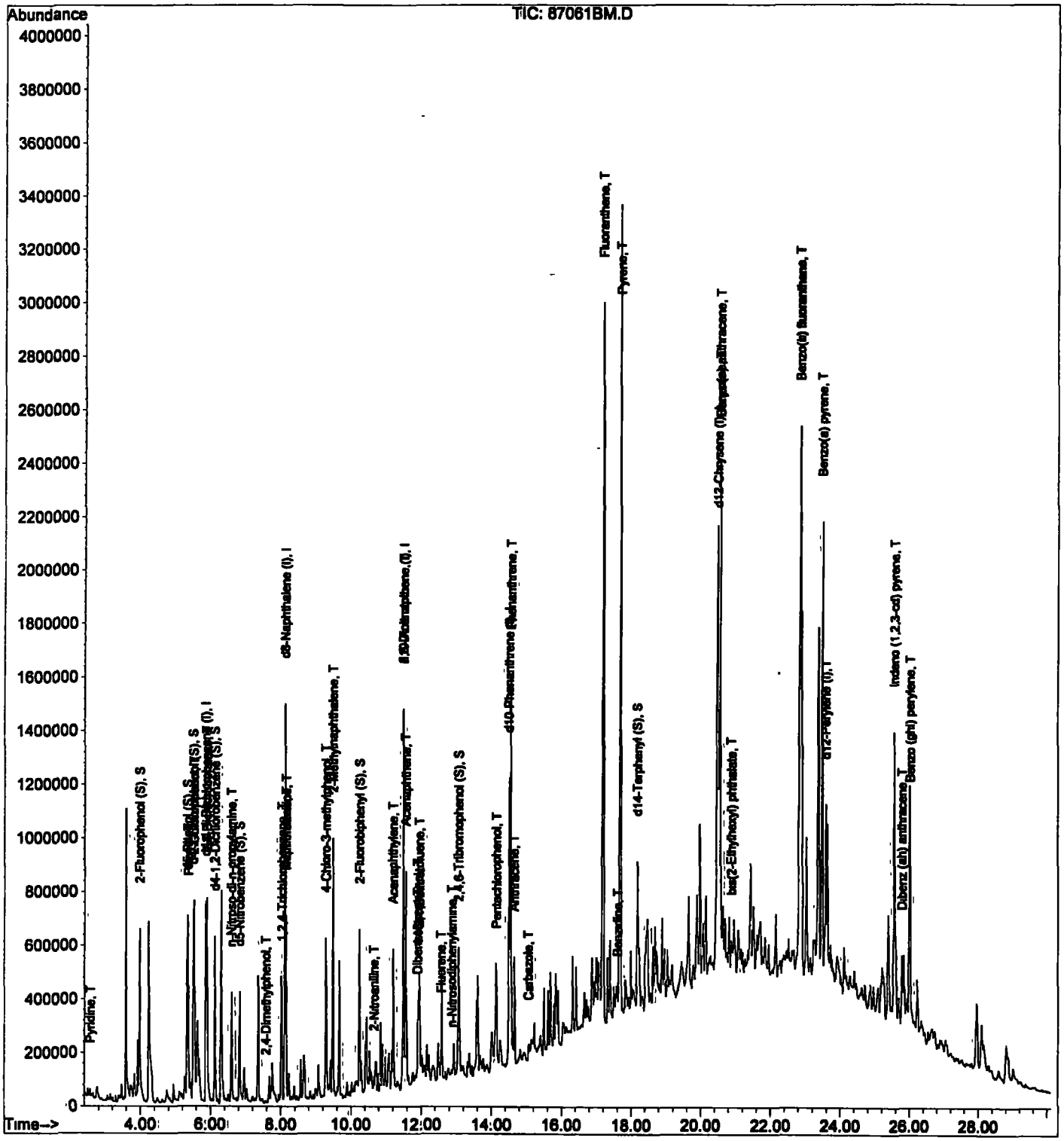
(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\DATA\87061BM.D
Acq On : 15 Jul 98 14:59
Sample : 1/4
Misc : 7-14-98
Quant Time: Jul 15 15:31 1998

Vial: 5
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Multiple Level Calibration



Quantitation Report (Not Reviewed)

Data File : D:\DATA\87061BD.D
Acq On : 15 Jul 98 15:38
Sample : 1/4
Misc : 7-14-98
Quant Time: Jul 15 16:08 1998

Vial: 6
Operator: RBJ
Inst : 5971-024
Multiplr: 1.00
Quant Results File: BNAHSL.RES

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

(X4) EICPs good

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) d4-1,4-Dichlorobenzene (I) | 5.89 | 152 | 322299 | 40.00 | ng | 0.03 |
| 21) d8-Naphthalene (I) | 8.12 | 136 | 1200226 | 40.00 | ng | 0.03 |
| 36) d10-Acenapthene (I) | 11.50 | 164 | 565005 | 40.00 | ng | 0.03 |
| 56) d10-Phenanthrene (I) | 14.53 | 188 | 850841 | 40.00 | ng | 0.05 |
| 69) d12-Chrysene (I) | 20.52 | 240 | 712459 | 40.00 | ng | 0.05 |
| 79) d12-Perylene (I) | 23.61 | 264 | 548202 | 40.00 | ng | 0.08 |
| System Monitoring Compounds | | | | | | |
| 3) 2-Fluorophenol (S) | 3.98 | 112 | 313471 | 28.97 | ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = 19.31% | | | |
| 5) d4-2-Chlorophenol (S) | 5.52 | 132 | 379631 | 35.19 | ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = 23.46% | | | |
| 8) d5-Phenol (S) | 5.35 | 99 | 430728 | 33.28 | ng | 0.00 |
| Surrogate Spike 150.000 | | | Recovery = 22.19% | | | |
| 12) d4-1,2-Dichlorobenzene (S) | 6.13 | 152 | 181408 | 22.81 | ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = 22.81% | | | |
| 22) d5-Nitrobenzene (S) | 6.84 | 82 | 292107 | 23.00 | ng | 0.01 |
| Surrogate Spike 100.000 | | | Recovery = 23.00% | | | |
| 40) 2-Fluorobiphenyl (S) | 10.25 | 172 | 444668 | 25.65 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 25.65% | | | |
| 59) 2,4,6-Tribromophenol (S) | 13.09 | 330 | 96563 | 33.88 | ng | 0.01 |
| Surrogate Spike 150.000 | | | Recovery = 22.59% | | | |
| 72) d14-Terphenyl (S) | 18.19 | 244 | 326077 | 19.89 | ng | 0.03 |
| Surrogate Spike 100.000 | | | Recovery = 19.89% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Pyridine | 2.57 | 79 | 32959 | 3.20 | ng # | 39 |
| 4) Aniline | 5.37 | 93 | 10356 | -7.96 | ng # | 1 |
| 6) 2-Chlorophenol | 5.56 | 128 | 386180 | 35.45 | ng | 93 |
| 9) Phenol | 5.37 | 94 | 492258 | 36.04 | ng # | 83 |
| 10) 1,3-Dichlorobenzene | 5.91 | 146 | 272018 | 20.83 | ng | 96 |
| 11) 1,4-Dichlorobenzene | 5.91 | 146 | 272018 | 21.35 | ng | 95 |
| 18) n-Nitroso-di-n-propylamine | 6.62 | 70 | 185353 | 25.26 | ng # | 94 |
| 26) 2,4-Dimethylphenol | 7.60 | 107 | 3025 | 5.63 | ng # | 83 |
| 29) 1,2,4-Trichlorobenzene | 8.04 | 180 | 208690 | 22.70 | ng | 96 |
| 30) Naphthalene | 8.16 | 128 | 555854 | 18.97 | ng | 97 |
| 32) 4-Chloroaniline | 8.16 | 127 | 62272 | 5.35 | ng # | 1 |
| 34) 2-Methylnaphthalene | 9.49 | 142 | 318337 | 15.82 | ng | 98 |
| 35) 4-Chloro-3-methylphenol | 9.31 | 107 | 282381 | 31.14 | ng # | 82 |
| 42) 2-Nitroaniline | 10.67 | 65 | 7399 | 1.27 | ng # | 1 |
| 43) Acenaphthylene | 11.21 | 152 | 452707 | 17.08 | ng | 99 |
| 45) 2,6-Dinitrotoluene | 11.50 | 165 | 79088 | 17.02 | ng # | 32 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : D:\DATA\87061BD.D
Acq On : 15 Jul 98 15:38
Sample : 1/4
Misc : 7-14-98
Quant Time: Jul 15 16:08 1998

Vial: 6
Operator: RBJ
Inst : 5971-
Multiplr: 1.00
Quant Results File: BNAHSL

Quant Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Initial Calibration
DataAcq Meth : BNAHSL

| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 46) | Acenaphthene | 11.57 | 153 | 340552 | 21.73 ng | | 98 |
| 49) | Dibenzofuran | 11.92 | 168 | 113523 | 5.10 ng | # | 1 |
| 50) | 2,4-Dinitrotoluene | 11.97 | 165 | 117320 | 20.49 ng | # | 43 |
| 51) | 4-Nitrophenol | 11.94 | 109 | 69741 | 30.76 ng | # | 30 |
| 52) | Fluorene | 12.80 | 166 | 35545 | 2.01 ng | | 99 |
| 58) | n-Nitrosodiphenylamine | 13.00 | 169 | 16563 | 1.40 ng | # | 40 |
| 63) | Pentachlorophenol | 14.15 | 266 | 116665 | 32.90 ng | | 99 |
| 64) | Phenanthrene | 14.56 | 178 | 428259 | 18.88 ng | | 98 |
| 65) | Anthracene | 14.68 | 178 | 203817 | 9.11 ng | | 98 |
| 66) | Carbazole | 15.08 | 167 | 44571 | 3.03 ng | # | 90 |
| 68) | Fluoranthene | 17.21 | 202 | 2466319 | 100.96 ng | | 94 |
| 70) | Benzidine | 17.65 | 184 | 4300 | 40.31 ng | # | 1 |
| 71) | Pyrene | 17.70 | 202 | 3025954 | 117.48 ng | | 93 |
| 74) | Benzo(a) anthracene | 20.59 | 228 | 2071485 | 94.61 ng | | 95 |
| 75) | Chrysene | 20.59 | 228 | 2071485 | 129.24 ng | | 98 |
| 76) | 3,3'-Dichlorobenzidine | 20.71 | 252 | 29996 | 6.55 ng | # | 1 |
| 77) | bis(2-Ethylhexyl) phthalat | 20.91 | 149 | 78183 | 3.51 ng | # | 89 |
| 80) | Benzo(b) fluoranthene | 22.89 | 252 | 4759790 | 209.51 ng | | 95 |
| 81) | Benzo(k) fluoranthene | 22.89 | 252 | 4753079 | 247.68 ng | # | 93 |
| 82) | Benzo(a) pyrene | 23.53 | 252 | 2039177 | 106.21 ng | | 99 |
| 83) | Indeno (1,2,3-cd) pyrene | 25.59 | 276 | 1280085 | 69.82 ng | # | 63 |
| 84) | Dibenz (ah) anthracene | 25.64 | 278 | 338180 | 25.01 ng | | 97 |
| 85) | Benzo (ghi) perylene | 26.05 | 276 | 1023745 | 71.06 ng | | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\DATA\87061BD.D
Acq On : 15 Jul 98 15:38
Sample : 1/4
Misc : 7-14-98
Quant Time: Jul 15 16:08 1998

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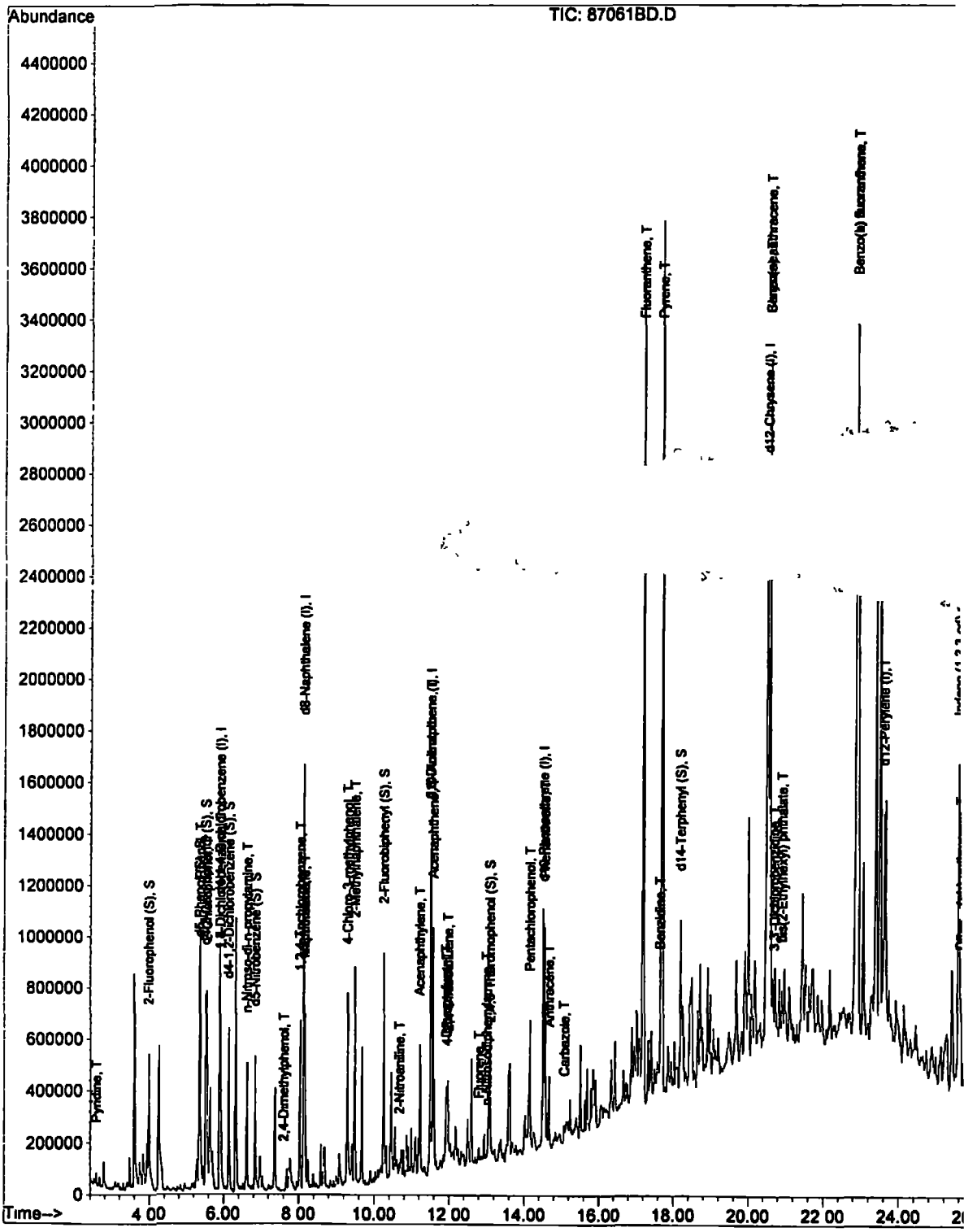
Quant Results Fi

Method : C:\HPCHEM\1\METHODS\BNAHSL.M
Title :
Last Update : Wed Jul 08 14:47:26 1998
Response via : Multiple Level Calibration




87061BD.D BNAHSL.M Wed Jul 15 16:08:46 1998